KEMRI | Wellcome Trust

STRATEGIC PLAN
2026 - 2030

Conducting high-quality, innovative, and purposeful research that improves human health, while building sustainable research capacity and leadership in Africa.

VISION, MISSION AND VALUES

VISION

To be a globally leading African research institution advancing human health through impactful science, innovation, and capacity development.

MISSION

To conduct high-quality, innovative, and purposeful research that improves human health, while building sustainable research capacity and leadership in Africa.

CORE VALUES

Excellence

Integrity

Innovation

Transparency & accountability

Respect

Equity

Collaboration

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EXECUTIVE SUMMARY

The KEMRI-Wellcome Trust Research Programme (KWTRP) is a long-standing partnership between KEMRI, the Wellcome Trust, and the University of Oxford, headquartered in Kilifi with hubs in Nairobi and Mbale, Uganda. Since 1989, the Programme has conducted multi-disciplinary research spanning molecular, clinical, population health, and health systems and policy research, from pathogen to patient to population.

This 2026-2030 strategy is organised around five interconnected research themes, infectious diseases, vaccines, maternal, neonatal and child health, emerging health threats, and health systems, supported by integrated research platforms. Our strategy over the next 5 years will be guided by three strategic anchors - **impact, sustainability, and organisational culture** - which shape how we work and what we prioritise.

Strategic objectives:

1. **Discovery and Development**: To advance scientific discoveries and develop them into high-impact interventions that improve human health.
2. **Intervention**: to generate evidence that informs the introduction of effective and safe health interventions to tackle priority health problems.
3. **Surveillance and Metrics**: to generate high quality, multi-level health surveillance and health metrics evidence that informs timely public health action.
4. **Access and Quality**: to advance knowledge that promotes equitable access to high quality health interventions.
5. **Research Capacity**: to develop and sustain a critical mass of African health research leaders and strengthen institutional research capacity.

Collectively, these strategic objectives are intended to drive the following strategic shifts that will define how KWTRP evolves:

1. **Scientific priorities**: alignment with emerging health priorities, including maternal, neonatal and child health, climate change and health, emerging and re-emerging infections and antimicrobial resistance, non-communicable diseases, and data science approaches that leverage AI.
2. **Geography**: transitioning from a primarily Kenya-focused programme to a regionally and globally connected African research institution, with strengthened partnerships across sub-Saharan Africa and beyond.
3. **Translation**: deepening science translation and building strategic alliances with industry and other partners, to enable product development and commercialisation of our discoveries.
4. **Culture**: cultivating a collaborative, inclusive, respectful, safe, and supportive organisational culture, underpinned by a structured framework, regular assessments, and accountable leadership.
5. **Capacity**: deliberate investment in early- and mid-career scientists, supporting their transition to independence and bolstering retention of African scientific talent.
6. **Sustainability**: securing financial, environmental, and operational sustainability through diversified funding, cost-recovery models, digital and AI-enabled efficiencies, and renewable energy.

ABOUT THE KEMRI-WELLCOME TRUST RESEARCH PROGRAMME

The KEMRI–Wellcome Trust Research Programme (KWTRP) is a partnership between the Kenya Medical Research Institute (KEMRI), the Wellcome Trust, and the University of Oxford. It is headquartered in Kilifi, with an additional research hub in Nairobi and a collaborative site at the Mbale Clinical Research Institute in Mbale, eastern Uganda. Established in 1989, the Programme conducts multi-disciplinary research spanning molecular, clinical research, population health, and health systems, economics and policy research. This integrated approach enables the Programme to undertake science from pathogen to patient to population, linking fundamental discovery with intervention development, evaluation, implementation, and policy translation. KWTRP works through strong national, regional, and global partnerships to deliver high quality and innovative science and develop health research capacity.

Alongside research, KWTRP is deeply committed to strengthening research capacity across Africa by nurturing the next generation of African scientific leaders and undertaking robust community, public, and policy engagement to ensure that our work is ethically grounded, responsive, and translated into real-world impact.

WHO WE ARE

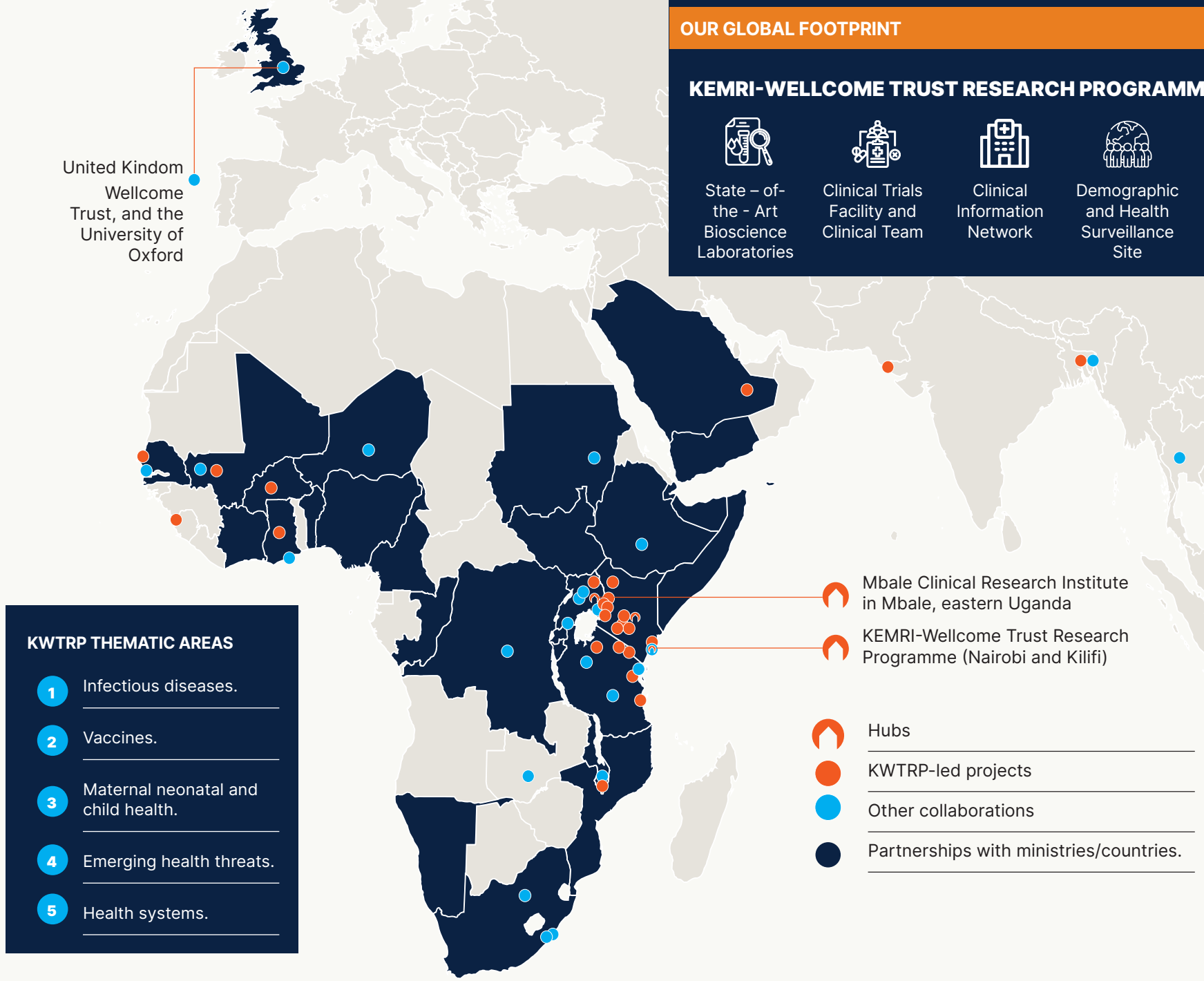
ABOUT OUR STRATEGY

This 2026–2030 strategy is structured to reflect the integrated and multidisciplinary nature of the KEMRI-Wellcome Trust Research Programme. Our work is organised around interconnected research themes that cut across scientific disciplines and are supported by shared research platforms, enabling seamless translation from discovery to population impact. This strategy is guided by three strategic anchors - impact, sustainability, and organisational culture - which shape how we work and what we prioritise. Within this framework, we define a set of core strategic objectives that articulate our scientific and capacity development ambitions, each supported by clearly defined sub-objectives, as well as cross-cutting strategy enablers required to deliver the strategy effectively. Strategic objectives and enablers are accompanied by strategic actions that we will implement to enable their delivery.

OUR GLOBAL FOOTPRINT

KEMRI-WELLCOME TRUST RESEARCH PROGRAMME PLATFORMS

- State – of-the - Art Bioscience Laboratories
- Clinical Trials Facility and Clinical Team
- Clinical Information Network
- Demographic and Health Surveillance Site
- Engagement Platform



KWTRP THEMATIC AREAS

1. Infectious diseases.
2. Vaccines.
3. Maternal neonatal and child health.
4. Emerging health threats.
5. Health systems.

