MENTAL HEALTH DATA PRIZE – AFRICA

APPLICATION GUIDE AND PRINCIPLES

African Population and Health Research Center (APHRC)

2nd Floor APHRC Campus,

Manga Close Off Kirawa Road, Kitisuru

P.O. Box 10787 – 00100 GPO

Nairobi, Kenya

About African Population and Health Research Center

The African Population and Health Research Center (APHRC) is a leading Africa-based, African-led, international research institution headquartered in Nairobi, Kenya. APHRC conducts policy-relevant research on population, health, education, urbanization, and related development issues in sub-Saharan Africa. Our vision is **to transform African lives through research,** and we highly engage in evidence generation, strengthening research and related capacity in the African R&D ecosystem, and informing policy to action on health and development. Informed by global and continental development priorities, APHRC's teams orient their research agendas, driven by the belief that Africa, and African-generated evidence must be at the forefront of decisions supporting improved growth and development. Key to the Centre's strength as a collaborator as well as an independent evidence generator is its commitment to excellence in the design and implementation of projects. The Center works through four critical thematic areas: **Health and Wellbeing, Human Development, Population Dynamics and Urbanization and Data Science and Evaluation**. Within these thematic areas, advancing the science of mental health in Africa is one of APHRC's strategic objectives. The mental health strategic vision 2020-2026 aims to transform the mental health ecosystem in Africa and understand the trajectory and resolution of mental health conditions through capacity-building programs, evidence-based multi-level strategies, and evidence generation, sharing and consensus building on the diagnosis, treatment of mental health conditions and timely delivery of mental health services and care in Africa.

Summary

The African Population and Health Research Center (APHRC) in partnership with Wellcome has launched the Mental Health Data Prize – Africa, a project that envisages the development and implementation of innovative digital solutions for mental health research and data-driven insights tailored to the needs and priorities of the African mental health communities i.e., the project aims to understand what works in prevention, treatment and management of **anxiety, depression and psychosis,** and to drive a transformative change in ways that are prioritized by people experiencing these problems in Africa. The Prize will be launched in February 2024 and will be awarded in September 2024.

This Data Prize aims to attract a critical mass of diverse African participants to participate in a capacity-building program, after which they will be invited to participate in multidisciplinary projects to generate data-related solutions or data-driven insights on anxiety, depression, and psychosis in Africa. The APHRC strongly encourages mental health researchers and scientists across Africa to use existing data to improve our understanding of anxiety, depression, and psychosis i.e., any research team that can develop digital tools and/or generate data-driven insights to answer the question: "What can help us tackle anxiety, depression and psychosis in Africa?". The Prize seeks **observational, experimental, longitudinal, data science and implementation science research** methods implemented by a multidisciplinary team.

The Data Prize Initiative welcomes a diverse range of participants, including mental health researchers, practitioners, non-academics, and data scientists affiliated with African institutions and startup companies. The APHRC is committed to facilitating the formation of multidisciplinary through a matchmaking exercise of individuals and organizations to address skills gaps within the community of data scientists and mental health researchers. Emphasizing inclusivity, the Data prize encourages significant and meaningful engagement with end-user and lived experiences communities. Thus, the multi-disciplinary team should comprise individuals with lived experiences, mental health experts, and other key stakeholders, including policymakers at every stage of the proposed research projects thus building a network.

Prior to the award we will build a community of practice for data scientists, mental health researchers and implementing organizations working on data in mental health research. We will identify strategies which enable researchers to partner across regions to leverage capabilities and local knowledge sharing and actions. We will develop a web-based dashboard for partners to provide best practices and as a forum for workshops, webinars and virtual one-on-one meetings. Through a competitive evaluation process, up to 10 multidisciplinary awards will be selected to receive a prize of £200,000 each on behalf of Wellcome. Prize teams will then spend the following 12 months generating or accessing data sources, conducting data analysis generating insights and/or develop tools. At the end of the 12 months, the prize teams will present their product/outputs as part of their final pitch to APHRC and Wellcome teams. Post award, APHRC will provide support on data science tools for mental health at different levels, including a monitoring,

evaluation and learning component. The APHRC will update the scoping of longitudinal datasets on mental health on the continent based on the outputs. The APHRC will also provide capacity-building initiatives addressing research leadership, policy and management gaps, to facilitate future sustainability and innovation.

The key steps for the Data Prize are described below in the following sections a) detail description of the call; b) eligibility; c) evaluation criteria; d) review process; e) selection panel; and f) key dates and notification of award procedure. The process will uphold data privacy and compliance to enhance credibility and ethical integrity. The APHRC will be responsible for oversight of data protection law at all stages of the project. We also highly encourage applicants to strictly follow data protection and safeguarding policies.

Acknowledgement

We extend our gratitude to Wellcome team for funding the Data Prize, and guiding APHRC in the implementation of the project. Our sincere gratitude to Ekin Bolukbasi, Winnie Wefelmeyer and Catherine Sebastian for their invaluable comments and suggestions on this guideline. A significant portion of the guiding principles have been adapted from work, resources, and guidelines from Wellcome.

TABLE OF CONTENTS

1 Introduction

The world we live in is becoming complex, fast-moving, highly interconnected and requires a great emphasis to our mental and social wellbeing. Although major commitments have been made to improve mental health research globally, existing studies showed mental health disorders such as anxiety and depression are the pressing social, economic and public health challenges[1-3] but one of the neglected public health issues in Africa[4]. In Africa, mental conditions account for 5% of the total burden of disease (Disability Adjusted Life Years, DALYs) and 19% of all disability (YLDs)[5]. Mental health conditions are common across the life course. However, the mental health of young people is also a growing concern, especially considering factors like unemployment, poverty, and limited access to education[2, 6]. According to some studies, one in seven children and adolescents in sub-Saharan Africa experience significant psychological challenges, and almost 10% qualify for a psychiatric diagnosis[2]. The recent systematic review by Jörns-Presentati et al. (2021) revealed that adolescents (aged 10-19yrs) in sub-Saharan African countries had the highest prevalence of depression,26.9%, anxiety disorders 29.8%, emotional and behavioural problems 40.8%, post-traumatic stress disorder (PTSD) 21.5% and suicidal tendencies 20.8%[7]. A meta-analysis by Chen et al. (2021) in Africa reported 45% of depression, 37% of anxiety and 28% insomnia among African adults during the COVID-19 crisis [8]. This magnitude is even much higher when we look at country and age-specific data. For instance, previous studies in South Africa reported depression during antenatal and postpartum account for up to 47%[9, 10] and 50.3%, respectively[11, 12]. These mental health conditions are also exacerbated due to COVID-19[13-15]. Despite the burden of mental health disorders with economic repercussions, fewer than 15% of depressed individuals in African settings have access to treatment[16] due to several factors amongst which low spending and inadequate and unequal allocation of resources. The unequal distribution of these resources accentuates the problem of poor access to mental health care. For example, compared with global averages of 3.96 psychiatrists per 100 000 people, Nigeria, and Ethiopia reported 0.06, and 0.04 psychiatrists per 100 000 of population, respectively[17] Chad, Eritrea, and Liberia, with national populations of 9, 4.2, and 3.5 million, respectively, each have just 1 psychiatrist per 100 000 people, whereas Rwanda, Afghanistan, and Togo each have just two [17].

