



Request for Proposals (RFP) for African Population Cohort Consortium (APCC) Formative phase Delivery Team

The concept of an African Population Cohort Consortium (APCC), an African-led network of Longitudinal Population Studies (LPS) leveraging and building on existing resources and infrastructure in the Continent, was developed in a Scoping meeting in Uganda in March 2020. This work and further consultations helped articulate a vision, guiding principles, structure, and potential research themes summarised in the [APCC Scoping Report](#). This Request for Proposals (RFP) seeks to **commission a delivery team for the formative phase of APCC that will co-produce with relevant stakeholders the blueprint for the Consortium.**

Key dates

- Information Webinars:
 - 15 April 2021, 15:00-16:30 British Summer Time (BST)
 - 21 April 2021, 10:30-12:00 BST
- Expressions of Interest deadline: 14 May 2021, 16:00 BST
- RFP Full proposal deadline (invited applicants only): 12 August 2021, 16:00 BST

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1. RFP Background

The world is at an inflection point. The global shock caused by the coronavirus pandemic has clearly demonstrated the need for political and scientific co-operation which stretches far beyond national borders. Robust and timely data on biology, health, behaviour, socio-economics and the environment are needed to predict and combat such disasters in the future. Such data could herald a scientific revolution in Africa, driving novel causal insights with global relevance and informing African-specific interventions to improve health and social outcomes.

Longitudinal Population Studies (LPS) including cohorts, panel studies and biobanks, inform our understanding of a wide range of issues that include health and socioeconomic outcomes, climate change and environmental impact. LPS contribute to the data revolution, are the cornerstone of precision medicine and can support the development of individual and population level interventions. Yet there are almost no large-scale LPS with biological, social, behavioural and environmental data from the African Continent. This dearth of data is hampering progress. Information gathered in high income countries cannot inform the specific disease burden in Africa and interventions will not necessarily translate to African contexts.

We need detailed individual-level longitudinal data from large populations linked to existing national and regional administrative and routine health data to understand the multiple disease burdens and their causes, as well as wider socioeconomic and environmental implications. Such data could herald a scientific transformation in Africa, driving novel causal insights with global relevance (e.g. precision medicine), creating platforms to inform African-specific interventions to improve health and social outcomes, and be used by local and national governments for disease surveillance and to measure progress towards the Sustainable Development Goals (SDGs). Ultimately, the scientific impact of this data should be driven by principles of equity and benefit the African populations.

A group of funders and stakeholders (Wellcome Trust, UK Medical Research Council (MRC), UK Economic and Social Research Council (ESRC), African Academy of Sciences (AAS), South African MRC (SAMRC), National Institute of Health (NIH) and Bill and Melinda Gates Foundation (BMGF) have been working together with African scientists to close this data gap. The concept is for an African-led network of LPS leveraging and building on existing resources and infrastructure. For now, we term this the African Population Cohorts Consortium (APCC).

Funders worked with a Steering Group of African experts to hold a scoping meeting in Uganda in March 2020. The meeting brought together African scientists from a broad range of disciplines to agree the feasibility, vision and ambition for APCC. Participants agreed the principles of engagement and outlined a structure to leverage existing resources and expertise. This work and further consultations helped articulate a vision, guiding principles, structure, and potential research themes, summarised in the [APCC Scoping Report](#) (Annex 1. Executive Summary).

2. RFP Objectives

The aim of this RFP is to commission a delivery partner for the formative phase that will co-produce with relevant stakeholders the blueprint for APCC. The deliverable at the end of the formative phase is a report that will include a long and medium-term research vision for APCC and the blueprint for

the Consortium's structure and function. The specification of this report is outlined in section 3. Applicants are encouraged to identify and address gaps not covered here which would improve the formative phase.

3. RFP Specification

The formative phase will address the issues outlined below that were identified during the scoping phase.

- 1. Stakeholder engagement:** identify the diversity of APCC stakeholders, including among others, researchers, local and national policy makers, data users, study participants and their communities, the public, relevant international organisations, industry and possible additional funders of APCC. Deliver a stakeholder engagement plan for these groups with the understanding that a range of approaches might be needed given the diversity of groups involved. We would expect this work to be carried out at an early stage to ensure that relevant stakeholder groups are brought into the formative phase in a meaningful way to co-develop plans to design and later implement APCC (e.g. bringing study participants into decision-making structures in a meaningful way will be essential for sustainability and longer-term participant and public buy in; policy involvement to ensure research translation).