RESEARCH THEMES AND PLATFORMS

Research Themes

Research at the KEMRI-Wellcome Trust Research Programme is organised around five interconnected themes: infectious diseases, vaccines, maternal, neonatal and child health (MNCH), emerging health threats, and health systems. These themes are integrated and multidisciplinary, and addressing both longstanding and emerging health challenges, and collectively reflecting our scientific strengths, research platforms, and strategic priorities.

Infectious diseases

Infectious diseases are a core focus for KWTRP and a leading cause of morbidity and mortality in Kenya and LMICs. Our multidisciplinary approach spans the full research continuum, from fundamental discovery science to intervention evaluation and population-level surveillance, drawing on integrated capabilities in pathogen biology, clinical research, and epidemiology. We prioritise high-burden, neglected, endemic, epidemic-prone, and emerging and re-emerging infections, that include HIV, vector-borne and arboviral diseases (e.g. malaria, chikungunya, dengue, Rift Valley fever, yellow fever), respiratory infections (e.g. RSV, SARS-CoV-2), and bacterial pathogens (e.g. *Klebsiella pneumoniae*, *Escherichia coli*, *Shigella*). This work serves as a foundational and integrating theme across the KWTRP, underpinning our vaccines and maternal, neonatal, and child health themes, while providing critical insights into emerging threats including climate-sensitive diseases and antimicrobial resistance.

Vaccines

Our vaccines research links basic immunology and pathogen biology with clinical development, and health systems and policy analysis. This end-to-end approach is enabled by KWTRP's integrated platforms - genomics, immunology, clinical trials infrastructure, and longitudinal population surveillance - and focuses on high-burden, neglected, and emerging infections including HIV, malaria, respiratory pathogens, arboviruses, and enteric diseases. Beyond vaccine development, we generate evidence on safety, effectiveness, optimal delivery strategies, and cost-effectiveness in real-world settings. Vaccines research translates insights from our infectious disease work into preventive interventions, contributes directly to maternal, neonatal, and child health outcomes, and addresses emerging threats such as epidemics and antimicrobial resistance. It is also closely linked to our health systems research, generating evidence on delivery, implementation, financing, and prioritisation to support equitable vaccine coverage.

Maternal, neonatal, and child health (MNCH)

Maternal, neonatal, and child health (MNCH) is a central priority for KWTRP, reflecting the disproportionate burden of preventable morbidity and mortality among women and children in Kenya and across LMICs. Our interdisciplinary, life-course approach integrates biological, clinical, population health, and health systems research, spanning disease mechanisms and risk factors through to intervention evaluation and health systems strengthening, with a focus on leading causes of morbidity and mortality that include infectious diseases, malnutrition, and neonatal complications. MNCH research is deeply interconnected across our thematic areas: it draws on and contributes to our infectious diseases and vaccines work, provides a lens through which emerging threats - climate change, antimicrobial resistance, and non-communicable diseases, are understood in vulnerable populations, and serves as a key entry point for health systems research on quality of care, service delivery, and access to essential interventions.

Emerging health threats: Climate and health, AMR, and NCDs

KWTRP addresses three interconnected and rapidly evolving health threats - climate change, antimicrobial resistance (AMR), and non-communicable diseases (NCDs) - through an integrated, multidisciplinary framework linking environmental, biological, clinical, and health systems research. Our climate and health work examines how environmental change influences infectious disease transmission, and health system resilience. Our AMR research spans molecular, clinical, and health systems domains, investigating how resistance emerges and spreads, and identifying mitigation strategies across diagnostics, stewardship, and vaccines. Our NCD portfolio addresses cardiovascular disease, mental health, and neurodevelopmental conditions, focusing on prevention, early detection, and management. This theme is inherently cross-cutting: climate change and AMR reshape the trajectory of infectious diseases; NCDs increasingly intersect with infectious conditions to create complex comorbidity profiles; and all three threats disproportionately affect vulnerable populations, placing growing pressure on already-strained health systems.

Health systems

Health systems research at KWTRP focuses on understanding and improving how health systems are financed, organised, and governed, and how care is delivered, with a strong emphasis on advancing universal health coverage (UHC), improving quality of care, and strengthening system resilience. Drawing on social science, implementation research, health systems, economics and policy analysis our work spans health financing and priority-setting, service delivery and quality of care, and governance and accountability research. Health systems research serves as a critical integrative platform across all thematic areas, providing the mechanisms through which interventions are delivered, scaled, and sustained, the analytical tools to assess how emerging threats such as climate change, AMR, and NCDs affect system performance, and a framework for improving care for priority populations.

These thematic areas are deliberately integrated, reflecting the complexity of real-world health challenges. By structuring work around these interconnected themes, KWTRP generates cross-cutting evidence that moves beyond fragmented, disease-specific approaches, enabling us to address multiple health dimensions simultaneously and translate research into meaningful improvements in policy, practice, and population health.

Research Platforms

Our scientific and capacity development agenda is supported by an integrated research platforms. Together, these platforms provide an integrated health research ecosystem, uniquely placed to link discovery with translation and impact.

1 **The Kilifi Health and Demographic Surveillance System (KHDSS):** Established in 2000, this platform captures demographic (births, migration status, deaths, and causes of death) and health (e.g. pregnancy and outcomes, disease incidence), and socio-economic data for over 300,000 residents in Kilifi County. This population-based surveillance system is linked to clinical surveillance at the Kilifi County Referral and Teaching Hospital, and laboratory data at the KWTRP bioscience laboratories, providing over 30 years of longitudinal surveillance.

2 **Bioscience laboratories and biobank:** The state-of-the-art bioscience facilities in Kilifi support molecular biology, immunology, microbiology, and clinical trials, including high-throughput and single-cell sequencing. These are linked to a biobank containing over 1 million biological samples, curated alongside over 30 years of clinical and population data.

3 **Clinical Information Network (CIN):** A collaborative partnership with the Ministry of Health, Kenya Paediatric Association, county governments, and county hospitals, the CIN collects real-time inpatient data on admission, clinical care, and care outcomes for neonates, paediatrics, pregnant women, and all adults from more than 25 public county hospitals across 19 out of 47 counties in Kenya. This learning health system platform has accumulated over 700,000 clinical episodes, providing a basis for clinical surveillance, and audit and feedback to improve quality of care, as well as supporting multi-disciplinary research including health systems and services research, observational clinical studies, and pragmatic clinical trials.

4 **Clinical Trials Facility (CTF) and Clinical team:** The CTF supports a diverse portfolio of trials, ranging from first-in-human and challenge studies to Phase III/IV trials in Kenya and across the African region. A dedicated ward-based clinical team at Kilifi County Referral and Teaching Hospital integrates routine care with research activities, supporting clinical surveillance, observational clinical studies, and clinical trials.

5 **Engagement platform:** This platform promotes engaged, responsive, and impactful research through three core areas: community engagement (building trust with research participants and the local communities we work with), public engagement (building trust and communicating science with broader publics), and policy engagement (collaborating with local, national, and global decision-makers to enhance evidence-informed policy).

STRATEGY ANCHORS

Our strategic plan is anchored in three interlinked pillars: impact, sustainability, and culture. These pillars reflect our vision of a research institution that generates high-quality science translating into locally and internationally relevant and meaningful improvements in health and well-being, while operating on a financially, environmentally, and operationally sustainable foundation, and defined by an inclusive, empowering, and values-driven research culture.

Impact

At the heart of the KWTRP strategy is a deliberate and expanded focus on maximising impact on population health and research capacity. Our research will be purposefully informed by and aligned with the most pressing local, regional, and global health priorities, ensuring that our work remains relevant, responsive, and transformative.

We will maintain our strong foundation in high-burden infectious diseases and child and neonatal health while expanding into emerging priority areas, including maternal health, non-communicable diseases, climate-related health threats, the application of artificial intelligence (AI) and machine learning in healthcare, and primary healthcare systems. This will position KWTRP to contribute meaningfully to both enduring and evolving public health challenges.

Recognising the need to scale our influence and contribute more deliberately to Africa's research and public health agenda, we will transition from a primarily Kenya-focused programme to a more regionally and globally connected African research institution. We will proactively seek to establish, and strengthen strategic institutional partnerships across sub-Saharan Africa, and beyond the continent, through formal collaborative arrangements, co-created research programmes, shared scientific platforms and joint capacity development initiatives. We will work closely with regional bodies - including the Africa Centres for Disease Control and Prevention, the WHO Afro, the Science for Africa Foundation (SFA) and African academic and policy institutions, to generate cross-context evidence that informs policy and practice across diverse African settings. Through these partnerships, we will seek to contribute to strengthening regional research ecosystems, advancing African-led scientific leadership, supporting South–South collaboration, and accelerating the translation of discovery into scalable health impact for the continent.