Current evidence links poor mental health conditions with both short- and long-term consequences. For instance, perinatal depression has been linked to several adverse child health outcomes [18, 19] such as reduced infant cognitive development [20], socio-emotional development [21], and psychomotor development [19], longer response times to treatment and relapse, as well as higher rates of depression-related disability [12, 22]. Nonetheless, little is known about the causes of mental health problems and how the brain-body environment interacts during such mental health conditions. More importantly, the biological, psychological and social causal mechanisms underpinning how, and why, these factors influence the trajectory of these problems over time is not generally thoroughly examined [23], and in African settings in particular. For instance, depression had the greatest geographical spread, with prevalence data reported for more countries than other mental health conditions. Similarly, less is known about what and how

interventions work in which context in the African region due to several factors among which fragmented research approach and lack of multidisciplinary research practice [24] are the major ones. Hence, there has been a dearth of evidence on policies and strategic priorities for mental health in Africa [1, 25]. Specifically, there remain gaps in understanding the burden of mental disorders [7], because existing research reports heterogeneous outcomes and is hampered by the lack of measurement validity [26-28], are challenged by weak governance and leadership, and insufficient funding. The limited access to mental health services, limited service providers, inadequate access to relevant medications, weak surveillance, low awareness, stigma, and discrimination for mental health problems have contributed to the problem [1]. The mental health science community is fragmented, with different disciplines taking different approaches and has no room for interdisciplinary learning. Researchers lack a common language for describing problems, interventions and outcomes[29, 30]. There is even less learning from other areas of academia, including the humanities, law, economics, mathematics and philosophy, where potentially relevant research is taking place[31] suggesting the need to strengthen multi and transdisciplinary approaches towards mental health in Africa to understand the conditions, what works, for whom, in what contexts and why? On the other hand, researching to better understand the onset, development, and recurrence of conditions such as depression, anxiety and psychosis is essential for finding rapid and efficient ways to predict, inform policy, intervene, and ultimately stop the harmful outcomes of mental health conditions on people's lives. New data sources could help identify how mental conditions develop, and the effects of interventions over time. Modern methods and tools could also be used with large datasets for the diagnosis and management of mental health conditions and improve our understanding of outcomes through a biological, social, and economic lens. There is a need for a multidisciplinary approach to build the capacity to generate data and data-driven insights in the continent.

2 Background Information

2.1 About the Mental Health Data Prize – Africa

The African Population and Health Research Center (APHRC) together with our partner, Wellcome, aims to drive a transformative change in areas related to anxiety, depression, and psychosis. This Data Prize initiative aims to attract a critical mass of diverse African participants, who will subsequently be invited to participate in multidisciplinary projects to understand and develop new solutions that can address mental health conditions such as anxiety, depression, and psychosis and the related role of data or evidence in the process. The project aims to understand what works in preventing, treating, and managing anxiety, depression, and psychosis and to drive a transformative change in the African context in ways prioritized by the people who experience these problems. We encourage mental health researchers and scientists across Africa to use existing data to answer mental health-related research questions linked to anxiety, depression, and psychosis, and to improve understanding of its trajectory within African contexts. A multidisciplinary approach including data science and implementation science research will be supported to accelerate the implementation of more targeted and sustainable mental health research and interventions to (1) understand the complex systems, including social and structural determinants of mental health and identify more targeted mental health conditions prevention, treatment, and care interventions and implementation strategies; (2) to evaluate the implementation of data-driven insights ; (3) integrating meaningful engagement of community and implementing partners at every stage of the research.

The goal of the Mental Health Data Prize Africa is to produce tangible and scalable outputs or solutions that support mental health research and generate data-driven insights/evidence tailored to the needs and priorities of the African population while building data capacity on the continent.

To this effect, the specific objectives for the Mental Health Data Prize Africa call are:

- To support trustworthy data science to transform how mental health research solves challenges around anxiety, depression, and psychosis in Africa through a collaborative approach.

- To generate tangible and scalable data-driven tools to improve our understanding of mental health and how best to intervene in Africa.

- To generate data-driven insights tailoring mental health diagnosis, treatment and care and facilitate decision support among key users such as clinicians, front-line health workers and decision-makers in Africa.

2.2 Target group

While our primary focus is on adolescents and young people in Africa, we strongly encourage researchers to address mental health issues across all age groups. This includes research exploring effective approaches considering individuals with lived experiences of anxiety, depression, and psychosis.

2.3 Values and principles

APHRC's mental health data prize project aims to build a more diverse and inclusive mental health science community, underpinned by a shared focus on finding new solutions. Therefore, we highly encourage and value the following:

- **Collaboration:** We highly encourage interdisciplinary research design for mental health science and solutions. Any research designed by bringing researchers from different disciplines to collaborate on the same issue ultimately contributes to our understanding of mental health conditions in Africa.

- **Inclusivity and representation**: Given the geographic diversity of the African region, researchers from all regions will be adequately represented to help make mental health science more diverse and inclusive.

- **Involvement of key stakeholders such as people with lived experience**: We strongly value involvement of community engagement especially those who seek input from people with lived experience of mental health problems.

- **Transparency:** The objectives, criteria, judging process, and funding allocation will be transparent. All communications and ongoing activities within this mental health data prize will be public, selection panel and criteria are designed to be objective and managed in accordance with this guideline.

- **Respect:** We create an environment of respect based on trust, confidence, and excellence by fostering cooperation and consideration of diverse perspectives. Respect is our duty to show high regard for ourselves, others, and the resources entrusted to us.

- **Fairness:** We believe our decisions are impartial and objective. Our conduct must be free from competing self-interest, prejudice, and favoritism. We constantly reexamine our impartiality and objectivity, taking corrective action as appropriate.