- 2. Links to relevant current and new initiatives on the Continent and globally:** develop plans to establish and maximise links with existing (e.g. H3Africa, DELTAS) and new or developing (e.g. NIH-DSI, Africa Pathogens Genomics) initiatives on the Continent; demonstrate possible collaboration and partnerships that maximise infrastructure and capacity use and avoid duplicating efforts. Demonstrate how APCC will integrate and/or work with existing similar international organisations/consortiums to contribute to global scientific efforts.

- 3. Research vision and objectives of APCC:**
 - 3.1. Focus the research vision and objectives outlined in the Scoping Report to a smaller set of ambitious yet feasible objectives. This could mean reducing the three proposed objectives (discovery research, surveillance and policy/intervention), reducing the scope of research domains within each objective to meet regional priorities and/or providing options across objectives and domains that APCC could take lead on.
 - 3.2. Finalise the research domains (e.g. genomics, changing burden and determinants of disease) and cross-cutting themes (e.g. precision medicine and precision public health, migration and mobility, multimorbidity) to be covered by APCC into a smaller set of agreed initial research priorities which are feasible to deliver but would provide transformational knowledge.
 - 3.3. For each research domain, agree the core data required to deliver the agreed research objectives.
 - 3.4. Develop the framework that will ensure research translation and uptake into policy when relevant; ensuring that benefits come back to the populations who contributed data will enable a coherent narrative from data collection to practical impact.

- 4. Structure and components of APCC:** test the structure proposed for APCC in the Scoping report and/or propose and assess other models if appropriate (e.g. central versus decentralised Coordinating Hub). The report from this formative phase should provide the specification of

APCC's different components. Please, identify any gaps.

4.1 Individual LPS: Define the objective and transparent inclusion criteria for Core and Affiliate sites, as well as criteria for progressing from Affiliate to Core, including:

- Types of data available for linkage: clinical, administrative, environmental, other. Differentiating between linkages that exist, and those that could be feasibly achieved with a reasonable additional investment into the LPS.
- Study data and metadata standards.
- Organisation and operational/legal requirements for each type of site.

The final outputs from the provider should include definitions of the basic (technical) requirements for involvement in the APCC programme as well as for differentiating between core and affiliate sites. Annex 3 provides an outline for the degree of detail expected for the final (technical) definitions of exemplar core and affiliate sites. Additionally, the following [organisational readiness matrix](#) (developed by the Data Science for Social Good (DSSG) programme at the University of Chicago) is provided as an example which might be used to characterise each LPS in the first instance.

4.2 Coordinating Hub(s): determine if having a co-ordinating centre(s) is useful and necessary, outlining its/their role and functions if so. For example, would a single hub for the entire APCC be preferable to multiple hubs (e.g. country level if more than one site, for specific data types such as routine clinical and administrative, or research domains such as genomics, precision medicine, migration, etc.). Evaluate different models, e.g. centralised with all functions delivered from one location versus a decentralized function-based model where the coordinating functions are spread across locations based on local expertise) and justify recommendation.

4.3 Biobanks & 'omics' platform: types of samples and sample collection methods; how can APCC follow best practice and innovate; outline plans to convert samples into data across the Consortium.

4.4. Innovative data collection methods that leapfrog traditional cohort methodologies (e.g. mobile health technologies including ecological momentary assessments, mobile imaging tools, optical reading of medical records, etc.) that are implementable and useful in the Continent; the formative phase might include small pilot testing if feasible within the time constraint and needed to successfully support a particular option ahead of the implementation phase.

4.5. Data linkages: what are the necessary infrastructural developments to enable data linkages to LPS, including (but not limited to):

- Health record digitalisation: review pre-existing investments and available tools for optical character reading recognition, or natural language processing based automated digitalisation of paper records.
- Data linkage methods: Review what range of data linkages (e.g. to routine clinical to environmental data), is currently being done on the Continent and where there are opportunities for investment. As well describing the tools and methods utilised, their relative efficacy where it is known, and opportunities for development.
- Assess likelihood of use in diverse contexts and scalability to justify a single or a suit of approaches.