To ensure that our science translates into real-world improvements, we will invest in strengthening knowledge translation, deepening partnerships with policymakers, health professionals, and implementers to bridge the gap between evidence and decision-making. We will also build strategic alliances with industry to enable the commercialisation of our discoveries, enabling us to advance innovations.

Sustainability

To safeguard the long-term viability and resilience of KWTRP, sustainability is a central pillar of our strategic direction. We are committed to building a robust institutional foundation that can thrive in an evolving global health research funding environment.

A core priority will be diversifying our funding base. To support this, we will establish a dedicated resource mobilisation function that proactively scans and responds to global health funding opportunities. This team will work across the Programme to develop strategic, thematic funding pitches aligned with emerging priorities and global challenges, and facilitate linkages and engagement with potential funders.

We will prioritise supporting early-career researchers in their transition to independence and leadership. We will ensure the capacity to drive our scientific strategy and successfully mobilise the grant funding required for its delivery, by cultivating and retaining a critical mass of independent investigators, and bolster their retention.

We will optimise and restructure our core research and operational platforms to improve efficiency. This includes introducing cost-rationalisation, cost-sharing, and alternative financing models, as well as rethinking how we manage and operate our scientific platforms to ensure they deliver maximum value. We will also implement cost-recovery mechanisms, introducing systematic costing models for access to key platforms and services.

Finally, we will drive operational efficiencies across our support systems. This will include optimising procurement processes, leveraging digital technologies, including AI, to enhance the efficiency of operational processes, and embracing renewable energy sources such as solar power.

Through this integrated approach, KWTRP will strengthen its ability to sustain excellence in science and innovation - regardless of the external funding landscape.

Organisational Culture

At KWTRP, we are committed to cultivating an organisational environment that empowers people, fosters excellence and innovation, supports collaboration, and upholds the highest standards of integrity, equity, and well-being.

To anchor this ambition, we will first define and measure our research and organisational culture. We will develop a structured framework and set of indicators that reflect the values we aspire to and undertake a comprehensive baseline assessment to understand where we are and where we need to go.

Based on this evidence, we will prioritise targeted interventions that strengthen our institutional culture. These include improvements to our schemes of service, adoption of flexible working arrangements, gender equity initiatives, safeguarding and staff well-being, and efforts to build greater staff cohesion and community. These interventions will be designed to support staff across all career stages and roles, ensuring everyone can thrive.

We will implement regular monitoring mechanisms, including annual organisational culture assessments, to track progress, identify areas for improvement, and hold ourselves accountable for fostering a positive and productive working environment.

Crucially, we recognize that leadership sets the tone. We will invest in a coaching and mentorship programme for current and future leaders, and embed 360-degree appraisals to promote transparency, responsiveness, and accountability.

STRATEGIC OBJECTIVES

Our strategy is underpinned by the following core objectives that reflect our commitment to scientific excellence, impact, and capacity development.

3

Surveillance and metrics: To generate multi-level health surveillance and health metrics evidence that informs timely public health action and response to public health threats.

2

Intervention: To generate evidence that informs the introduction of effective and safe health interventions to address priority health problems.

4

Access and quality: To advance knowledge that promotes equitable access to high-quality health interventions.

1

Discovery and development: To advance scientific discoveries and develop them into accessible high-impact interventions that improve human health.

5

Research capacity: To develop and sustain a critical mass of African health research leaders and strengthen institutional research capacity.

Discovery and Development

This strategic objective aims to advance scientific discoveries that deepen our understanding of human health, pathogens, and disease mechanisms, and translate them into innovative interventions with measurable public health impact. We will build on our strong foundation in basic science, clinical research, population health research, health services and systems research, and data science to generate novel insights into the molecular mechanisms, host and pathogen biology, and epidemiology of disease and health service delivery. This innovative ecosystem will drive the development of diagnostics, therapeutics, vaccines, and clinical applications. This focus area seeks to position the Programme as a leading centre for health innovation by bridging the gap between fundamental science and applied solutions.

Discovery and Development sub-objectives:

1. Enhance our understanding of disease mechanisms through advanced discovery science to identify and inform the design and development of effective prevention and treatment interventions.
2. Accelerate the preclinical development of vaccines, diagnostics, and therapeutic interventions targeting high-burden and neglected diseases, with the goal of advancing locally relevant, high-impact solutions.
3. Harness data science and integrated health datasets to generate actionable insights and develop clinical and public health tools, including diagnostics and decision-support algorithms.

Sub-objective 1: Enhance our understanding of disease mechanisms

Host immunity

We will generate mechanistic evidence on how immune responses to infection are formed, regulated, and sustained in African populations, and how these responses can be leveraged to design more effective vaccines and immunotherapies. This will prioritise high-burden parasitic, viral, and bacterial infections that include malaria, HIV, SARS-CoV-2 and Shigella. For example, leveraging our established controlled human infection challenge platform, we will conduct malaria and Shigella challenge studies to better understand immune mechanisms, infection regulation and vaccine efficacy in both exposed and non-exposed individuals. Additionally, we will perform single-cell analyses of host immune cells to decode their complex responses during human malaria and Shigella infection, which will better predict outcomes, elucidate pathogenesis and tailor therapies. We will also characterise the immunoglobulin gene usage in African populations to build a region specific T- cell and B-cell repertoire database, which will inform germline targeting HIV vaccination strategies and the impact of the immune repertoire composition on infection and immunity. This combined work will seek to accelerate the movement from immune discovery to product development.

Disease pathogenesis

We will use multi-omics approaches, clinical phenotyping, and longitudinal cohort designs to define disease aetiology, underlying disease mechanisms, and biomarkers that stratify risk and guide intervention design. This approach creates a pipeline from mechanistic discovery to clinical application. For example, we will conduct metagenomic and proteomic studies of paediatric sepsis and coma of unknown causes to identify novel pathogens and host response signatures that enable earlier and more precise diagnosis. In parallel, mechanistic studies of malaria exposure on cardiovascular pathology and extracellular vesicle production during malaria infection will uncover targets for adjunctive therapies to reduce the risk of malaria-related mortality.

Host genetics

We will study the role of host genetics in susceptibility to infection and treatment response. For example, we will investigate the co-evolutionary impact of sickle cell genotypes on the malaria parasite. Building on our work on the Dantu red blood cell variant, we will use data from the last 20 years to further probe the mechanism by which Dantu confers its malaria protective effect to understand its wider clinical impact. Further, we will conduct genome-wide association studies to identify genetic variants associated with iron and vitamin D status that influence the risk of infections in African children, such as severe malaria, tuberculosis, and bacteraemia. Our Mendelian randomisation analyses will determine the impact of iron status on malaria using relevant genetic variants, for instance, in ferroportin.

Sub - objective 2: Accelerate the preclinical development of vaccines, therapeutics, and diagnostics

We will strengthen the preclinical pipeline for vaccines and therapeutics targeting high-burden diseases relevant to Africa, including malaria, HIV, as well as antimicrobial resistant pathogens of concern, such as *Klebsiella pneumoniae*. For example, immunogenicity analyses from germline-targeting HIV vaccine trials will inform iterative antigen design to accelerate the development of broadly neutralising antibody-based vaccines. Further, genomic and sero-epidemiological studies of *K. pneumoniae* and extra-intestinal pathogenic *E. coli* will characterise serotypes to identify relevant vaccine targets and support the development of maternal and high-risk population vaccines to reduce antimicrobial-resistant infections.

Sub-objective 3: Harness data science and integrated datasets to generate actionable insights and develop clinical and public health tools, including diagnostics and decision-support algorithms

We will leverage artificial intelligence and machine learning to transform the Programme's uniquely rich and integrated datasets into innovations that are relevant to both clinical practice and policy. We will build large, harmonised data resources capable of supporting robust predictive and discovery analytics by combining population-level longitudinal data from our demographic and health surveillance systems, high-resolution clinical data from the Clinical Information Network, and advanced diagnostic, immunology, and multi-omics datasets. We will apply modern AI and machine learning methods to our datasets to support earlier disease detection, improved risk stratification, and for the development of practical hybrid digital tools that enhance clinical decision-making and data use while remaining feasible within real-world workflows. For example, we will develop hybrid systems that integrate digital tools with existing paper-based workflows to reduce the burden on healthcare providers while enhancing data quality. We will also use artificial intelligence and machine learning approaches to identify the most valuable neonatal data for clinicians, policymakers, and families, and to understand how these stakeholders use information.

Discovery and Development Strategic Actions

To deliver on our discovery and development strategic objective, we will undertake the following strategic actions:

- Develop and institutionalise a framework for the commercialisation of research discoveries.
- Strengthen the genomics and bioinformatics platform through expanded computing capacity, enhanced bioinformatics staffing, and upgraded sequencing infrastructure.

Intervention

This strategic focus area aims to generate robust evidence to inform the introduction and scale-up of interventions that address critical health challenges in Kenya and other low- and middle-income countries (LMICs). Our research encompasses clinical, vaccines, public health, and health services and systems interventions, with a strong emphasis on improving maternal, neonatal, and child health (MNCH) outcomes, and expanding our existing work on non-communicable diseases (NCDs).