- **Honesty:** We earnestly seek to understand the truth and we encourage truthful, timely and accurate communications and conduct.

- **Responsiveness**: We value strong and timely communication with all interested applicants.

In addition, we encourage prize participants to follow the following rules and principles.

- **Ethical considerations and data privacy** in the design and implementation of projects and embracing data privacy.
- **Considerations for transparency, integrity, and accountability** in the key processes.
- **Evidence-based approaches** by drawing on established research and best practices in the mental health field.
- **Innovation**: adopting solutions that embrace creativity and out-of-the-box thinking.
- **Impact:** make a tangible difference in the MH of individuals and communities.
- **Collaboration**: Encourage collaboration among participants, stakeholders, and partners.
- **PLE Community Engagement**: affected by mental health challenges in the design, implementation, and evaluation.
- **Feedback and Learning**: Embrace continuous learning and improvement.
- **Diversity and Inclusivity**: Recognize accessible and welcoming to all, regardless of background.

2.3.1 Considerations for projects on digital tools

- **Sustainability**: Consider the long-term sustainability of the solutions, and approaches with lasting impact.
- **Scalability**: Look for solutions that can be scaled up to reach a broader population or replicated.

2.4 Scope of work

Thematic areas include any intervention most likely to contribute to making a difference **in preventing, treating, or managing ongoing anxiety, depression, and psychosis in Africa**. Applicants can submit a research question in an area of their interest. Then, the successful awardees will explore existing datasets to help answer the question. Below are the types of research designs or tools that are considered in the scope of the Data Prize.

- Tools to **perform** data analysis, for example, a tool that can identify clusters of individuals who respond to specific interventions or active ingredients, or a tool that determines which factors can predict relapses.

- Tools used to **replicate** data analysis, by making available the mechanism by which data is translated into research insights, for example, a new application of a machine learning algorithm that can be used on other datasets.

- Tools that **share** the insights from data analysis, in a format accessible and digestible for multiple audiences, for example, a triaging tool for researchers that can highlight the active ingredients that work for different groups of young people.

- Tools that **facilitate** data analysis by addressing barriers to conducting research, for example, tools that support data cleaning and manipulation or automatically extract relevant data from longitudinal datasets.

- Tools or data-driven insights that can facilitate our understanding of causal mechanisms underpinning effective interventions for anxiety, depression, and psychosis to inform the development of new and improved early interventions.

    - What works, for who, and why in African settings (**diagnosis, therapeutics, and management**).

    - Impacts on the effectiveness of the interventions.

    - Identification and or validation of markers that can predict response to interventions.

- Any data analysis that can generate data-driven insights tailoring mental health diagnosis, treatment and care and facilitate decision support among key users such as clinicians, front-line health workers and decision-makers in Africa.

Tools considered out of scope would be:

- Any research design that aims to carry out primary data collection, discovery, or translation research and or feasibility or piloting studies.

- Early phase clinical trials (Phase 1 and 2a).

2.5 Thematic areas and prize category

Any research that investigates the following thematic areas will be considered.

A. The causal mechanisms underpinning effective interventions for anxiety, depression, and psychosis to inform the development of new and improved early interventions.

- What works, for who, and why in Africa (**diagnosis, therapeutics, and management**).
- Impacts on the effectiveness of the interventions.
- Identification and or validation of markers that can predict response to interventions.

B. Developing tools for data analysis and improving mental health metrics by

- Assisting data analysis, and interpretation of findings.
- Helping to visualize and make sense of data.
- Sharing insights from research.
- Improving standardization and measures of anxiety, depression, and psychosis.

C. Mental health research aims implementation sciences

- Cost-effectiveness of interventions
- Transferability and Transportability of evidence
- Scaling impact

While APHRC will share the data, sources, and accessibility information with the team (based on the scoping review), we would also strongly encourage research teams to propose their datasets[1] so long as they meet the following criteria:

- Must utilize datasets reflecting African contexts and diverse age groups.
- Participated in ethics training that will be offered by either APHRC or through freely accessible online modules e.g. TRREE, NIH PHRP, etc.
- Datasets can be observational and experimental, preferably longitudinal which allows temporal effects, with at least three waves of data capture of any age group.

- Datasets must include data from at least one age-appropriate measure of depression and/or anxiety (or their symptoms), from participants across several waves of longitudinal data collection.

- Datasets must include data suitable for exploring what works to prevent, predict, treat, and care for anxiety, depression and/or psychosis in Africa.

2.6 APHRC's role in the Mental Health Data Prize – Africa

The APHRC will play a primary role in the data prize through the execution of the following major activities.

2.6.1 Prize management

i. Develop guiding principles for data prize management and define thematic areas.

ii. Conduct publicity and promotion: Lead the engagement with potential participants (focusing on African data scientists and mental health researchers) through a strong communications campaign.

iii. APHRC will be responsible for the project management pipeline, including the management of subcontracted support, monitoring risks and issues, and ensuring delivery.

iv. Reviewing and finalizing the Prize content and principles: APHRC will put in place eligibility and selection criteria, establish a selection panel and advisory board, and determine the Data prize structure.

v. Application and Selection process: Organize and lead the selection process to identify 5 to 10 multidisciplinary teams that will receive the prize money and manage the awards on behalf of Wellcome.

vi. Platform design and development.

vii. Organizing a pitching event to present outputs from the projects, at the end of the 12-month Prize phase.

[1] However, within their proposals, participants must be able to demonstrate both that their dataset is: appropriate for their research question and/or tool and that they have gained appropriate access to use this data within the prize.

2.6.2 Capacity building

- Provide bespoke support and training to interested participants about the basics of data and mental health research, advanced statistical analysis, Introduction to machine learning algorithms and large language models, evidence-based decision making, and impact evaluation.

- Promote Mental Health Research Transparency (sharing data, and codes/scripts using FAIR guiding principles).

2.6.3 Matchmaking

- **Reach relevant communities and potential participants such as African data scientists and researchers through different channels**. To bring the mental health science community together to forge a common mental health research agenda around effective interventions for anxiety, depression, and psychosis.

- During the capacity-building process, we will also do a matchmaking exercise to support applicants to join appropriate multidisciplinary teams whereby individuals with different knowledge, skills and backgrounds will be introduced to collaborate and develop a proposal together. We will organize digital matchmaking events or workshops tailored to participants' skills and thematic areas of interest, aimed at effectively equipping them for partnership creation. This virtual gathering presents a unique opportunity for participants to connect, exchange ideas, and decide to partner up. We will also arrange a follow-up virtual workshop to nurture and cultivate newly established partnerships, ensuring their ongoing success.

