HealthTech
Promoting dialogue and action on health technologies in Africa

Exploring the Potential of Emerging Health Technologies in Tackling Health Challenges in Africa during and post COVID-19 Pandemic: The Role of Parliamentari

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October 29, 2021

Health Remains a Major Challenge in Africa

Preventable diseases & conditions still causing many deaths

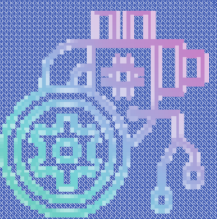
Health systems remain weak

COVID-19 has compounded the situation

There is therefore no better time to talk about the potential of new health technologies in changing the persisting poor status of health on the continent

Emerging health technologies with potential to drastically change the status of health in Africa

- Gene drives for Malaria elimination
- mRNA vaccines, RNAi technobgy
- Artificial intelligence
- Use of drones in healthcare
- Synthetic biobgy



AUDA-NEPAD Priority Health Technologies

- "Omic" technobgies (genomics, transcriptomics, proteomics, & metabolmics)
- E-Health solutions
- Artificial intelligence
- Use of drones
- Geospatial modelling
- Additive manufacturing

However, there are various issues undermining the development and/or testing of emerging health technologies

- Limited involvement/participation of Africans in technology development
- Limited knowledge among key stakeholders & the public
- Opposition to the development of some of the technologies
- Limited priority & investments in these technologies by African governments

HealthTech

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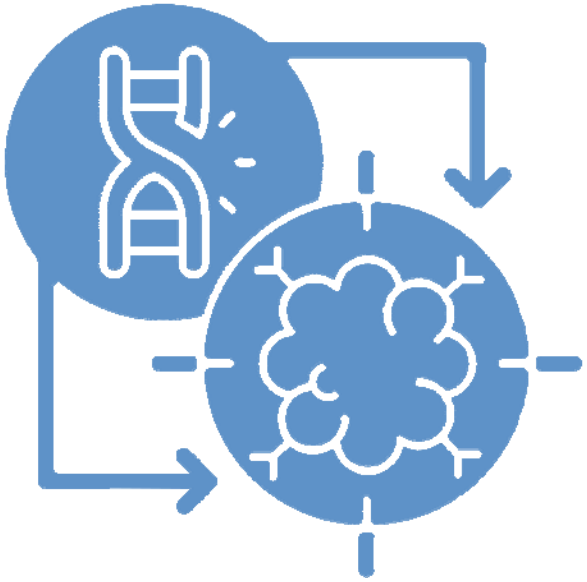
Platform for Dialogue and Action on Health Technologies in Africa

Platform for Dialogue & Action on Health Technologies in Africa

An African-driven platform to facilitate informed, objective, transparent, open & balanced discussions on development and use of transformative tools and technologies to address key health challenges in SSA



Purpose

Expand spaces for Africans to meaningfully engage & shape conversations on the need, design, development & use of emerging health technologies

Platform works at both national & regional levels, through multi-pronged engagement approaches & tools targeting ...

- Policymakers
- Political leaders

- Scientists
- Ethicists

- Civil society
- Media/journalists
- Communities

- Private sector

Expected Outcomes of the Platform

Primary outcome

Improved policy and regulatory frameworks on the development and use of transformative technologies and tools for tackling health challenges at national and regional levels in Africa

Intermediate Outcomes

1. Increased use of the evidence on transformative health technologies & tools by decision makers & other stakeholders at regional & National level

2. Strengthened champions to promote development & use of transformative technologies for tackling health challenges at regional & national levels

3. Strengthened capacity of African institutions in conducting advocacy on health TTs at regional & national level

Levels of Engagement

Target Stakeholders and their Multi-Directional Linkages/Influences

Activities across the different levels

Continental level

Sub-Saharan African Region
- Policy Actors: AUDA-NEPAD, Africa CDC, WHO Afro, Network of African Parliamentary Committees on Health (NEAPACoH), etc.
- Scientists: Research Consortia, Networks of Scientists & Ethicists (vary depending on technology)
- CSOs
- Media (networks of science journalists; networks of health journalists, etc.)
- Private Sector (e.g. networks of manufacturers)