Intervention sub - objectives:

1. Identify and evaluate interventions that reduce in-hospital and post-discharge morbidity and mortality, prioritising vulnerable women and children.
2. Evaluate the effectiveness, safety, and optimal use of vaccines for high-burden infections.
3. Identify and evaluate contextually relevant interventions to prevent, diagnose, and manage non-communicable diseases (NCDs) and mental health.
4. Conduct impact evaluations of real-world health systems and policy interventions.

Sub- objective 1: Identify and evaluate interventions that reduce hospital and post-discharge morbidity and mortality, prioritising vulnerable women and children

Despite existing treatments, vulnerable children and mothers in LMICs continue to experience high mortality and morbidity during hospitalisation and the post-discharge period. We will conduct research to test interventions that improve care and

outcomes among vulnerable women and children across the continuum of care, from hospital admission through the high-risk post-discharge period. We will focus on conditions that disproportionately drive mortality and long-term disability in LMICs, including severe infections such as malaria, antimicrobial resistance, malnutrition, sickle cell disease, and neonatal sepsis. We will employ experimental and quasi-experimental study designs to test both clinical and health-system interventions that improve quality of care, optimise treatment pathways, and address biological, social, and system drivers of poor outcomes.

For example, building on promising results from Phase II/III trials of hydroxyurea in sickle cell disease in four African countries, we will test multiple interventions - hydroxyurea, antimicrobial and antimalarial prophylaxis - in a pragmatic trial employing a factorial design in Uganda, aiming to reduce sickle cell disease complications without intensive laboratory monitoring. Also, together with members of a broader consortium based in Malawi, Ghana, and Nigeria, we shall identify multi-modal interventions to reduce AMR, develop diagnostic platforms and test immunologic tools for intervention and outcome evaluation, with the ultimate aim of optimising the use of vaccines and other interventions such as antimicrobial stewardship to reduce antimicrobial use and morbidity and mortality due to AMR.

Sub-objective 2: Evaluate the effectiveness, safety, and optimal use of vaccines for high-burden infections

We will generate evidence on the effectiveness, safety, durability, and optimal use of vaccines targeting high-burden and emerging infections in LMICs. Our work will span the full translational continuum, from early-stage clinical evaluation to post-licensure effectiveness studies and implementation-focused research that addresses questions of dosing, scheduling, and delivery strategies. A central theme is optimising population-level impact through pragmatic approaches that respond to supply, health system, and epidemiological realities, including fractional dosing, alternative delivery platforms, and integration with routine immunisation and maternal health services. For example, we will continue advancing the clinical development of the ChAdOx1 Rift Valley Fever (RVF) vaccine toward regulatory approval. Our efforts will include collaborating with a commercial partner to implement a finalised manufacturing process to support a Phase 3 trial and the preparation of a dossier for emergency authorisation. In addition, we will continue to advance the development of vaccines for malaria and *Shigella* utilising established challenge models to allow for the acceleration of these products. Complementary work across other priority vaccines, including pneumococcal, human papillomavirus, and yellow fever vaccines, will collectively strengthen the evidence base required for national and global vaccine policy decisions, support equitable vaccine introduction and scale-up, and enhance preparedness for future epidemics.

Strategic objective 3: Identify efficacious, contextually relevant interventions to prevent and manage non-communicable diseases (NCDs) and mental health

As the burden of non-communicable diseases grows in LMICs, particularly among vulnerable populations, we will identify, evaluate, and support the scale-up of contextually appropriate interventions to prevent, diagnose, and manage non-communicable diseases (NCDs) and mental health conditions in LMICs. Our work recognises the growing burden of NCDs and mental ill-health alongside persistent infectious disease threats and will explicitly examine their intersectionality across the life course, particularly in children, adolescents, and adults. Using a combination of community-centred implementation research, pragmatic trials, and longitudinal cohort studies, we will test interventions that strengthen primary care, support families and caregivers, and improve detection and management of high-burden conditions such as cardiovascular disease, neurodevelopmental disorders, and common mental health conditions.

For example, we will pilot and evaluate community-based models to diagnose hypertension in Kenya and The Gambia. Building on these pilots, we will co-design and evaluate multi-component, community-centred interventions tailored to improve the management of individuals with high overall cardiovascular risk, incorporating culturally relevant and health system-adapted strategies. Also, building on locally validated tools and completed randomised trials in Kilifi, we will scale and evaluate caregiver- and health-system-focused interventions, such as adapted the mental health gap action programme (mhGAP) and caregiver skills training programmes, to improve developmental outcomes for children with neurodevelopmental disorders and mental health issues as well as quality of life for their caregivers. This work aims to generate scalable models of NCD and mental health care that are integrated into existing health systems, responsive to local contexts, and capable of delivering sustained gains in well-being and equity.

Sub-objective 4: Conduct impact evaluations of real-world health systems and policy interventions

We will conduct impact evaluations of complex health systems and policy interventions. Employing mixed methods, alongside experimental and quasi-experimental designs, this work will generate evidence on what works, how it works, and under what conditions, with a strong focus on real-world policy interventions in low- and middle-income countries (LMICs). Our aim is to produce actionable evidence that supports evidence-informed policymaking, guides the allocation of resources towards interventions with demonstrated effectiveness, and identifies the contextual conditions required for policies to achieve impact. For example, in partnership with the *Beginnings Fund*, we will evaluate the impact of a multi-faceted programme implemented across ten African countries. This intervention includes workforce capacity development, the scale-up of high-impact maternal and neonatal health interventions, investments in high-quality data systems to support decision-making and quality improvement and strengthened emergency transport and referral systems. The evaluation will examine the programme's effects on maternal and neonatal health outcomes. In Kenya, we will also evaluate the impact of two major policy reforms - the Facility Improvement Fund (FIF) and the Primary Care Networks (PCN) model - on access to and quality of primary healthcare services. These studies will generate policy-relevant evidence to inform the design, scaling, and refinement of effective health system reforms.

Intervention Strategic Actions

To effectively deliver on our intervention strategic objective, we will invest in the systems, structures, and partnerships necessary to enhance our capacity to design, implement, and scale high-impact clinical and public health interventions. Our strategic actions will include:

Strengthening the capacity of our clinical trials facility: We will strengthen the capacity of our Clinical Trials Facility (CTF) to deliver high-quality clinical trials by investing in people, systems, partnerships, and governance. This will include expanding and upskilling our core clinical trials workforce; establishing clear training, decision support, and regulatory frameworks to guide practice within complex compliance environments, and leveraging cost-effective, interoperable digital systems to streamline trial operations, oversight, and resource management.

Expanding capacity for maternal health research: To broaden the scope of our clinical research to include maternal health, we will establish dedicated leadership by recruiting and embedding clinician-scientists with expertise in obstetrics and gynaecology. These individuals will play a vital role in shaping and leading a robust maternal health research agenda.

Surveillance and Metrics

This strategic objective aims to generate high-quality surveillance data and metrics at multiple levels to guide public health action and timely response to existing and emergent public health threats in Kenya and Africa. We will integrate molecular, clinical, and population-level surveillance to track disease trends, detect emerging threats, and monitor progress toward health goals. We will leverage our established platforms, including the genomics and biobanking facilities, clinical surveillance at the Kilifi County Referral and Teaching Hospital, the national Clinical Information Network (CIN), and the Kilifi Health and Demographic Surveillance System (KHDSS), to conduct surveillance from the pathogen to the patient to the population.

Surveillance and Metrics sub - objectives:

1. Conduct surveillance to inform vaccine and therapeutics development, and assess their safety, effectiveness, and coverage.
2. To strengthen morbidity and mortality surveillance systems for the generation of data on the determinants of morbidity and mortality among children and adults.
3. Conduct surveillance of endemic, emerging, and re-emerging pathogens and vectors to support disease control and outbreak preparedness.
4. To develop and apply epidemiological models to understand disease transmission dynamics and assess the health impact of interventions.
5. Strengthen surveillance for emerging health threats, including climate change.

Sub-objective 1: Conduct surveillance to inform vaccine and therapeutics development, and assess safety, effectiveness and coverage of vaccines and therapeutics

We will generate integrated molecular, clinical, and population-level surveillance data to inform the development, deployment, and optimisation of vaccines and therapeutics for high-burden infections in Africa. We will integrate molecular (genomics and serology), clinical, and population surveillance to characterise disease burden, transmission, immunity, clinical phenotypes, and risk profiles to guide product development, clinical decision-making, policy decisions, and real-world use. A core emphasis is on producing evidence that supports contextually appropriate vaccination and treatment strategies, including decisions on target populations, timing, dosing, coverage, and post-licensure safety. For example, population-based chikungunya surveillance in East Africa will quantify disease burden and inform the use case for licensed vaccines in the region, while integrated RSV molecular and serological surveillance will guide optimal vaccination windows in infancy. Complementary post-licensure safety surveillance, anchored in demographic surveillance and pregnancy registries, and multi-pathogen sero-epidemiology will strengthen the capacity to monitor vaccine effectiveness, durability of immunity, and adverse events. This work will provide a robust evidence base to support equitable, safe, and effective use of vaccines and therapeutics in diverse African settings.