4.6. Branding materials: decision process to agree a new name for the Consortium and develop branding materials.

5. **Governance and management structure of APCC:** specify the final governance structure, and exemplar organisations in the Continent capable of managing this responsibility, as well as any potential roles that should be held at this higher tier of administration rather than devolved to the individual LPS or the coordinating hub (e.g. administering core participation agreements for involvement in APCC, example data sharing contracts, advisory, and relevant steering groups). Include mechanisms for equitable and inclusive governance, including legal and political buy in from governments. Include mechanisms for conflict prevention and resolution.
6. **Open Science and data sharing principles:** agree open science principles for APCC considering what is acceptable in the African context and ensuring agreement with funders' requirements for open access to data and research outputs as well as requirements of existing investments which APCC may draw on; develop, involving the relevant stakeholders, a model for data sharing, within and beyond the Continent, that works for the Continent and funders.
7. **Ethical principles:** agree the ethical principles that will govern APCC, e.g. ensuring the systems for managing and using the data are trustworthy for the populations involved, approaches to participant consent, and how the rights and welfare of participants will be protected. APCC provides a unique opportunity to create an implement an approach that genuinely combines the technical, institutional/policy and social/ethical aspects that are necessary to achieve this trustworthiness.
8. **Strengthen African capacity and leadership:** develop a capacity strengthening framework that makes best use of APCC infrastructure to develop, strengthen and retain on the Continent research, policy and translational skills; identify how can APCC interact and collaborate with existing programmes and existing activities (e.g. [DELTA Africa Initiative](#), [H3ABioNet](#) and [Fogarty training programmes](#)) to avoid duplication and offer high value for money; identify the gaps in skills and scientific areas that APCC is best placed to support (e.g. data science and analytical skills, data linkage, epidemiology and population health, biostatistics, health informatics, qualitative research, community engagement, bioethics and health systems policy and research) and what training activities are best delivered through APCC; ensure capacity development through APCC is available to all across the Continent (e.g. training fellowships for countries with no APCC sites to spend time in core and affiliate sites).
9. **Evaluation:** establish an evaluation framework and audit criteria for the APCC.
10. **Risks & challenges with mitigation strategies:** outline relevant risks and mitigation strategies including a long-term sustainability plan for APCC.
11. **Cost estimates:** establish within each of the above items the 'minimum viable product' to get APCC off the ground and the costs of add-on projects. Provide long-term sustainability plans which should include national and local political buy-in.

Governance structure for the Formative Phase

Annex 2 shows the Governance Structure proposed for the Formative phase. The Delivery team will advise and will be accountable to the Funders Board (Wellcome and other funders' representatives, specific membership to be decided). An Independent Advisory Board will advise both the Delivery Team and the Funders Board.

Final decisions will be made by the Funders Board following the report from the Delivery Team. The Delivery team and those contributing to the Formative phase of APCC will not be excluded from applying for future funding relating to APCC.

4. RFP Timetable

#	Activity	Responsibility	Date
1	RFP – call launch	WT	18 March 2021
2	Information Webinars and Q&A	WT	15 April 2021, 15:00-16:30 BST 21 April 2021, 10:30-12:00 BST
3	Deadline to submit questions	Applicants	29 April 2021, 16:00 BST
4	Submission of Expression of Interest (Eoi) deadline	Applicants	14 May 2021, 16:00 BST
5	Invitation to submit full proposal	WT	w/c 07 June 2021
6	Full application deadline (invited applicants only)	Applicants	12 August 2021, 16:00 BST
7	RFP Evaluation Period	WT	Aug/Sep 2021
8	Applicants' Interviews by the Advisory Committee*	Applicants	Oct 2021(dates TBC)
9	Funders Decision	WT + funders	Oct 2021 (dates TBC)
9	Notification of Contract Award	WT	Oct 2021 (dates TBC)
10	Contract Negotiation	WT & Applicants	Oct/Nov 2021
11	Contract Start Date	WT & Applicants	From Nov 2021

* Advisory Committee membership (TBC) and funders

5. Expressions of Interest (Eoi)

Applicants are asked to submit an expression of interest by email to Lorraine Holland (L.Holland@wellcome.org) in accordance with the RFP timetable. We will only be able to consider Eoi submitted in English language.

The Eoi form should include the following sections:

#	SECTION	Maxim word # per section
1	Co-applicants (max 12): name, institution, include CV (2 pages max), and role description within the Delivery Team.	100 words per role
2	Administering Institution - A single administering organisation and a project lead within this organisation from the Delivery Team needs to be specified. This organisation will receive the funds and disburse them to partner institutions as applicable.	