- **Create a multidisciplinary mental health research community**: Lead matchmaking of individuals and organizations to fill gaps in skill sets within data scientists and mental health researchers from the African continent. Such activities will bring the mental health science community together to forge a common mental health research agenda around effective interventions for anxiety, depression, and psychosis.

- Support data science approach to transform mental health research and challenges around anxiety, depression, and psychosis in Africa through a collaborative approach.

2.6.4 Landscape analysis of existing mental health research

- We do a scooping review of existing datasets across the African continent that can be used as part of this prize.

- Finalize and provision access to data sources from across the continent and support teams through the prize.

3 Award Information

3.1 Eligibility information

3.1.1 Who can apply?

This mental health data prize aims to build multidisciplinary researchers and data communities in Africa by bringing together people with mental health research backgrounds and data science expertise. Any discipline that uses mental health thematic areas and conducts rigorous studies or analysis using observational, experimental design or implementation science can be considered. APHRC will also facilitate and coordinate multi-disciplinary team opportunities to form connections with other interested organizations or researchers. We will develop a website, create an X (formerly Twitter), Facebook and LinkedIn channels to promote the prize and coordinate networking of mental health researchers in Africa.

3.1.2 Eligibility criteria

- This initiative is open to lead applicants based in Africa (including academic institutions, non-profit organizations working on mental health, government agencies and research institutions) and may collaborate with other countries.
- Proposals must demonstrate that at least 80% of the funding is going to African institutions.
- This RFP is open to researchers at any career stage. But we strongly encourage applications led by early- and mid-career investigators.
- Applicants must have the experience needed to drive and lead a research program addressing the thematic area(s) of interest.
- Researchers may submit only one application as a lead applicant through this RFP.
- Researchers may participate as co-applicants or collaborators on multiple applications.
- We encourage applications involving projects led by women.

Lead applicants must be individuals based in Africa and must have a permanent, open-ended, or long-term rolling contract with their institutions, or the guarantee of one for the full duration of the award (12 months).

Co-applicants can be at any career stage and based anywhere in the world and can also be non-African citizen, or self-employed, e.g., freelance.

Lead applicant organizations should be either:

- An institution of higher learning (usually university).

- A research institute.
- A non-academic healthcare organization or private institution such as a consulting firm.
- A not-for-profit organization, or an institution that works in hospital and clinic settings.
- A data or technology startup.
- A data scientist.

Co-applicants organizations should be either:

- Higher education institutions or Private Institutions of Higher Education.
- Research institute.
- Non-academic healthcare organizations or private institutions such as consulting firms.
- Not-for-profit organizations or faith-based or community-based organizations.
- Commercial organization.
- Freelancers – such as data scientists.
- Data or technology start-up.

Please note that:

- all applicants must agree to the Wellcome Trust's standard grant conditions.
- Individual application is not allowed.
- Foreign-based institutions (institutions based outside of Africa) cannot be lead applicants.
- Proposals can include institutions in high-income countries (HICs) or other LMICs but the proposals must demonstrate that at least 80% of the funding is going to African institutions.
- Researchers may participate as applicants or collaborators on multiple applications but may only submit one application as lead applicants.
- Research teams should include data scientists, people with lived experiences and decision-makers as co-applicants/collaborators where relevant.

3.2 Number of awards, level of funding and duration

We will offer up to 10 awards over the 12 months. An individual award may not exceed £200,000 including direct and indirect costs. The indirect costs shall not exceed 10 per cent.

3.3 Criteria for selection and evaluation of proposal for the prize

3.3.1 Evaluation model

The proposal will be evaluated in two phases. During the first phases, the feasibility of the project will be evaluated using the criteria in the table below. The research team at APHRC will be responsible for facilitating the evaluation of the proposal based on feasibility criteria before sending it to an independent selection panel. Each proposal will be sent to three independent reviewers. The proposal must meet a minimum of 65% (average score of three independent reviewers) to pass and be considered for the second stage. Proposals which fail to meet the minimum score will be excluded from the second evaluation phase.

Table 1: Pass/fail (PF) feasibility criteria

Criteria	Descriptions
Methodology (35%)	The team has provided a suitable methodology to address their research question. How well are the research questions covered in the proposed methodology? How clear is their concept and how it is aligned with our needs? Will the proposed methodology deliver the desired, credible, and useful results? The choice of dataset is appropriate to address the research question and aligns with the legitimate basis for collection and use.
Experiences (20%)	Where relevant, the team has approval and has met all the appropriate requirements and standards to access the data required for their research from the relevant data controller. Team composition (i.e., appropriate balance of experience in both implementing proposed evaluation methods and subject matter expertise) and appropriate allocation of roles and time, gender balance. Team members must have the appropriate skills and experience to be able to answer the research question, develop the proposed tool and deliver an involvement plan. E.g., we ask does the applicant has the relevant skills, experiences, and contextual understanding to deliver this work.
Delivery and outputs (20%)	The team has considered time and resource implications in their research plan and has provided evidence that they will be able to make meaningful progress within the 12 months. The team shows evidence of sufficient time and resources and has a reasonable plan in place. The team has a good plan for communication and engaging with their team, APHRC and Wellcome teams. Is the proposed delivery plan appropriate and achievable? How feasible is the delivery plan, are there significant risks or issues associated with the proposed timelines and plan for mitigation
Engagement and collaboration (10%)	How the proposed work plans to engage a multidisciplinary team. Does the team plan to involve the wider community in the project, by embedding mental health lived experience and/or sharing insights/methods with the research/data science community?
Ethics (10%)	The team demonstrates that they have adequate organizational data protocols to safeguard sensitive data that are consistent with applicable local and regional regulations. The team has considered research ethics and data privacy and has a plan to mitigate against potential risks
Budget (5%)	Value for money: Does the proposed work offer good value for money?

For the second phase, APHRC will convene a technical evaluation committee comprising members chosen for their relevant expertise and experience. Members of the technical evaluation committee will score each proposal based on the Technical Criteria listed in the table below. Each of these criteria will be equally weighted. Proposals that meet the required technical minimum (75%) shall then be progressed to the final evaluation stage of **oral presentation** where all members of the evaluation committee shall conduct an independent assessment under the presence of an Advisory committee. Through a competitive evaluation process, 5-10 best-scoring multidisciplinary teams will be selected to receive a prize (on behalf of Wellcome) of £200,000 each. Prize teams will then spend the following 12 months on their data-driven insights and/or tool development. At the end of the 12 months, teams will present their outputs as part of their final pitch to Wellcome. The pitch event will provide an opportunity for applicants to provide more in-depth information about their detailed work and get feedback from the mental health community.