Sub-objective 2: To strengthen morbidity and mortality surveillance systems for the generation of data on the determinants and causes of morbidity and mortality among children and adults

We will strengthen morbidity and mortality surveillance systems to generate high-quality, policy-relevant data on the causes and determinants of health outcomes across the life course in African populations. A central focus will be on improving the use of routine data to enable more reliable estimation of disease burden and outcomes. For example, working in Kenya, we will investigate barriers to effective registration and co-design interventions to accelerate progress toward universal coverage with Civil Registration and Vital Statistics (CRVS) systems. This work aims to strengthen birth and death registration in Kenya. We will also leverage routine health facility data captured through the District Health Information System (DHIS2) to develop improved methodologies for using hospital-based data to infer community-level disease burden. We also seek to leverage our surveillance systems to develop insights into determinants of health outcomes among children and adults. Building on previous cross-sectional studies conducted in the KHDSS, we will establish a longitudinal cohort study to examine the prevalence of key risk factors, such as smoking, obesity, diabetes, and hypertension, and their association with major causes of death, including ischaemic heart disease, cancer, stroke, and chronic respiratory disease. This work will strengthen national surveillance ecosystems and provide decision-makers with more timely, granular, and actionable metrics to guide health policy, planning, and resource allocation.

Sub-objective 3: To conduct surveillance of endemic, emerging, and re-emerging pathogens to inform disease control, outbreak preparedness and response

We will strengthen surveillance of endemic, emerging, and re-emerging pathogens and vectors to support disease control, outbreak preparedness, and timely public health response across Africa. By integrating molecular, genomic, clinical, ecological, and population-level surveillance, we will generate actionable intelligence on pathogen transmission, reinfection dynamics, vector distribution, and epidemic risk under changing environmental and social conditions. For example, KWTRP has a long history of using malaria survey data to provide high-resolution, spatial predictions through time across Kenya. This work has been instrumental for the strategic planning of malaria control by the MoH since 2010. We will extend this work to increasingly include joint modelling of malaria prevalence and ecological Anopheline species to support cost-efficient, sub-national tailoring of malaria interventions and threats posed by invasive species, climate change, and urbanisation. We will also develop a set of off-the-shelf open access genomics sequencing and analysis methods for a range of outbreak-prone viral pathogens, including Ebola, influenza, measles, chikungunya and dengue, and investigate the frequency and timing of reinfections with respiratory viruses such as influenza and SARS-CoV-2 among individuals in households within the Kilifi Health and Demographic Surveillance System (KHDSS), to identify drivers of reinfection and examine transmission dynamics. Complementary innovations in vector surveillance will further strengthen the speed, coverage, and cost-effectiveness of monitoring systems. We have demonstrated the potential of Matrix-assisted laser desorption ionisation time of flight mass spectrometry (MALDI TOF MS) as a cost-effective, accurate, and scalable tool for identifying malaria vectors. We will develop databases for the identification of East African vectors, blood meal sources and infection status using MALDI TOF MS. This method will transform vector surveillance by offering a high-throughput, cost-effective approach that can be scaled to type thousands of mosquitoes per day. This sub-objective will enhance capacity to anticipate, detect, and respond to infectious disease threats, strengthening epidemic preparedness and resilience.

Sub-objective 4: To develop and apply epidemiological models to understand disease transmission dynamics and assess the health impact of interventions

This sub-objective will develop and apply epidemiological models to understand infectious disease transmission and quantify the impact of interventions across African settings. Leveraging integrated surveillance platforms, models will combine genomic, serological, clinical, demographic, environmental, and pathogen-specific data to characterise transmission dynamics, identify key drivers, and assess heterogeneities across populations. The work will generate policy-relevant evidence on the effectiveness and cost-effectiveness of interventions, including vaccines and vaccination strategies for diseases such as pneumococcal disease, typhoid, chikungunya, mumps, varicella, and Rift Valley fever. We will also integrate genomic data into transmission models to better understand pathogens such as SARS-CoV-2. In addition, we will explore the use of modelling frameworks that incorporate early-phase trial data to improve the efficiency and design of vaccine trials, strengthening the translation of evidence into public health impact.

Sub-objective 5: Strengthen surveillance for emerging health threats

We will strengthen surveillance systems to anticipate, detect, and respond to emerging health threats such as climate change and resistance to antimicrobial drugs and insecticides. For example, climate–health surveillance will be used to model how extreme weather and environmental change affect disease transmission, food safety, and health system vulnerability, while integrated One Health surveillance will track antimicrobial resistance across clinical, community, and environmental settings to support timely interventions. Complementary molecular surveillance of antimalarial and insecticide resistance will provide early warning for the loss of effectiveness of core control tools. This work will support forward-looking, integrated surveillance capable of safeguarding population health in the face of complex and evolving threats.

Surveillance and Metrics Strategic Actions

To effectively deliver on this strategic objective, the following strategic actions will be undertaken:

Develop and implement a data science framework: We will apply advanced data science techniques to enhance the quality, efficiency and reproducibility of our research, drive innovative interventions, and support data-driven decision making in public health, while ensuring that all efforts are conducted ethically.

Enhance capacity for molecular surveillance: We are developing assays for multi-pathogen sero-surveillance for IgG antibodies against (1) Vaccine Preventable Diseases (diphtheria, pertussis, tetanus, measles, mumps, rubella and varicella) and 2) arbovirus (dengue, chikungunya and Rift Valley Fever) using multiplex Luminex assays.

Enhance surveillance platforms: We will improve methods for high quality surveillance activities in the KHDSS to enhance efficiency without compromising quality. We will partner with stakeholders from CRVS as well as MoH in to improve the quality of data collected from routine data sources. We will explore ways to enhance the use and value of additional existing surveillance platforms including a nationwide schools (300 schools) surveillance platform, and the national blood bank network system coordinated by the Kenya National Blood Transfusion Service (KNBTS).

Access and Quality

This strategic objective aims to generate evidence that advances equitable access to high-quality health interventions, aligned with global commitments to Universal Health Coverage (UHC). It recognises that for interventions to achieve meaningful health impact, they must not only be clinically effective but also equitably delivered, of high quality, and efficiently utilised. Our research will support countries, particularly in sub-Saharan Africa, in designing and implementing health systems and policies that improve access, quality, equity, and efficiency.

Access and Quality sub - objectives:

1. Examine health financing and resource allocation mechanisms to advance country progress towards universal health coverage.
2. Assess the levels and determinants of equitable access to healthcare interventions and services.
3. Generate evidence to enhance our understanding of the organisation and functioning of health systems.
4. Generate evidence to improve the quality of maternal, neonatal, and child health services in public health systems.

Sub-objective 1: Examine health financing and resource allocation mechanisms to advance country's progress towards Universal Health Coverage

We will generate policy-relevant health economics evidence to support countries' progress toward universal health coverage (UHC) by strengthening health financing and resource allocation systems that promote equity, efficiency, and financial protection. For example, in the context of declining donor support and increased debt distress faced by LMICs, we will examine feasible options for expanding domestic fiscal space without compromising access or quality and assess how these sustainability plans affect UHC goals in LMICs. We will also conduct costing, cost-effectiveness, and budget impact analyses and modelling of healthcare interventions to identify interventions that offer value for money. For instance, we will carry out economic evaluation of vaccines in Kenya, Zambia, and Nigeria to inform vaccine policymaking in these countries. Building on a decade of work in healthcare priority setting, we will generate evidence to inform the implementation of evidence-informed health benefit packages in Kenya and Rwanda, and improve vaccine decision-making in Kenya, Zambia, and Nigeria. We will also explore how countries can finance pressing challenges such as climate change, antimicrobial resistance (AMR), and pandemic preparedness.

Sub-objective 2: Assess the levels and determinants of equitable access to healthcare interventions and services

This sub-objective will examine equitable access to healthcare in low- and middle-income countries as a multidimensional construct encompassing geographic accessibility, availability, affordability, accommodation, and acceptability. Using geospatial analysis, routine health data, and health services research methods, work under this sub-objective will quantify access to essential services, particularly hospital and emergency care, and identify populations facing the greatest barriers. A key focus is understanding how structural disadvantage, such as poverty, remoteness, gender inequities, and weak infrastructure, shapes access, with attention to underserved rural areas, informal settlements, and environmentally vulnerable communities. The work will also address last-mile delivery gaps by identifying populations systematically excluded from essential services, including zero-dose children. Finally, it will develop robust, composite metrics to monitor access and guide policy, supporting governments and partners to target investments, improve workforce distribution, and enhance equitable access to quality care.