Sub-regional level

East African Region
- Policy Actors: EAC Health Programme, EAC Health Research Commission
- Scientists & ethicists
- CSOs: CHReaD, WACI-Health
- Media
- Private Sector: EA Network of Manufacturers, EA Healthcare Federation

West African Region
- Policy Actors: WAHO
- Scientists & ethicists
- CSOs: WATHI, Speak Up Africa
- Media
- Private Sector

Other Sub-Regions
- Policy actors: Health programmes at SADC & ECCAS
- Scientists & ethicists
- CSOs: WACI-Health, SATAC
- Media
- Private Sector

Prioritizing gene drives for Malaria elimination

Bring other priority health technologies on board

National level

Uganda
- Policy Actors: Regulatory bodies, MoH, Parliament committee on health, Min. of STI, etc.
- Scientists & ethicists
- CSOs
- Media: journalist networks
- Private Sector

Burkina Faso
- Policy Actors: Office of the President, Regulatory bodies, MoH, Parliament committee on health, Min. of STI, etc.
- Scientists & ethicists
- CSOs
- Media: journalist networks
- Private Sector

Additional Countries in later years
- Policy Actors
- Scientists & ethicists
- CSOs
- Media
- Private Sector

- Build & nurture **mutual partnerships** to jointly convene regular **dialogues** on priority transformative health technologies
- Undertake **reviews & analyses** to inform or stimulate efforts on health technologies (at continental, sub-regional, & national levels); widely disseminate as **evidence products** (factsheets, evidence briefs, videos, etc.)
- Nurture & support **champions** for health technologies (drawn from the political space, academia, civil society, media, etc.)
- Strengthen & expand supportive **CSO advocacy** on health technologies
- **Media engagement** for increased media coverage of health technologies (develop media capacity, run media awards, regular media sessions, etc.)
- **Web portal** for information sharing & discussions on health technologies in Africa
- **Social media** engagement through online influencers

Our recent study revealed various ongoing efforts to develop and/or test emerging health technologies

- Gene drives for Malaria elimination
- Genome editing
- Synthetic biology
- Data science/data analytics – e.g. digital certificate for COVID-19
- Monoclonal antibodies
- Artificial intelligence
- Micro-grids
- Block-chains
- Next gen batteries

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But, information is not readily available on ongoing research on emerging health technologies in Africa

Some of the tools being developed for Malaria Control & Elimination

Type of Technology	State of Research	Stakeholders and locations
Gene drive mosquitoes	Lab trials	Target Malaria; Burkina Faso, Mali, Ghana and Uganda
Ivermectin drug	Lab trials	Burkina Faso, Senegal, Liberia
Attractive toxic sugar-baits (ATSB)	Field Trials	KEMRI/CDC/ICIPE; Mali
Malaria vaccines	R21 at clinical trials	Oxford Biomedical Research Centre; Burkina Faso
Sterile insect technology	Lab Trials	South Africa; Wits Research Institute for Malaria
Biocontrol/larvicide control	Not known	Zimbabwe, Tanzania and Rwanda
Use of drones in larvicide control	Field Trials in rice fields	Rwanda

Gene drives for Malaria control is one of the priority technologies for the Platform