3	Collaborators: name, institution and expertise (use 3 to 5 key words to describe expertise) - There is no limit to the number of collaborators allowed.	
4	Outline how the team will work together to deliver the formative phase, including the management structure for the team. Please, include example(s) of previous work where members of the team have had key roles in the delivery of complex and highly collaborative initiatives.	600 words
5	High level summary of how the team will approach delivering the formative phase as specified in this RFP.	600 words
6	Provide a non-binding cost estimate as a single figure.	

Costs guidance

Value for money will be evaluated.

Eligible costs:

- Co-Applicants time compensation for those in non-permanent positions
- Post-doc/early career researcher time for research work (e.g. literature, landscape reviews)
- Secretariat support (e.g. Steering group and working groups if relevant)
- Piloting/original research (e.g. data methods, linkages, qualitative research)
- Travel and subsistence costs for a small number of face-to-face meetings (we expect most of the formative phase meetings will take place remotely)
- Time compensation for stakeholders' involvement in the formative phase (e.g. public, local policy makers if their participation is otherwise not possible)
- Outreach activities to ensure participation from a wide range of African countries and groups which are traditionally under-represented in research
- Materials and consumables (e.g. laptops, meeting materials, fieldwork costs)
- Reasonable indirect costs from LMIC organisations

Non-eligible costs: Principal Co-Applicants' salary/time compensation for Applicants with permanent positions Collaborators' salaries/time compensation

From answers to the EoI we will invite a limited number of applicants to submit a full proposal. An internal funders committee will use the assessment criteria below to shortlist EOIs.

We may request that applicants invited to submit a full proposal address specific gaps identified at the EoI stage (e.g. missing discipline/stakeholder considered critical for the successful delivery of the RFP). Satisfying this request will be a condition for the application to be assessed in the final phase.

EoI assessment criteria

1. Delivery team:

- must be African-led
- multidisciplinary: include breadth of discipline expertise (research disciplines, policy and decision makers, health care providers, public, community and participant engagement specialists, etc.); demonstrable data science expertise will be key to deliver the objectives of this RFP and APCC
- inclusive and diverse teams, with broad geographical representation, will be rated more highly

- can include international collaborators
- demonstrates experience of delivering complex and highly collaborative initiatives
- willingness to work with other individuals, teams or groups of stakeholders at the funders' request to improve the overall delivery of the formative phase.

2. Strength of the proposed approach to deliver the requirements for the formative phase set out in this RFP

- The extent to which the application appropriately responds to the elements listed in the tender.

Information Webinars with Q&A sessions

Prior to the submission of your EoI, applicants will have the opportunity to attend open Webinars that will include Q&A sessions. These sessions will be recorded and made available. A live FAQs document will also be made available in accordance to the RFP timetable (please, note deadline to submit questions).

6. RFP Full proposal

Applicants invited to submit a full proposal are required to submit proposals that deliver the specifications outlined in this RFP responding to the following sections and word limits. We will only be able to consider full proposals submitted in English language.

#	SECTION	Max
1	Co-applicants (max 12): name, institution, include CV (2 pages max), and role description within the Delivery Team.	100 words per role
2	Administering Institution and contact person - A single administering organisation and a project lead within this organisation from the Delivery Team needs to be specified. This organisation will receive the funds and disburse them to partner institutions as applicable.	
3	Collaborators : name, institution and expertise (use 3 to 5 key words to describe expertise) - There is no limit to the number of collaborators allowed.	
4	Outline how the team's previous experience is relevant to deliver the formative phase that will involve complex and highly collaborative initiatives. Please, include example(s) of previous work where members of the team have had key roles in the delivery	600 words
5	High level summary of how the team will approach delivering the formative phase as specified in this tender	600 words
6	Willingness to work with other individuals/groups at funders request (Y/N)	
7	Proposal description. Outline your methodology for delivering the requirements of the formative phase (listed under point 3 of this document). These may include, but are not limited to: <ul style="list-style-type: none"> • Working groups to address specific aspects of the formative phase; detail how will people be recruited to participation to ensure 	5,000 words (excluding graphs, figures, references),