Sub-objective 3: Generate evidence to enhance our understanding of the organisation and functioning of health systems

We will generate evidence to deepen understanding of how health systems are organised, governed, and operationalised, and how these arrangements shape access, quality, equity, and resilience. Using health policy and systems research approaches, including systems thinking, political economy, and policy analysis, we will examine how institutional rules, actor incentives, and power dynamics influence decision-making, service integration, accountability, and system performance. Our work will focus on strengthening the use of evidence in policymaking, enhancing health system resilience to shocks such as climate events and disease outbreaks, and identifying effective models for integrating non-communicable disease and vertical programmes into primary health care without compromising quality or efficiency. We will also examine how accountability mechanisms, workforce configurations, and emerging technologies, particularly at district and county hospital levels, can be aligned to deliver complex care under persistent resource constraints.

Sub-objective 4: Generate evidence to improve the quality of maternal, neonatal, and child health services in public health systems

We will generate evidence to improve the quality of paediatric and neonatal care in LMIC public hospitals by addressing both clinical and systemic determinants of care across the continuum, from facilities to communities. Our work will integrate research on patient and provider experience, service delivery processes, and enabling technologies to identify and scale interventions that deliver respectful, safe, and effective care. A central emphasis will be on people-centred approaches, including experience-based co-design, to bridge gaps between clinical standards and lived experience, strengthen communication and trust, and improve continuity of care beyond discharge. Complementary research will examine how workforce constraints, environmental stressors such as climate-related shocks, and diagnostic and treatment gaps, including for childhood tuberculosis, affect outcomes for mothers and children. We will also examine the application of artificial intelligence and machine learning in enhancing clinical decision-making.

Access and Quality Strategic Actions

To enable the delivery of the access and quality strategic objective, our strategic actions will include:

- Transitioning CIN from reliance on individual PI grants to a more sustainable, institutionally supported funding model.
- Expand the scope of the CIN platform: We will seek to expand activities within the CIN beyond paediatric departments to also involve maternity and general medical wards.

Capacity Development

We are committed to strengthening research capacity in Africa by contributing to the development of a critical mass of health research scientists across the continent. Our long-term approach focuses on attracting talent early through initiatives such as the school leavers attachment scheme and the postgraduate diploma in research methods; training researchers through supported Master's and PhD programmes; and retaining them through structured postdoctoral support. Over the next five years, our capacity development objective will be furthered through the following sub-objectives:

Surveillance and Metrics sub - objectives:

1. Enabling early- and mid-career scientists to transition to research independence.
2. Building a robust pipeline of clinician-scientists.
3. Deepening institutional capacity and expanding our geographical reach.

Sub-objective 1: Enabling early- and mid-career scientists to transition to research independence

Enabling early- and mid-career scientists to transition to research independence will be a central pillar of our capacity development strategy, addressing a critical bottleneck in the African research ecosystem, where promising researchers often stall between training and leadership. Over the next five years, we will implement an integrated framework that systematically supports this transition by combining access to funding opportunities, structured grant development support, foundational research training, and intentional leadership development. Through proactive funding intelligence, tailored mentorship, grant-writing clinics, and peer learning platforms, we will strengthen researchers' ability to secure independent funding and lead high-quality research programmes. These efforts will be underpinned by a modular training and digital resource platform that builds core research competencies, alongside leadership pathways that blend formal training, experiential learning, and cohort-based mentorship. Together, these interventions will cultivate a new generation of independent, well-networked, and globally competitive African research leaders capable of shaping scientific agendas, mentoring others, and sustaining impactful research programmes.

Sub-objective 2: Building a robust pipeline of clinician-scientists

Building a robust pipeline of clinician-scientists will address a long-standing structural gap in the African research ecosystem, where clinicians face significant barriers to engaging in and sustaining research careers alongside clinical practice. Over the next five years, we will establish a coherent and protected pathway that enables clinicians to enter, progress, and thrive in research without disengaging from service delivery. This will be achieved through early exposure to research during clinical training, structured entry-level research opportunities, and dedicated clinical research fellowships that provide protected time, mentorship, and financial support. By embedding research training in clinical environments and strengthening partnerships with medical schools and teaching hospitals, we will more firmly integrate research into clinical career trajectories. These interventions will cultivate a critical mass of clinician-scientists who generate practice-relevant evidence, bridge the divide between research and care delivery, and contribute to the long-term strengthening of health systems across the region.

Sub-objective 3: Deepening institutional capacity and expanding our geographical reach

Deepening institutional capacity and expanding our geographical reach will extend the impact of our capacity development efforts beyond individual researchers to the systems and institutions that sustain research excellence across Africa. Over the next five years, we will strengthen long-term partnerships with universities and research institutions, particularly in Kenya, to enhance institutional research ecosystems through access to data, shared infrastructure, mentorship, and support for competitive grant acquisition. In parallel, we will leverage and expand regional networks to extend our capacity-building footprint across the continent, prioritising collaborative, context-responsive partnerships in underserved settings. By coupling institutional strengthening with geographically distributed collaborations and joint funding initiatives, we will contribute to more equitable research capacity across Africa, foster durable South–South and South–North partnerships, and position KWTRP as a continental hub for research training, collaboration, and leadership development.

Capacity Development Strategic Actions

To deliver on our strategic objective of strengthening research capacity across Africa, we have identified three strategic actions that will operationalise our commitment to building a critical mass of health research scientists.

- Diversify funding for research capacity development by identifying and engaging potential funders to build long-term partnerships that sustain our capacity-building initiatives.
- Design and institutionalise a support framework for early- and mid-career researchers, enabling their transition to research independence through structured mentorship, training, and grant writing support, and the provision of seed/ development grants.
- Develop and implement a dedicated capacity development framework for clinician-scientists, providing structured pathways from early exposure to research through to academic leadership.

STRATEGY ENABLERS

Ethical Research

We remain deeply committed to ensuring that our research, practices, and stakeholder engagements uphold the highest ethical standards. This commitment recognises the complex ethical challenges inherent in conducting research in low- and middle-income settings, where high levels of poverty, unmet health needs, and limited health infrastructure can blur the lines between research and care, complicate informed consent, and expose both participants and researchers to emotional and moral strain.

We will strengthen and further embed ethical research practice in the following ways:

1. Enhance empirical evidence to inform ethical research.
2. Strengthen systems for ethical research conduct.

Enhance empirical evidence to inform ethical research

Over the strategy period, we will generate empirical evidence on the ethical dimensions of complex study designs, emerging technologies, and crisis contexts, with particular attention to settings characterised by vulnerability, uncertainty, and constrained health systems. By examining ethical challenges in public health emergencies, pandemics, and outbreaks, we will inform responsible research governance, institutional obligations, and support mechanisms for researchers and frontline workers facing moral distress. In parallel, we will advance scholarship on the ethics of emerging technologies and innovative study designs, as well as the ethics of research collaborations, including co-creation, community engagement, and decolonising practices. Together, this body of work will strengthen the empirical foundations of

ethical decision-making and inform institutional, national, and global ethics guidance, positioning the Programme as a thought leader in ethically grounded global health research.

Strengthen systems for ethical research conduct

Strengthening systems for ethical research conduct will focus on embedding ethics as a lived, institutional practice rather than a procedural requirement. Over the strategy period, we will invest in institutional infrastructure, applied ethics scholarship, and regional collaboration to enhance how ethical challenges are anticipated, navigated, and governed in complex research settings. By establishing ethics labs, we will create structured spaces for reflective deliberation on real-world ethical dilemmas, supporting practical decision-making while building applied ethics capacity among researchers. In parallel, we will advance empirical work on benefit-sharing to inform updated institutional and global guidance that is fair, context-responsive, and grounded in the lived realities of research participants and communities. By extending our work on multiple ethics review systems to explore harmonised and equivalent ethics oversight across Africa, we will contribute to more efficient, coherent, and ethically robust governance of cross-border research. These efforts will strengthen institutional ethical ecosystems and position the Programme as a regional leader in shaping ethical research systems in low- and middle-income contexts.

Ethical Research Strategic Actions

To realise our commitment to ethical excellence in research, we will implement a set of strategic actions to strengthen both the systems governing ethical conduct and the empirical foundations informing ethical practice. These will include:

- Establish and operationalise ethics labs.
- Generate evidence on and engage with regional stakeholders on the development of harmonised ethics review systems in Africa.

Engagement

Engagement remains a key enabler of our strategy, as we continue to deepen our relationships with communities, the public, and policymakers to ensure that our research is relevant, responsive, and impactful. Building on our long-standing presence in Kilifi, Nairobi, and other research sites, we will enhance the inclusivity and reach of our engagement efforts while fostering trust, co-creation, and shared value.

Over the next strategy period, our work will deepen engagement in the following ways:

1. Nurturing respectful and inclusive relationships between researchers and communities.
2. Enhance engagement with county governments in Kenya.
3. Strengthening knowledge translation to promote the timely and effective use of research evidence in health policymaking.