Evaluation criteria	Descriptions
Originality/ Innovative (20%)	The team presents new knowledge. The team presents a replication of research/ideas that have previously been described. The team presents research that has been described before but with relevant changes to the design. The proposed tool has the potential to provide a novel way of addressing data and/or research needs within mental health research. The team demonstrates an excellent understanding of the existing research connected with the data prize initiative's goal and objectives and demonstrates the novelty of their research questions within the realm of mental health science (for example, it could point the way towards improving existing early interventions for anxiety and/or depression or developing new ones).
Significance/relevance (20%)	When the project ideas significantly contribute to our understanding of mental health body of knowledge, with high potential impact on policy and programs practicability, (can it be delivered with minimal burden?); adaptation, (can it be adapted to novel contexts without compromising fidelity and integrity?); and integration, (can it be integrated successfully into existing healthcare systems?
Methodology: rigor and technical soundness (30%)	Is there a clear need which this digital health intervention is intended to address? Is there a defined population that could benefit from this digital health intervention? The research question advances understanding of effective interventions for anxiety and/or depression or psychosis, including what helps, for whom, in what contexts, and why (for example, mechanisms underpinning effectiveness). Are the overall strategy, methodology, and analysis plan well-reasoned and appropriate to accomplish the specific aims of the project? Has the team presented strategies to ensure a robust and unbiased approach, as appropriate for the work proposed? Are potential problems, alternative strategies, and benchmarks for success presented? Does the team have access to the datasets or develop any strategies to access the dataset? The methodology is innovative and can potentially be used in other research applications. Are variables and analytical methods articulated and well-suited to the research question (for data-driven insights). The proposed tool will enable future research into anxiety and/or depression, and psychosis and/or effective interventions in mental health research. The proposed tool has applications within mental health research beyond the scope of this data prize. The proposal details approaches that the team will take to make tools available for wider use, including using publicly accessible code repositories, providing sufficient data and testing to enable third parties to understand, test, run and re-use software

Engagement (10%)	The proposed team demonstrates one or more of the following: a new, cross-disciplinary way of approaching research into depression, anxiety, and psychosis. involvement with people with lived experience Team formation and involvement plans: promotes diversity and inclusion in terms of skills and background. takes steps to be representative of the population involved in the research. Team formation brings together organizations that have multidisciplinary composition. The team shows a plan for how they will be working collaboratively to share and synergise their complementary expertise throughout the process. The team has a plan to share work/embed research beyond the mental health research community. The involvement plan is innovative in the way the team intends to adapt to or have feedback strongly impact their research and tool production.
Capacity building and strengthening plan (10%)	The team approach has the potential to advance and share awareness of best practice use of data in the mental health research community. The proposal discuss plan for building leadership skills amongst early career researchers, opportunities for learning across the project team, for example, engagement with policymakers, PLE and research management) building capacity to work collaboratively, across disciplines and practice-research boundaries (for example, with policymakers, managers, and practitioners in the system). providing mentoring to improve the capacity of less-experienced researchers to generate new knowledge and achieve policy impact
Value for money and equity of the project (10%)	Does the proposed work offer good value for money? Has the possibility of harm been adequately considered? And the likelihood of risks or adverse outcomes assessed? Outputs will point to how insights gained may impact people experiencing anxiety and/or depression and psychosis, having the potential to significantly impact either a wide range of people experiencing anxiety and/or depression or psychosis or a group who are not commonly represented within mental health research.

3.4 Application review process

Applications will be reviewed following steps below:

Step 1. Initial application review (Feasibility) for eligibility and appropriate data access for teams that wish to use their datasets will be done using feasibility criteria on four dimensions: methodology, experiences, delivery, ethics, value for money and engagement plan. The proposal which has the highest score (>65 %) will be communicated to the selection panel.

Step 2. The selection panel will review each application based on their area of expertise and evaluation criteria described above. Each proposal will be sent to three independent reviewers. First, the selection panel will make an independent and blind review. Then the panels will make a virtual series of group discussions to agree on the proposal they short-listed and rejected followed by a selection of up to twenty teams for panel presentations.

Step 3. The shortlisted team will be asked to present to the selection panel and advisory board who will use the same evaluation criteria to select the final 5-10 teams**.**

Funding decision: A consultative workshop will be arranged between the APHRC research team. Advisory board and Wellcome team to discuss the final decision. Then the finalist will be communicated by APHRC following the recommendation from the selection and advisory board panel.

3.5 Selection panel

Applications will be reviewed by the selection panel organized considering geographic region: The selection panel will comprise Data Ethics, MH steering committee at APHRC, Mental Health experts, Data Science, people with live experiences experts, Anthropologist, the Wellcome team. These selection panel include:

	North Africa	Eastern Africa	West and Central Africa	Southern Africa
Mental health expert				
Data science expert				
Lived experience expert				

3.5.1 Advisory board

Our advisory board will be led by Dr. Catherine Kyobutungi (APHRC's Executive Director). The team will include Dr Cheikh Faye (Head of APHRC West Africa Regional Office), Dr Joseph Gichuru Wang'ombe – Director of Operations at APHRC, Dr. Ramatou Ouedraogo – a social anthropologist, an African-based Mental Health Expert (TBD), a Data Ethicist, and a person with lived experience (TBD). Representatives from Wellcome will also form the advisory board.

4 Award Administration

4.1 Notices of Award

If the application is considered for funding, APHRC will request due diligence information from the applicant as it will be made available by APHRC. A formal notification of Notice of Award (NoA) will be provided to the successful applicants. The NoA signed by the grants management officer is the authorizing document and will be sent via email to the recipient. Recipients must comply with any funding guidelines and follow Wellcome and APHRC standards.

4.2 Administrative and national policy requirements

Any application awarded will be subject to the Data prize terms and conditions. This includes any recent legislation and policy applicable to awards that is highlighted. The APHRC has published policies and guidance for investigators regarding human research protection, data and safety monitoring, Independent Safety Monitors and Data and Safety Monitoring Boards, safeguarding, etc. Recipient institutions must ensure that all protocols are reviewed by their IRB.

4.3 Cooperative agreement terms and conditions of award

NA

4.4 Reporting

Recipients will be required to submit both project progress and financial statements quarterly, midterm and annually or and as required by APHRC.