	<p>representation across gender, disciplines, geography, etc.</p> <ul style="list-style-type: none"> • Expert reviews: including how will experts be selected • Desk-based work: describe methods (e.g. literature review) and the outcomes of this work • How will conflicts of interest be assessed and handled • Measures of success for the formative phase 	<p>use headlines to clearly identify how the proposal addresses the specifications outlined for the formative phase and any identified gaps</p>
	<p>Demonstrate how diversity (in scientific discipline and/or stakeholder groups, gender, geography, etc.) and inclusive practices will be imbedded in the delivery of the formative phase, including mitigation plans if this is not achieved during the formative phase.</p>	
	<p>Describe how co-production of APCC's blueprint with key stakeholders will be achieved. Please include details of how individuals and organisations will be selected to participate in the formative phase to ensure representation across disciplines, geography, gender and career stage.</p>	
	<p>Management structure that will oversee the project and report to the Funders Board (e.g. working groups, steering group etc.).</p>	
8	<p>Time requested to complete the project to a maximum allowed time of 18 months and start date (earliest start date November 2021)</p>	
9	<p>Delivery plan: Provide a list of deliverables/milestones with timelines to allow tracking progress (Gantt chart with deliverables/milestones and timepoints to report Funders Board & Independent Advisory Board). This will be approved by Wellcome and reported on.</p>	<p>300 words (excluding Gantt chart)</p>
10	<p>Outline major risks and challenges to the successful delivery of the formative phase and include mitigation strategies</p>	<p>600 words</p>
11	<p>Costs with sufficient breakdown to allow assessment and cost justification (refer to EoI information for eligible costs)</p>	<p>600 words</p>

Applicants invited to submit a full proposal will have the opportunity to have a one to one conversation if they submit a short (1-2 page) concept note. Please contact Bruna Galobardes at b.galobardes@wellcome.org

Full proposal assessment criteria

1. **Delivery team** - Same as for EoI

2. **Strength of the proposed approach to deliver the requirement set out in this RFP**

- The extent to which the application appropriately responds to all the elements listed in the tender.
- The appropriateness of the methods used, specifically:
 - the use of best practice methods to gather evidence and consensus
 - whether the proposed methods will encourage innovation
 - whether the proposed methods achieve representation across African geographies, research disciplines, key stakeholder groups and gender diversity
 - whether the proposed methods encourage stakeholder co-production of the

blueprint for APCC

- Applications which suggest innovation in the delivery and thinking of the formative phase which improve what has been proposed during the scoping phase will be rated more highly.
- The appropriateness of the management structure of the Delivery Team, including how inclusivity of diverse stakeholders will be sought, conflict prevention and resolution, and mitigation of risks.

3. Value for money

- Proposal is appropriately costed and feasible with the proposed costs
- Costs are justified

7. About Wellcome

Wellcome exists to improve health by helping great ideas to thrive. We support researchers, we take on big health challenges, we campaign for better science, and we help everyone get involved with science and health research. We are a politically and financially independent foundation. Find out more about Wellcome and our work: wellcome.ac.uk

8. Non-Disclosure and Confidentiality

Prospective Suppliers should be aware that inappropriate publicity could have a serious effect upon Wellcome's business. The information contained within this document or subsequently made available to prospective suppliers is deemed confidential and must not be disclosed without the prior written consent of Wellcome unless required by law.

9. Independent Proposal

By submission of a proposal, prospective Suppliers warrant that the prices in the proposal have been arrived at independently, without consultation, communication, agreement or understanding for the purpose of restricting competition, as to any matter relating to such prices, with any other potential supplier or with any competitor.

10. Funding

For the avoidance of doubt, the output of this RFP exercise will be funded as a Contract and not as a Grant.

11. Costs Incurred by Prospective Suppliers

It should be noted that this document relates to a Request for Proposal only and not a firm commitment from Wellcome to enter into a contractual agreement. In addition, Wellcome will not be held responsible for any costs associated with the production of a response to this Request for Proposal.

12. Sustainability

Wellcome is committed to procuring sustainable, ethical and responsibly sourced materials, goods and services. This means Wellcome seeks to purchase goods and services that minimise negative and enhance positive impacts on the environment and society locally, regionally and globally. To ensure Wellcome's business is conducted ethically and sustainably, we expect our suppliers, and their supply chains, to adhere to these principles in a responsible manner.