Nurturing respectful and inclusive relationships between communities and researchers

Nurturing respectful and inclusive relationships between communities and researchers will anchor our engagement strategy in trust, reciprocity, and shared value, recognising communities as active partners in the research enterprise rather than passive participants. Over the strategy period, we will institutionalise community engagement as a core component of research practice across all study settings through the development of Standard Operating Procedures (SOPs), moving beyond site-specific approaches to a Programme-wide standard grounded in clear principles, guidance, and accountability. By embedding study-specific engagement practices, broadening youth engagement beyond formal schooling and geographic boundaries, and increasing the visibility and accessibility of science through innovative media and digital platforms, we will foster deeper public understanding of research and its societal value. These efforts will strengthen people-centred research approaches, enhance the relevance and ethical grounding of our work, and sustain long-term relationships that support meaningful participation, dialogue, and trust across diverse communities.

Enhancing county engagement

Enhancing county engagement will position sub-national governments as strategic partners in the research enterprise and strengthen research's contribution to local health system decision-making and performance. Over the strategy period, we will institutionalise long-term, trust-based partnerships with county governments in Kenya, embedding research within routine planning, management, and service delivery processes. Through co-developed research capacity strengthening frameworks, joint learning platforms, and experiential collaboration between researchers and county and health facility managers, we will enhance local capacity to generate, interpret, and apply evidence. Complementing this, we will co-design digital decision-support tools that improve access to timely, relevant data and analytics for county-level decision-making. Together, these interventions will deepen mutual accountability, align research with local priorities, and strengthen the uptake and impact of evidence in sub-national health systems.

Strengthening knowledge translation to enhance evidence use in health policymaking

Strengthening knowledge translation to enhance evidence use in health policymaking will focus on institutionalising the processes, partnerships, and capacities required to bridge the persistent gap between research and decision-making. Over the strategy period, we will establish durable systems that enable continuous, two-way engagement between researchers and policymakers, ensuring that evidence generation, synthesis, and dissemination are aligned with real-world policy needs and decision timelines.

Through a dedicated knowledge translation function, sustained researcher–policy-maker partnerships, and recurring policy dialogue platforms, we will support joint agenda-setting, co-creation, and shared ownership of evidence. These efforts will be complemented by targeted dissemination aligned to policy windows and investments in researcher capacity for strategic policy engagement. This approach will embed evidence use within policy processes, enhance the timeliness and relevance of research inputs, and position the Programme as a trusted, long-term partner in health policymaking at local, national, and regional levels.

Engagement Strategic Actions

The following strategic actions will support our engagement agenda:

- Develop innovative digital and immersive public engagement approaches to reach a broader demographic of youth, including those outside formal school settings and in different geographic regions.
- Co-develop and implement a research capacity-building framework for county and health facility managers, focusing on enhancing their ability to engage with and apply research evidence.
- Develop and roll out digital decision-support dashboards in collaboration with Kilifi and CIN counties, providing real-time access to research data and analytics to inform county-level health planning and decision-making.
- Establish a dedicated Knowledge Translation Unit to synthesise research findings and produce evidence products tailored to the needs of policymakers and coordinate strategic dissemination activities.

Operational Effectiveness

Our ability to generate high-quality science, attract and manage competitive funding, and sustain a thriving research ecosystem depends on robust and efficient operational systems. Over the next strategic period, we will prioritise the optimisation of our operational platform by strengthening four operational domains:

KWTRP operational domains

1. Operational sustainability and efficiency.
2. People and culture management.
3. Information technology.

Organisational sustainability and efficiency

We will strengthen the Programme's long-term sustainability by focusing on risk management, and financial and environmental resilience. We will strengthen our risk management function and embed Enterprise Risk Management (ERM) into our processes to ensure resilience, transparency and accountability in all our actions. We will implement a comprehensive Environmental, Social and Governance (ESG) Framework to support our management of these opportunities and risks across the Programme. We will expand the automation of our processes and include the adoption of appropriate AI tools to increase efficiencies and improve operational workflows.

To secure our financial sustainability, we will expand and diversify our revenue base by mobilising new funding streams, strengthening engagement with existing and emerging funders, and pursuing opportunities that align with our strategic priorities. We will also optimise the allocation and use of resources across the Programme, ensuring that our scientific platforms and operational systems deliver maximum value.

We will strengthen our grants management function to better support researchers across the entire grants lifecycle and

enhance the Programme's ability to attract, secure, and effectively manage competitive funding. To achieve this, we will proactively identify and disseminate funding opportunities, ensuring researchers have timely access to information that aligns with their scientific interests and the Programme's strategic priorities.

We will also streamline and strengthen the pre-award process by improving internal application workflows, providing coordinated support during proposal development and submission. This will reduce bottlenecks, enhance compliance, and enhance coordination across research groups. We will also reinforce post-award support to ensure efficient and timely project initiation, including budget set-up, contracting and alignment with funder and institutional requirements.

In parallel, we will advance our environmental sustainability agenda by actively reducing the Programme's carbon footprint. This will include minimising high-emission activities where feasible, implementing energy-efficiency measures across our facilities, and progressively adopting clean and renewable energy sources.

We will improve functional efficiencies and particularly prioritize enhancing the efficiency, visibility, and responsiveness of our procurement systems to better support the timely delivery of scientific and operational activities across the Programme. To achieve this, we will streamline procurement workflows, reduce bottlenecks, and enhance coordination between procurement teams, end users, and suppliers. We will also strengthen planning and forecasting processes to ensure that procurement needs are anticipated early and aligned with project and platform requirements. In parallel, we will reinforce compliance with procurement policies and improve supplier management to enhance quality, accountability, and value for money.

People and culture

We will strengthen our people and culture function to build a capable, motivated, and high-performing workforce that can deliver on the Programme's scientific, capacity development, and operational ambitions. Key to this effort is the establishment of fit-for-purpose career progression structures and schemes of service that respond to the diverse needs of all staff groups, alongside enhanced performance management systems that promote a culture of accountability, continuous improvement and professional growth.

Equally, we are committed to nurturing a positive and inclusive organisational and research culture. Through regular assessment and monitoring we will foster excellence, innovation, equity, psychological and occupational safety, collaboration, and mutual respect. Through actions to promote, assess, and monitor our culture, identify opportunities for improvement, and implement targeted interventions, we will foster an environment in which all staff feel valued, supported, and empowered to contribute to the Programme's success. We will build on our staff wellness and mental health support programmes to underpin our supportive work environment. Investment in leadership development at all levels of the Programme will build a strong pipeline of present and future leaders, sustaining innovation, excellence and long-term impact across the Programme.

Information technology

We will advance a secure, efficient, and future-ready digital environment that underpins the Programme's scientific excellence and operational resilience. Our approach is anchored in our IT strategy, which aligns technology investments with the Programme's strategic pillars of impact, sustainability, and optimization.

We will modernize our core IT ecosystem through a structured transition to cloud computing. We will adopt a hybrid and multi-cloud approach – combining public and private cloud infrastructure - prioritizing critical workloads first and implementing phased migration with strong governance, cost monitoring, and security controls. We will also retire legacy systems to reduce technical debt and improving platform interoperability across the Programme.

We will strengthen our cybersecurity posture by deploying and maintaining enterprise-grade tools to ensure threat detection, data loss prevention, and compliance with GDPR, and the Kenya Data Protection Act (KDPA). We will embed a cybersecurity-first culture through awareness programmes, policy enforcement, and regular audits across the Programme.

We will implement a structured, ethical, and phased AI adoption roadmap aligned with WHO guidance on AI for health, the African Union Continental AI Strategy, and Kenya's National AI Strategy (2025–2030). Responsible AI use will be governed by our Programme guidelines, ensuring fairness, transparency, accountability, and data confidentiality.

We will invest in continuous digital capacity building across our teams through structured upskilling in cloud engineering, AI/ML, cybersecurity, data governance, and project management, delivered through workshops, our e-learning platform (LMS), and a leadership development programme.

Operational Effectiveness Strategic Actions: To realise our commitment to operational efficiency, we will implement the following strategic actions:

Organizational sustainability and efficiency

1. **Strengthen resource mobilization, management, and optimization:** Establishing a resource mobilisation function and a grants management office, and implementing optimisation and cost-recovery frameworks for research platforms and shared services.
2. Mobilise resources to build office facilities for the Nairobi site to transition from renting office space.
3. Conduct an environmental sustainability assessment and implement interventions to reduce organisational carbon emissions.
4. Embed enterprise risk management (ERM) and a comprehensive environmental, social and governance (ESG) framework across the Programme.
5. **Procurement efficiency:** Conduct an assessment of Programme procurement processes and implement measures to improve efficiency and turnaround times. This will include building staff capacity and establishing an optimal structure to manage the function, and digitizing the procurement workflow, with integration with our financial management system.