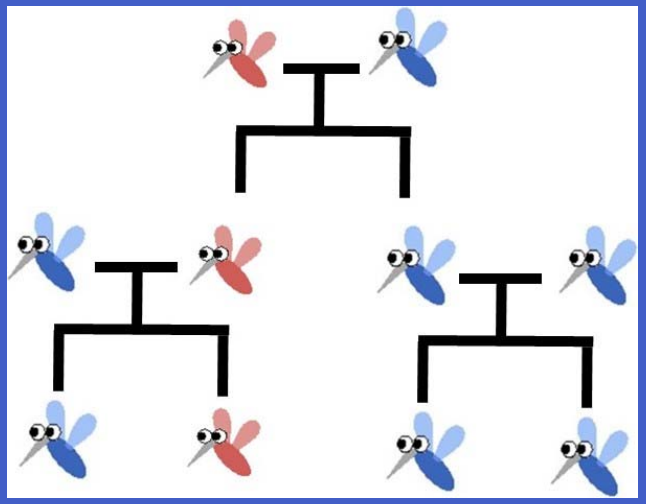
In 2017, AU committed to invest in development & regulation of gene-drive technology for Malaria control

In 2018, AUDA-NEPAD recommended actions to operationalize the AU recommendation, incl.:

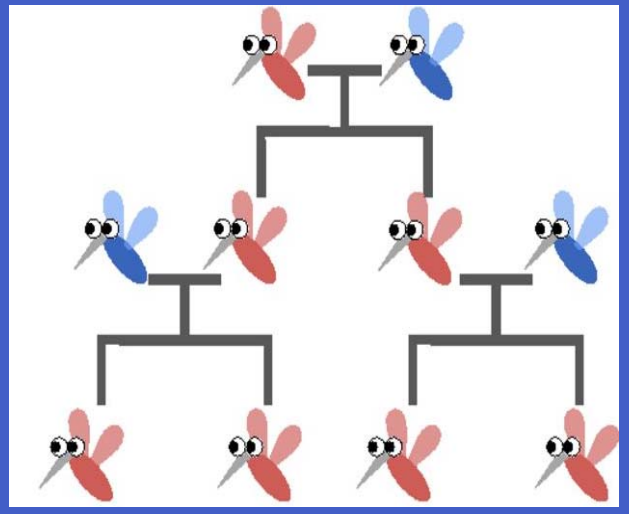
- Establishment of a network of Africa-based scientists to self-regulate, share information, & peer-review all ongoing field-testing on the continent
- African countries to develop needed legal & policy framework & guidelines for regulation
- Experts to model the potential risks of gene drive technology on the environment
- Increased advocacy & proactive involvement of policymakers & private sector in the development of gene drive technology

Gene drives for Malaria control is one of the priority technologies for the Platform