13. Accessibility

Wellcome is committed to ensuring that our RFP exercises are accessible to everyone. If you have a disability or a chronic health condition, we can offer adjustments to the response format e.g. submitting your response in an alternate format. For support during the RFP exercise, contact the Wellcome Contact.

If, within the proposed outputs of this RFP exercise, specific adjustments are required by you or your team which incur additional cost then outline them clearly within your commercial response. Wellcome is committed to evaluating all proposals fairly and will ensure any proposed adjustment costs sit outside the commercial evaluation.

14. Diversity & Inclusion

Embracing [diversity and inclusion](#) is fundamental to delivering our mission to improve health, and we are committed to cultivating a fair and healthy environment for the people who work here and those we work with. As we learn more about barriers that disadvantage certain groups from progressing in our workplace, we will remove them.

Wellcome takes diversity and inclusion seriously, and we want to partner with suppliers who share our commitment. We may ask you questions related to D&I as part of our RFP processes.

15. Wellcome Contact Details

The points of contact within this RFP exercise for all communications are as indicated below;

Name: Lorraine Holland

Role: Project Manager, African Population Cohort Consortium

Email: l.holland@wellcome.org

Name: Bruna Galobardes

Role: Senior Portfolio Developer, African Population Cohort Consortium Lead

Email: b.galobardes@wellcome.org

16. Wellcome Evaluation Panel

The Advisory Committee membership for this RFP exercise will be communicated at a later date.

17. Information Governance

The application will be assessed by a Committee that will include external experts and funders representatives. Therefore, it is necessary for us to transfer your organisation's information, including any personal information, to Committee members, some of which may be based outside of UK / EEA. Jurisdictions outside of UK / EEA may not offer the same level of protection for personal information. You must inform the people whose personal data is included in your proposal of this before submitting your proposal. For information on how Wellcome handles personal information, see our [Wellcome Privacy Statement](#).

Annex 1. APCC Scoping Report - Executive Summary

African diversity across multiple domains (human, environmental, socioeconomic, policy and health systems) can provide unparalleled research insights. These could be harnessed to provide novel causal insights with global relevance and to inform African-specific interventions to improve health and social outcomes.

Vision

The African Population Cohorts Consortium, APCC, could drive scientific discovery that enhances our understanding of the interacting biological, genetic, socioeconomic and environmental factors underlying health and wellbeing. This promises to accelerate evidence-based improvement of health and social outcomes on the Continent and to monitor progress towards the SDGs.

Aims and objectives

APCC has two proposed overarching and synergistic aims:

- To strengthen and enhance research infrastructure for population research in Africa
- To harness this robust infrastructure to enable high-quality scientific research in high-priority areas

Proposed research objective comprises:

1. Enable world-leading discovery science to answer the most pressing health issues on the Continent
2. Provide quality population data for surveillance and monitoring progression towards the SDGs

3. Assess the impact of policy interventions to support national and regional priorities

Principles

The following principles will guide the development and implementation of APCC:

1. African-led, with equitable governance of the initiative
2. Driven by community engagement
3. Support ethical, equitable and relevant use and sharing of samples and data
4. Strengthen African capacity and leadership

Structure

APCC is proposed as an African-led, African-governed collaborative platform for large longitudinal population studies (LPS). It would build on existing research infrastructure to collect, collate and analyse multi-dimensional data and samples from diverse populations, and be a platform for add-on studies.

A 'hub and spoke' model aims to ensure Africa-wide geographical representation and inclusion of underrepresented regions and populations. APCC is proposed to consist of a network of core and affiliated sites representing diverse countries across the Continent.

Core sites with data collection from population samples 'typical' of the country would build on existing research infrastructure including large cohorts, HDSS, biorepositories, and established linkage to routine health, social and environmental data.

Affiliate sites would collect a minimum dataset and may not initially have data linkage

or biorepositories. Affiliate sites will be supported to participate through capacity strengthening and can progress to become Core sites.

APCC seeks to support participation from countries that are at very different stages of research capacity and would enable progression to Core site status through clear and transparent criteria.

APCC is proposed to be governed by a **Managing Committee** comprising representatives from the participating Core and Affiliate sites. They would be supported by a **Coordinating Centre** which establish standardised protocols and core data standards, ensure data harmonization/inter-operability and support cross-country analyses. An **Independent Scientific Advisory Board (ISAB)** would provide independent scientific advice to the Managing Committee.