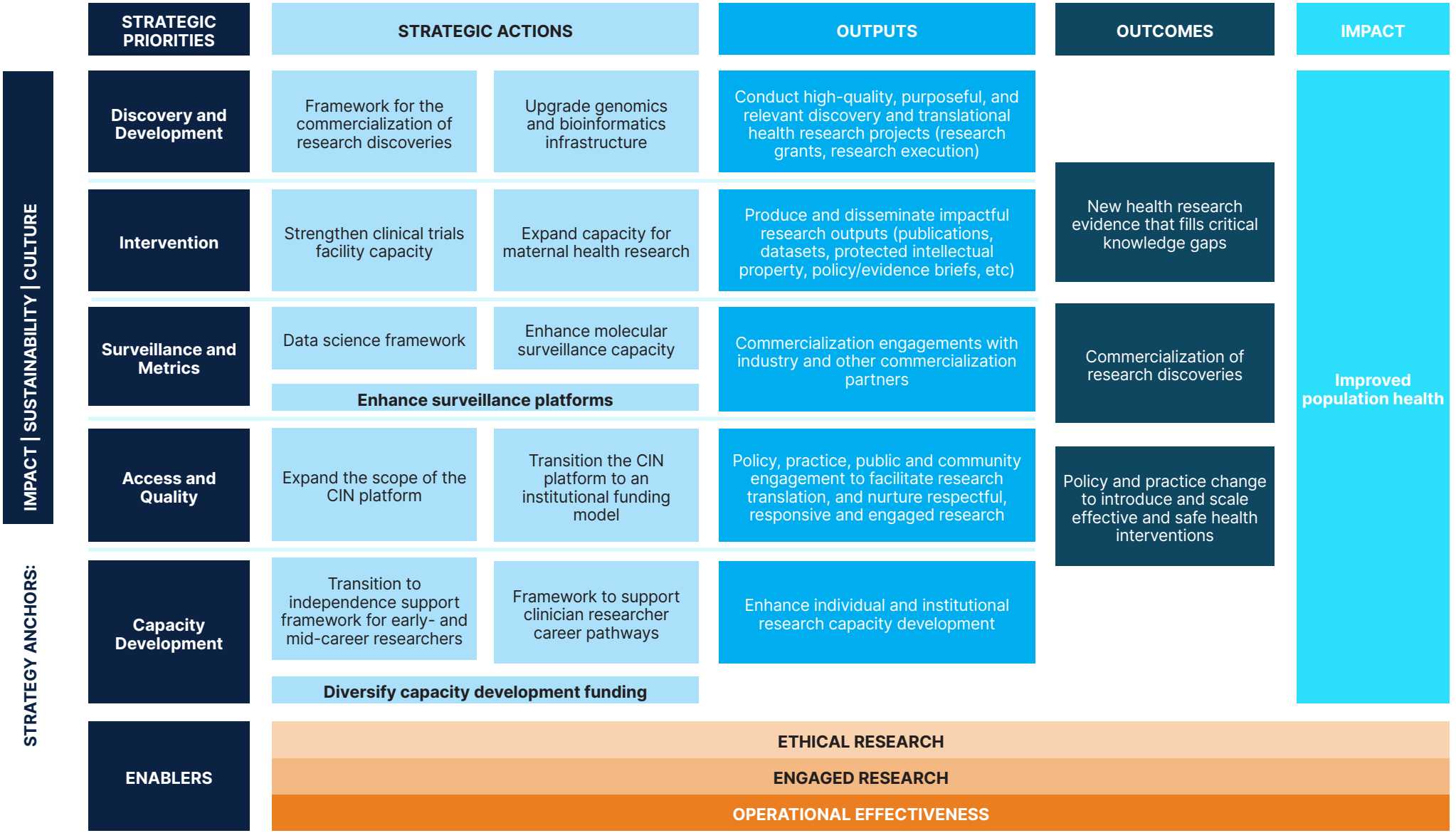
People and culture

1. **Leadership development:** Invest in leadership coaching, mentorship, and 360-degree feedback to develop values-driven, accountable, and responsive leaders, and ensure leadership continuity through effective succession planning.
2. **Strengthen culture:** Establish mechanisms for continuous measurement and tracking of organizational and research culture and implement targeted interventions to strengthen culture. This will include strengthening gender, diversity, equity and inclusion (GDEI), enabling flexible and empowering work environment, and enhancing well-being and employee support.
3. **Strategic talent development and management:** Promote continuous learning through training including continuous professional development, mentorship, peer learning, and ownership of professional growth for both scientific and operational staff, and review and update career progression structures and schemes of service across all staff groups.

Information technology

1. **Implement a hybrid and multi-cloud strategy:** conduct workload assessment, select appropriate deployment models, and execute phased migration prioritizing critical workloads, with cost-performance monitoring and a defined cloud budgeting framework throughout.
2. Implement a structured AI adoption roadmap and establish and enforce responsible AI guidelines across the Programme.
3. Build digital capacity across infrastructure, development, and service delivery teams through a structured training roadmap covering cloud engineering, AI/ML, cybersecurity, and data governance.
4. Scale the digitization of operational functions and transform them into AI-enabled, data-driven functions.

OUTCOMES FRAMEWORK



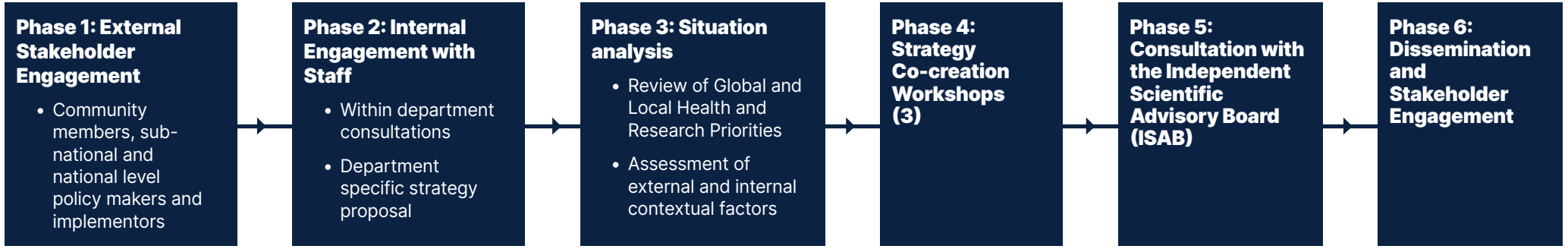
STRATEGY REVIEW, MONITORING AND EVALUATION

Implementation of this strategy will be guided by a comprehensive monitoring and evaluation (M&E) framework (Appendix 1), derived from the strategy outcomes framework. The M&E framework defines key indicators, and data sources aligned to the Programme's strategic objectives and anchors, enabling systematic tracking of progress, performance, and impact.

Data on agreed indicators will be routinely collected and analysed. Progress will be reported annually through internal performance reviews and external reporting to stakeholders.

In addition, the Programme will undertake formal internal strategy reviews at mid-term (Year 3) and at the end of the strategy period (Year 5). These reviews will assess progress against strategic objectives, identify emerging risks and opportunities, and inform any necessary course corrections.

ANNEX 1: STRATEGY DEVELOPMENT PROCESS



The KEMRI-Wellcome Trust Research Programme (KWTRP) strategy was developed through six iterative phases, coordinated by the Programme's Heads of Scientific Department (HOSD) Committee. The process was designed to be inclusive, evidence-informed, and responsive to the perspectives of those who shape and are shaped by the Programme's work.

Phase 1: External stakeholder engagement. The Programme convened engagement workshops with three groups of external stakeholders to identify priority health and research needs: community stakeholders, through four focus group discussions with KEMRI Community Representatives (CAB), health practitioners and implementers, including the Kilifi County Department of Health, the County Hospital, and clinicians in the Clinical Information Network (CIN); and policy makers, including the National Ministry of Health and its programmes, other policy makers, and non-state actors. The phase produced a synthesised list of stakeholder priorities.

Phase 2: Internal engagement with programme staff. Using a bottom-up approach led by scientific departments, staff proposed research priorities to inform the Programme's scientific strategy. Departments synthesised these contributions into department-specific strategy proposals.

Phase 3: Situation analysis. Global and local health and research priorities were synthesised alongside internal and external contextual factors - including the funding and regulatory environment - to inform strategy development.

Phase 4: Strategy co-creation workshops. Three co-creation workshops brought together HOSD Committee members and operational staff to develop the strategy collaboratively. Workshop resolutions then guided a dedicated strategy writing phase.

Phase 5: Consultation with the Independent Scientific Advisory Board (ISAB). The draft strategy was shared with ISAB members for expert review and input.

Phase 6: Communication and stakeholder engagement. The final strategy was disseminated to internal and external stakeholders through engagement workshops with Programme staff, publication on the Programme website and social media channels, and direct email communication with stakeholders.

STRATEGIC PLAN 2026 - 2030

Conducting high-quality, innovative, and purposeful research that improves human health, while building sustainable research capacity and leadership in Africa.

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