5 Application submission

5.1 Application instruction

5.1.1 How to apply

Please refer to the following guidelines as you prepare your application to the RFP "Mental Health Data Prize Africa".

Your application must include:

Applicant profile and information – completed via our application portal (link to be provided)

5.1.2 Proposal structure

1) Maximum 15 pages. Figures and references are included in this page count.

2) Arial or Times New Roman font. Uploaded as a Microsoft Word® or Adobe® PDF file, 11-point font or larger, at least 0.5" margins all around, Single line spacing, Standard character spacing (neither expanded nor condensed).

3) Budget Table and Narrative (template will be provided, in GBP) and uploaded as a Microsoft Word® or Adobe® PDF file.

4) Team Description – explanation of the team composition, including the roles of co-applicants and collaborators, and description of team gender balance (1 page).

5) Please use Wellcome 's application form View the sample application form [PDF 194KB] to understand what you will need to include in your application.

5.2 Key dates

- The mental health Data Prize information communication will begin starting from 22nd December 2023.

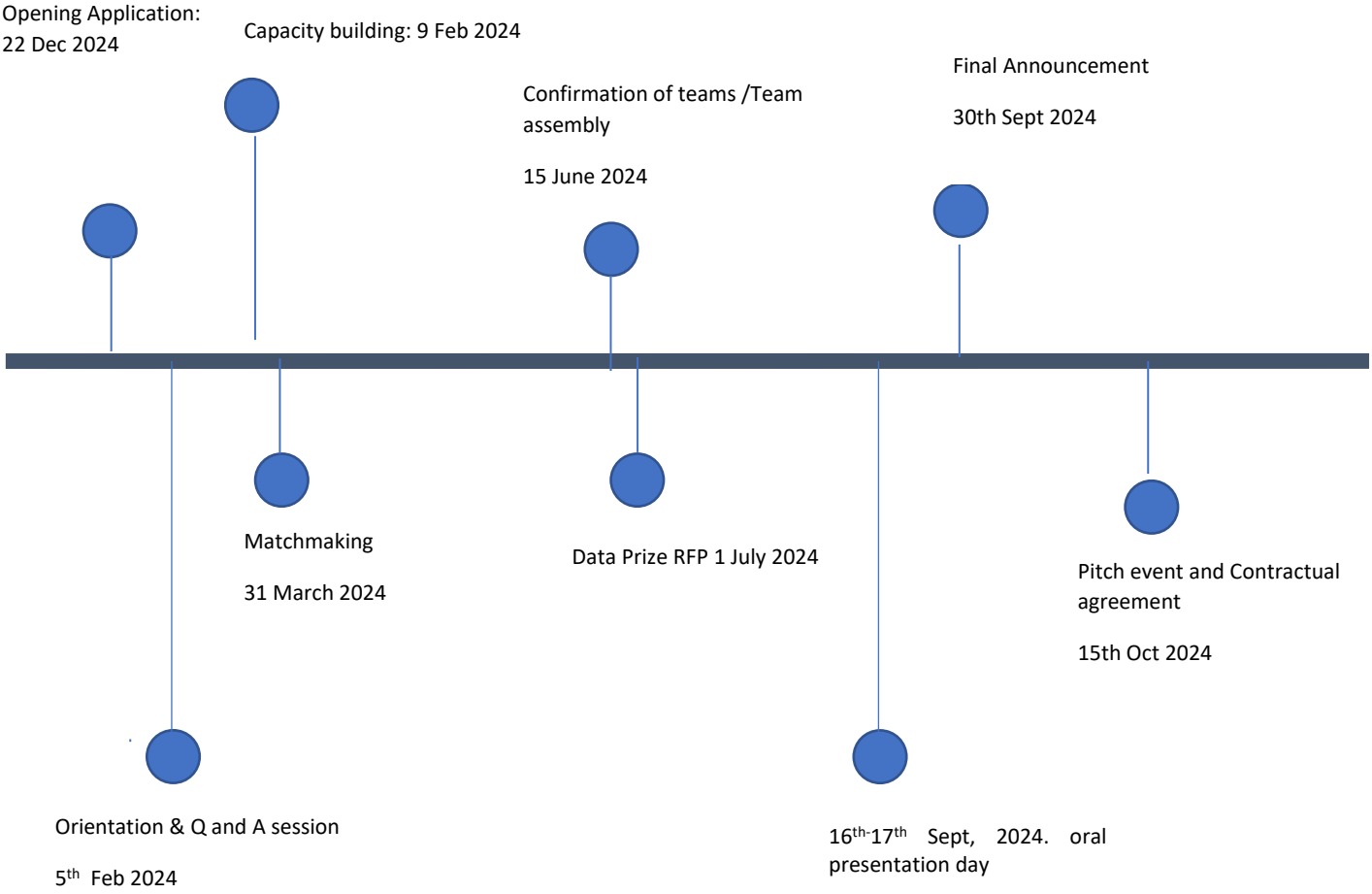
- Overall mental health data prize initiatives will be opened on 03 January 2024 and the following activities will be implemented sequentially.

    - On 5th Feb 2024: Orientation, Q and A session will be arranged for applicants.

    - 9th Feb 2024: The capacity building and matchmaking program will be started and will continue for 5 months.

    - 31st March 2024: Access to existing and new data sources will be available and ready for communication.

- 11th March 2024: Matchmaking exercise will be started and finalized by the end of April 2024.
- 15th June 2024: Team assembly finalization
- The final Prize Request for Application will be opened on 1st July and the application shall be submitted by 31 July 2024 by 5:00 PM (EAT). Applicants are encouraged to submit applications before the due date to ensure they have time to make any application corrections that might be necessary for successful submission. We do not accept late applications.
- 16th - 17th Sept 2024: Oral presentation day (only for short listed applicants)
- 30th Sept 2024: Final announcement date.
- 15th Oct 2024: Pitch event day.



5.3 Contact us

Please direct all questions about this initiative, selection criteria or application instructions by e-mail to the following address smuyingo@aphrc.org, mjebena@aphrc.org, or mhdataprize@aphrc.org

6 Data protection and safeguarding

6.1 Data Protection

We encourage applicants to comply with Data Protection Act which requires that data is collected and used fairly, stored safely and not processed unlawfully. Applicants are expected to read APHRCs (https://erpportal.aphrc.org/fileattachment) and Welcome's data protection policies. But in general, applicants should follow the guiding principles of data protection which include but not limited to:

- Personal data must be processed in a lawful, fair, and transparent manner, with clear communication to data subjects about how their data is being used.