Normal inheritance

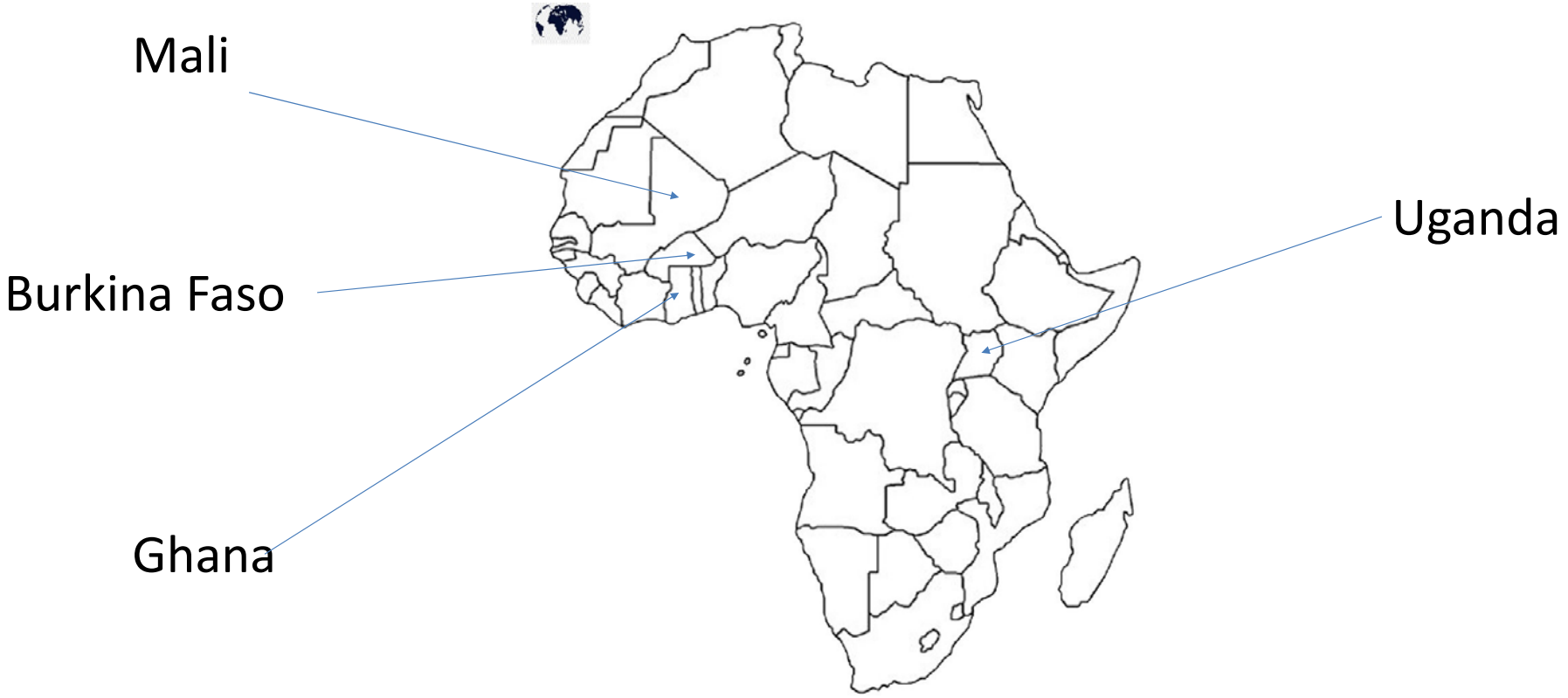


Biased inheritance

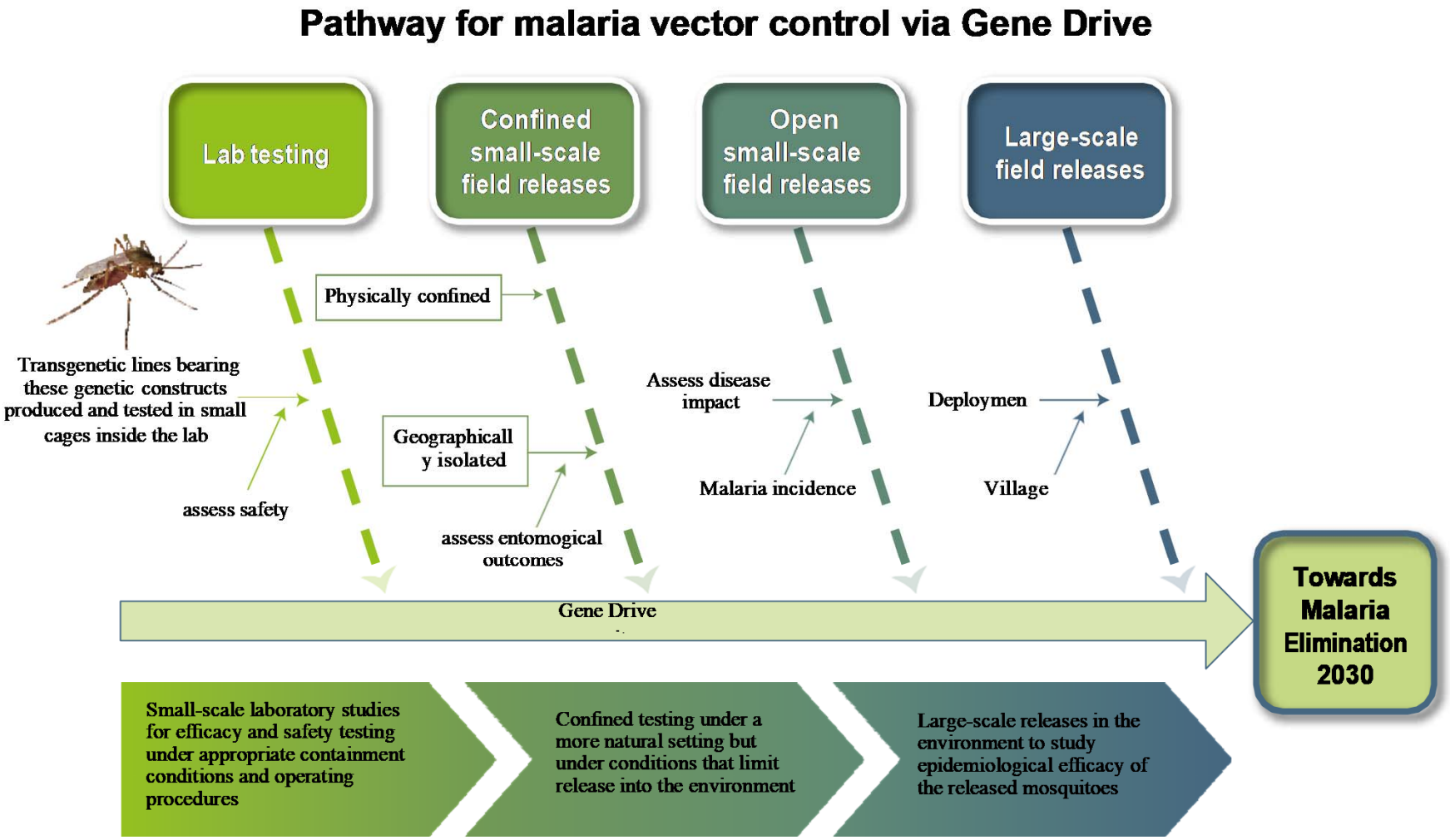


- A gene drive is a tool that effects certain genetic changes in a population
- For Malaria control/elimination, the tool targets Malaria-transmitting mosquitoes, modifying them so that they are either **unable to transmit the disease** or **reproduce**
- The modification is combined with a **gene drive** - *a process that favors the biased inheritance of certain genes from generation to generation*
- Eventually, the gene drive eliminates Malaria-transmitting mosquitoes

There is ongoing research in 4 countries in Africa that plans to test gene drive mosquitoes for Malaria elimination



Phases of Gene Drives Research for Malaria Control



Source: AUDA-NEPAD (2018) Gene drives for malaria control and elimination in Africa, p. 16.

Policy and Regulatory Issues relating to Gene Drives for Malaria Elimination

- Lack of precedent to inform development of regulatory guidelines
- Some countries, like Uganda, have no legal framework to enable progress on gene drive research
- How to govern the technology – e.g. implications for trans-boundary effects
  - Need for regional harmonization of regulatory guidelines & procedures
- Need to build capacity on the continent on the gene drives technology

What role should Parliamentarians play in these ongoing efforts to develop, test & deploy emerging health technologies in Africa?

1. Engage health research institutions to understand ongoing research on emerging health technologies

2. Ensure allocation of resources by their governments for the development, testing & deployment of emerging health technologies

3. Undertake legal reforms needed to facilitate research on emerging health technologies

4. Advocate for prioritization of research & investments in emerging health health technologies

5. Sensitize constituents on the value of emerging health technologies

How can Parliamentary Committees of Health Engage with the Health Tech Platform

Participate in **policy dialogues** on emerging health technologies

Request for **analyses of evidence** to inform their efforts in enabling research on emerging health technologies

Access resources & participate in **online discussions** through the Platform's web portal

THANK YOU!

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