By strengthening relationships with national ministries and agencies, APCC aims to leverage data linkage to routine and existing data resources, in turn supporting national efforts with a reciprocal flow of new data. These ongoing intersectoral collaborations aim to ensure relevance of the research outputs, bridge the transition from research output to translation into policy, and mitigate risks to long-term sustainability through effective buy-in from national policy-makers.

Research Vision

This scoping report has identified a wide range of research domains which APCC could contribute to. These include surveillance, discovery research and intervention platforms with direct impact on policy. Work is now required to focus this vision on a smaller number of areas which have the potential to deliver significant advances in knowledge as well as health and social impact.

Potential research domains include:

- The changing epidemiological transition of African populations including the causes and impacts of demographic shifts due to migration, morbidity and mortality.
- How the genetic diversity of humans, pathogens and vectors can contribute to population-level and individual health.
- The changing burden and determinants of both infectious and non-communicable diseases, including understanding and predicting emerging diseases.
- Multi-morbidity including interactions between infectious and non-communicable diseases as well as mental health in different environments and across the life course.
- Socioeconomic and environmental drivers of health and wellbeing for example the impact of a changing climate on health and social outcomes including the changing distribution of disease vectors.
- How health and wellbeing can impact economies.

These domains are inter-related, with cross-cutting themes including a life course approach, precision medicine and precision public health, migration and mobility, planetary health, and health systems research including universal health coverage.

The pan-African diversity of APCC would enable comparison of relationships between determinants and outcomes from diverse social, cultural, economic, environmental, geographical and genetic backgrounds over time. This diversity in exposures and

outcomes would be a core strength of APCC. Coupled with the ability to track the impact of the rapid pace of change in African populations over time, and the consequence of this change on health and social outcomes.

As key enablers to the success of the Consortium, APCC will engage with policymakers from the outset to ensure research is designed in collaboration with and meets the needs of key stakeholders. Ensuring early buy in through co-development will help to shape the research effectively, and build understanding of the research process and outputs amongst policymakers, supporting APCC to achieve its objectives and bridge the transition from research output to translation into policy.”

Phases

We propose that APCC is further developed in two phases:

The **Formative Phase** would be led by a consortium of African scientists and policy makers. They would refine the scope and scientific objectives of APCC, finalise the structure of APCC including the governance and management structure and establish best practice for ethics and data governance. The primary outcome of this phase would be a

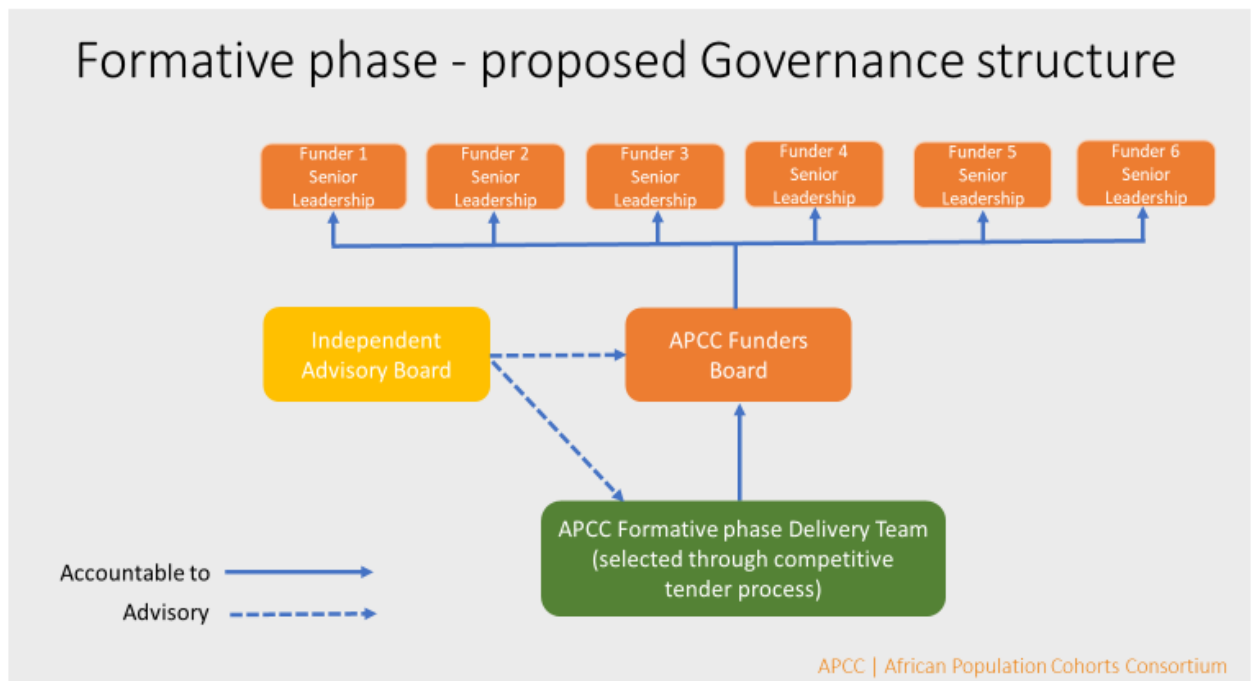
White Paper outlining these. Decisions on investment in APCC and whether the initiative will go forward will be taken after this phase.