- Personal data can be processed only for the purpose that was defined before the data was collected. Personal data shall be obtained for specified, explicit and legitimate purposes, and shall not subsequently be processed in a manner that is incompatible with those purposes. Subsequent changes to the purpose are only possible to a limited extent and require justification. However, further data processing for statistical, scientific, and historical purposes shall be considered compatible with the initial purposes of the data collection, if it is not used to take decisions concerning the data subjects.

- Processing of personal data must have received the consent of the data subject or must meet one of the following conditions: compliance with any legal obligation to which APHRC is subject; the protection of the data subject's life; the performance of a public service mission entrusted to APHRC. Personal data is subject to data secrecy. It must be treated as confidential on a personal level and secured with suitable organizational and technical measures to prevent unauthorized access, illegal processing, or distribution, as well as accidental loss, modification, or destruction.

- Personal data on file must be correct, complete, and – if necessary – kept up to date. Suitable steps must be taken to ensure that inaccurate or incomplete data are deleted, corrected, supplemented, or updated.

6.2 Open science

Both APHRC and Wellcome are committed to openly conducting mental health research and we invite prize participants to follow and, where possible, advance methods and ways of working that facilitate community-led research. This includes sharing insights and outputs of research and collaborating on data science challenges specific to analyzing longitudinal datasets. Teams that bring their data must be prepared to share the insights they have found along with relevant data, in line with Wellcome's open-access policy. Applicants should also demonstrate why their choice of dataset is particularly suited to their research question and project goals. Please be specific about the timeframe, cohort, and data fields to be used and how your choice of these is appropriate for your research question. When applying, all teams must ensure that they include the following information relating to the data they will use:

- The provenance of the data.
- Data fields that will be used for research.
- A cohort of study members will be included in the research.
- A timeframe of study data that will be included in the research.
- An outline of why the chosen data is appropriate for addressing the research question.
- Approval to access the data from the relevant data controller, if required
- Confirmation that the use of the data aligns with the legitimate basis for its collection and use.
- Organizational data protection policies for safeguarding all data.
- An outline of how the project will comply with local privacy laws and, where relevant, access protocols for restricted datasets.
- Mitigations against any risks that research outputs may be misused for harmful purposes.
- Steps that will be taken to make research outputs publicly available, including:
    - Analytical dataset
    - Source code for analysis and digital tools, along with sufficient data to enable others to understand, test, run and re-use these.
    - Research papers.

Where the data are concerned, we would expect all teams to follow these principles:

- Where relevant, appropriate and privacy-preserving, analytical datasets, along with variables created and transformed during research, should be made publicly available.

- All source code (for research and tool development) must be licensed under an OSI-compliant license and must be hosted on a freely available and publicly accessible collaboration repository, such as GitHub, GitLab or BitBucket.

- If any software (including any software tool) depends on or processes data then sufficient data must be made freely available to enable third parties to understand, test, run, and re-use the relevant software. This could be a small subset of data embedded into the code repository or a link to data on a publicly accessible repository.

- Publications resulting from prize research should be published in open access journals, wherever possible.

6.2.1 Data ethics

As part of the evaluation of data prize applications, we will evaluate the safeguarding principles and policies that teams have put in place to ensure the ethical use of any data they use. Prize teams must detail in their application the provisions they will have in place to ensure:

- that their research question and use and any sharing of the data aligns with the provenance of the data and the legitimate basis for its collection.

- clear protocols for the safeguarding of all data and in particular sensitive data.

- compliance with local data privacy laws and, where relevant, compliance with any access protocols about restricted access datasets or shared data platforms.

- mitigations against the risk that their research may generate outcomes that could be misused for harmful purposes.

- In all instances, organizational data protection policies must be included as an attachment to proposals to allow for a robust assessment of the safeguarding procedures applied to the proposed dataset/s.

6.3 Safeguarding

Both APHRC and Wellcome are committed to ensuring that anybody that meets Wellcome or APHRC or its work is safe and protected from abuse and maltreatment of any kind. These include preventing and addressing any sexual exploitation, abuse and harassment of research participants, communities, and research staff, plus any broader forms of violence, exploitation and abuse relevant to research such as bullying, psychological abuse and/or physical violence. We are also committed to the digital safeguarding of personal information we collect, store, and use from grant applicants, grant holders, grant participants, staff employed through grants and external reviewers and advisors (e.g. peer reviewers and committee members) to award and manage grants and monitoring, evaluating, researching, and learning about what funds and how we fund it.

We require all organizations that we work with to ensure that their staff and operations are safe, their privacy is guaranteed, and welfare and wellbeing are promoted. More importantly, all researchers and organizations we fund and collaborate with must conduct their research responsibly. We expect organizations to have policies, structures, and training in place to enable all researchers to carry out their research responsibly. Researchers and organizations must ensure they take all reasonable means to prevent harm, exploitation, abuse, and harassment occurring because of their work. This includes all participants conducting the research as well as those who are participants in the research.

7 References

1. Chibanda D, Abas M, Musesengwa R, Merritt C, Sorsdahl K, Mangezi W, Bandawe C, Cowan F, Araya R, Gomo EJGMH: **Mental health research capacity building in sub-Saharan Africa: the African mental health research initiative**. 2020, **7**:e8.
2. Cortina MA, Sodha A, Fazel M, Ramchandani PGJAop, medicine a: **Prevalence of child mental health problems in sub-Saharan Africa: a systematic review**. 2012, **166**(3):276-281.
3. Wainberg ML, Scorza P, Shultz JM, Helpman L, Mootz JJ, Johnson KA, Neria Y, Bradford J-ME, Oquendo MA, Arbuckle MRJCpr: **Challenges and opportunities in global mental health: a research-to-practice perspective**. 2017, **19**:1-10.
4. Wondimagegn D, Pain C, Seifu N, Cartmill C, Alemu AA, Whitehead CRJBGH: **Reimagining global mental health in Africa**. 2023, **8**(9):e013232.
5. Arias D, Saxena S, Verguet SJE: **Quantifying the global burden of mental disorders and their economic value**. 2022, **54**.
6. Mabrouk A, Mbithi G, Chongwo E, Too E, Sarki A, Namuguzi M, Atukwatse J, Ssewanyana D, Abubakar AJFip: **Mental health interventions for adolescents in sub-Saharan Africa: A scoping review**. 2022, **13**:937723.
7. Jörns-Presentati A, Napp A-K, Dessauvagie AS, Stein DJ, Jonker D, Breet E, Charles W, Swart RL, Lahti M, Suliman SJPo: **The prevalence of mental health problems in sub-Saharan adolescents: A systematic review**. 2021, **16**(5):e0251689.
8. Chen J, Farah N, Dong RK, Chen RZ, Xu W, Yin J, Chen BZ, Delios AY, Miller S, Wan XJIJoER *et al*: **Mental health during the COVID-19 crisis in Africa: a systematic review and meta-analysis**. 2021, **18**(20):10604.
9. Van Heyningen T, Myer L, Onah M, Tomlinson M, Field S, Honikman SJJoaD: **Antenatal depression and adversity in urban South Africa**. 2016, **203**:121-129.
10. Brittain K, Myer L, Koen N, Koopowitz S, Donald KA, Barnett W, Zar HJ, Stein DJJP, epidemiology p: **Risk factors for antenatal depression and associations with infant birth outcomes: results from a S outh a frican birth cohort study**. 2015, **29**(6):505-514.
11. Peltzer K, Rodriguez VJ, Lee TK, Jones DJAc: **Prevalence of prenatal and postpartum depression and associated factors among HIV-infected women in public primary care in rural South Africa: a longitudinal study**. 2018, **30**(11):1372-1379.
12. Pellowski JA, Bengtson AM, Barnett W, DiClemente K, Koen N, Zar HJ, Stein DJJJoad: **Perinatal depression among mothers in a South African birth cohort study: Trajectories from pregnancy to 18 months postpartum**. 2019, **259**:279-287.
13. Cénat JM, McIntee S-E, Guerrier M, Derivois D, Rousseau C, Dalexis RD, Bukaka J, Makila-Balayulu OJSp, epidemiology p: **Psychological distress among adults from the urban and rural areas affected by the Ebola virus disease in the Democratic Republic of the Congo**. 2021, **56**:57-62.
14. Wu T, Jia X, Shi H, Niu J, Yin X, Xie J, Wang XJJoad: **Prevalence of mental health problems during the COVID-19 pandemic: A systematic review and meta-analysis**. 2021, **281**:91-98.
15. Coco GL, Salerno L, Albano G, Pazzagli C, Lagetto G, Mancinelli E, Freda MF, Bassi G, Giordano C, Gullo SJPR: **Psychosocial predictors of trajectories of mental health distress during the COVID-19 pandemic: A four-wave panel study**. 2023, **326**:115262.
16. Sweetland AC, Belkin GS, Verdeli HJD, anxiety: **Measuring depression and anxiety in Sub-Saharan Africa**. 2014, **31**(3):223-232.
17. Rathod S, Pinninti N, Irfan M, Gorczynski P, Rathod P, Gega L, Naeem FJHsi: **Mental health service provision in low-and middle-income countries**. 2017, **10**:1178632917694350.
18. Gelaye B, Rondon MB, Araya R, Williams MAJTLP: **Epidemiology of maternal depression, risk factors, and child outcomes in low-income and middle-income countries**. 2016, **3**(10):973-982.

19. Field TJIB, Development: **Postpartum depression effects on early interactions, parenting, and safety practices: a review**. 2010, **33**(1):1-6.
20. Stein A, Pearson RM, Goodman SH, Rapa E, Rahman A, McCallum M, Howard LM, Pariante CMJTL: **Effects of perinatal mental disorders on the fetus and child**. 2014, **384**(9956):1800-1819.
21. Leis JA, Heron J, Stuart EA, Mendelson TJJoacp: **Associations between maternal mental health and child emotional and behavioral problems: does prenatal mental health matter?** 2014, **42**:161-171.
22. Jarde A, Morais M, Kingston D, Giallo R, MacQueen GM, Giglia L, Beyene J, Wang Y, McDonald SDJJp: **Neonatal outcomes in women with untreated antenatal depression compared with women without depression: a systematic review and meta-analysis**. 2016, **73**(8):826-837.
23. Holmes EA, Ghaderi A, Harmer CJ, Ramchandani PG, Cuijpers P, Morrison AP, Roiser JP, Bockting CL, O'Connor RC, Shafran RJTLP: **The Lancet Psychiatry Commission on psychological treatments research in tomorrow's science**. 2018, **5**(3):237-286.
24. Cuijpers P, Cristea IA, Karyotaki E, Reijnders M, Huibers MJJWp: **How effective are cognitive behavior therapies for major depression and anxiety disorders? A meta-analytic update of the evidence**. 2016, **15**(3):245-258.
25. Liu G, Jack H, Piette A, Mangezi W, Machando D, Rwafa C, Goldenberg M, Abas MJTLP: **Mental health training for health workers in Africa: a systematic review**. 2016, **3**(1):65-76.
26. Carvajal-Velez L, Ahs JW, Requejo JH, Kieling C, Lundin A, Kumar M, Luitel NP, Marlow M, Skeen S, Tomlinson MJJoAH: **Measurement of mental health among adolescents at the population level: A multicountry protocol for adaptation and validation of mental health measures**. 2023, **72**(1):S27-S33.
27. Marlow M, Skeen S, Grieve CM, Carvajal-Velez L, Åhs JW, Kohrt BA, Requejo J, Stewart J, Henry J, Goldstone DJJoAH: **Detecting depression and anxiety among adolescents in South Africa: validity of the isiXhosa patient health Questionnaire-9 and generalized anxiety Disorder-7**. 2023, **72**(1):S52-S60.
28. Mew EJ, Monsour A, Saeed L, Santos L, Patel S, Courtney DB, Watson PN, Szatmari P, Offringa M, Monga SJJoCE: **Systematic scoping review identifies heterogeneity in outcomes measured in adolescent depression clinical trials**. 2020, **126**:71-79.
29. Allsopp K, Read J, Corcoran R, Kinderman PJPr: **Heterogeneity in psychiatric diagnostic classification**. 2019, **279**:15-22.
30. Krause KR, Bear HA, Edbrooke-Childs J, Wolpert MJJotAAoC, Psychiatry A: **What outcomes count? Outcomes measured for adolescent depression between 2007 and 2017**. 2019, **58**(1):61-71.
31. Siegle GJ, Cramer AO, van Eck NJ, Spinhoven P, Hollon SD, Ormel J, Strege M, Bockting CLJPM: **Where are the breaks in translation from theory to clinical practice (and back) in addressing depression? An empirical graph-theoretic approach**. 2019, **49**(16):2681-2691.