The **Implementation Phase** would involve an open selection of Core and Affiliate sites and the creation of the Coordinating Centre. Each site would develop country-specific research priorities in partnership with local policy makers and communities. Pilots would be conducted in each site to finalise study design, research protocols and standards for data collection and harmonisation protocols before data collection commences.

Summary

It is time for a step-change in ambition for population-based science in Africa. Recent developments on the Continent including large scale genomics research (such as H3Africa), capacity building programmes (such as the Developing Excellence in Leadership, Training and Science (DELTAS) programme and existing research infrastructure (including a network of HDSS sites, bioinformatics hubs and biorepositories), mean that a more co-ordinated and ambitious vision is within reach.

Annex 2. Proposed governance structure for the formative phase



Annex 3: Preliminary Outline of Technical Details to Differentiate Sites

The Data Asset

- What sources is data drawn from, at what frequency? [Ideally presented as a dataflow diagram with broad summaries of the types of data collected]
- At what point in the data flow is quality checking undertaken, and by whom? [Ideally including a description of the process (i.e., is it automated, and if so what software is used)].
- Where is the final resource held, and by whom?

Standardisation of the Asset

- What standardised vocabularies/ontologies are used to structure the data?
- How and when is data tagged with the ontology labels?
- Is a common data model (CDM) for longitudinal observational data utilised? [See <https://ohdsi.github.io/TheBookOfOhdsi/OhdsiAnalyticsTools.html> for a detailed primer on CDMs)
 - o If so, which one?
 - o Is the ETL (Extract, Transform, Load) pipeline for moving data between the raw structured format and the CDM compliant format openly available (e.g. published on GitHub or an institutional repository)?
 - o What data is lost/removed during the ETL process (for not being of research quality)?
 - o Is any other data lost/removed during the ETL process?
 - o How often is the ETL process reviewed/updated?

Technical capability within the host organisation

- What technical infrastructure is used to house the data asset (i.e. PostgreSQL, Microsoft SQL, purpose-built software, etc.)
- How is access to the data asset facilitated (e.g., through a trusted research environment, or a defined extract through a private sharing service, etc.)
 - o How are privacy guarantees generated for the chosen method?
- What meta-data is made publicly available?
- What is the size of the entire digital resource, and what storage capability does the host institution have?
- What computational resources are available locally? Is there pre-existing integration with cloud/web analytic services (e.g. AWS, Azure, etc.)?
- What in-house software development expertise exist?
- What in-house data science expertise exist?
 - o Are there automated data analysis methods/pipelines already utilised by the core team who manage the data asset (e.g. the ODHSI methods library in R)

Legal, and ethical considerations

- What is the legal basis for collection?

- What limitations, if any, to sharing are present (these will likely have been defined in the original consenting document)?
- Would it be practical re-consent participants for international sharing or other significant changes to the original use case presented to participants?
- + what other ethical considerations might be relevant to the populations from whom the data is collected

Development Opportunities

- What is the relationship between the data asset and the national government/department of health?
- Are there national data sources relevant to the SDGs or other areas of research relevant to the funders' strategies (e.g. Wellcome: impact of global heating on health), to which the data asset could be linked, but which it is not currently able to due to a lack of resources?
 - o If so, what resources would be necessary, and what additional research questions would the asset be able to address?