GHSA R&D Task Force to assess and strengthen medical countermeasure R&D capacities

Presented by: Jamie Bay Nishi, Director, Global Health Technologies Coalition (GHTC)

With support from: Philip Kenol, Multilateral Officer, GHTC & Julien Rashid, Associate, GHTC

November 2021
COVID-19 forced us all to consider that we did not have the necessary tools when we needed them.

How do we push for global collaboration to end the COVID-19 pandemic while simultaneously preparing for the next one?
Why is R&D capacity-building relevant to GHSA member states?

Not every country needs the full suite of R&D capacities, but every country needs a pathway to get the tools it needs when it needs them.

• When COVID-19 struck, countries were caught in a race to access PPE, oxygen therapies, treatments, and diagnostics.

• We need to address the health inequities we have seen with the global COVID-19 response.

• A handful of countries cannot maintain R&D readiness for the medical countermeasure requirements of the world.

• The GHSA R&D Task Force will inform R&D capacity-strengthening investments by international financial institutions, including potentially the newly proposed Financial Intermediary Fund, while aligning with Global Preparedness Monitoring Board recommendations.
The GHSA R&D Task Force will help countries better assess, prioritize, and plan for strengthening their R&D capacities. Some potential priority focus areas during the pilot year for the R&D Task Force include:

**Define scope of R&D for GHSA** and link to GHSA 2024 Targets (e.g. preclinical research through manufacturing).

**Integrate R&D capacity metrics.** The WHO- and World Bank-led ESSENCE Working Group has created baseline metrics for measuring R&D capacity, but this data has not yet been incorporated into any global health security or preparedness frameworks. The GHSA R&D Task Force will develop a tool, with indicators and metrics, for measuring country R&D capacities and regional gaps in strategic priority areas.

**Develop a road map** to inform and align sustainable financing mechanisms, particularly through international financial institutions, to GHSA R&D capacity-strengthening initiatives.
Metrics are the first step to assessing and identifying gaps in R&D as an element of health preparedness.
Breaking down silos and connecting dots

Governance & coordination

Capacity-strengthening

Financing
Strengthening the global R&D ecosystem for health preparedness

Next Steps:

• Complete a review of country R&D capacity metrics.
• Consult with GHSA members on combining the most salient metrics to create an optional tool for countries to assess R&D as a component of health preparedness.
• Use GHSA as a platform for countries to articulate specific capacity gaps.
• Present investment gaps through GHSA to a new Financial Intermediary Fund or other global financing mechanisms.

What does success look like?
Every country has a pathway to access the tools it needs when it needs them, and every region has ample medical countermeasure R&D capacities with ongoing utilization to tackle both emerging and enduring health threats.
Best Practices & Lessons Learned Building Health Research Capacity in Africa

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ESSENCE Meeting
Nov 2, 2021
Top seven countries (highest quintile) and trends in epidemiology and public health articles output indexed by SCI (1991–2010).
Figure 6 Scatter plot showing association between total publications and country’s expenditure on health (as % of GDP)
National and state-Sponsored Health Research with WHO-AFRO

• The National Institute of Medical Research in Tanzania,
• The National Institute of Health Research of Zimbabwe,
• The Kenya Medical Research Institute (KEMRI)
• The Uganda Virus Research Institute.
• The South African Medical Research Council is independently established under an act of Parliament. Members of the Board are appointed by the Minister of Health
Non-Governmental Research Capacity Centres

- The Ifakara Health Institute in Tanzania,
- The Kintampo Health Research Centre in Kintampo, Ghana,
- KEMRI-Wellcome Trust Research Programme in Kilifi, Kenya,
- The Manhica Health Research Centre in Maputo, Mozambique,
- The Infectious Diseases Institute of Makerere University in Kampala, Uganda,
- The Rakai Health Sciences Programme in Rakai, Uganda,
- The Malaria Research and Training Centre, University of Bamako, Mali
SACORE was one of seven consortia funded under the Wellcome Trust African Institutions Initiative—a £30 million, 5-year initiative launched in 2009 and aimed at strengthening research capacity in sub-Saharan Africa.
Southern Africa Consortium for Research Excellence (SACORE)

Malawi
College of Medicine, University of Malawi

Zambia
University of Zambia School of Medicine

Zimbabwe
University of Zimbabwe College of Health Sciences

Botswana
Botswana Harvard Partnership

South Africa
University of Cape Town
Stellenbosch University

UK Partners
Barts & The London School of Medicine
London School of Hygiene and Tropical Medicine
Liverpool School of Tropical Medicine
University of Liverpool
University College London
SACORE Selected Successes

✔ Recruitment of 30 PhD/MSc fellows
✔ Small seed grants
✔ Establishment of Research Support Centers
✔ Finance management
✔ Professional development activities
✔ >350 publications
✔ South-South & South-North Partnerships
SACORE Best Practices

• The establishment of RSC in the 3 low-income partner institutions are transformative

• These act as one-stop service centres through which various research-related activities are coordinated and facilitated.

• They provide comprehensive research support services, including pre-award and post-award management of grants, to faculty and students, irrespective of funder.
SACORE Best Practices (Cont’d)

• The RSC in Malawi was already fully operational, having been established in 2006 with support from the Netherlands–African partnership for capacity development and clinical interventions of poverty-related diseases (NACCAP).

• In Zimbabwe, the RSC was established in 2011, and has since leveraged additional funding to construct offices and teaching facilities.

• The RSC in Zambia was established in 2011 and funded through SACORE. It consists of offices for research administration and lecturing facilities.

• All three centres are fully operational and later served as a model for other institutions in the region (eg, Makerere University in Kampala, Uganda, and the University of Rwanda in Butare, Rwanda).
• Few appropriately experienced supervisors or mentors were available at low-income partner institutions, particularly for some areas of study.

• In response, we constructed **triangular mentorship networks** with local, regional, and UK-based advisers. For some fellows, this system worked well, with complementary advice from different senior academics.

• It worked less well for some others, either because of difficulty engaging the UK or regional expert, or because scholars were reluctant to reach out to people they had never met.
SACORE Best Practices (Cont’d)

- South–South partnerships, collaborations, and networking.
- Collaborative activities led by middle-income partner institutions (SU, UCT, BHP) have included cohosting of selected PhD and post-doc fellows when specialist training was not available at the host low-income partner institution; mentorship and supervision; and the training of fellows in the writing of research proposals, biostatistics, and laboratory skills.
- The SACORE Annual Scientific Meeting provides a forum for scientists at all stages of their careers to present their research and network with each other.
- A cross-consortium team visited all low-income partner institutions to assess progress towards consortium aims and provide technical guidance.
SACORE Lessons Learned

- At the University of Malawi College of Medicine (Blantyre, Malawi) and University of Zambia School of Medicine (Lusaka, Zambia), SACORE is no longer regarded as a standalone project, but as integral to the institutions which is key for sustainability.

- The University of Zimbabwe College of Health Sciences (Harare, Zimbabwe) leveraged funding from other sources to engage a biostatistician to provide individualised support with proposal design and statistical analysis.

- The research support centres could be sustained financially with funds collected as research overheads, as is the case at most universities in the USA and Europe.
SACORE Best Practices (Cont’d)

- The RSC in Malawi was already fully operational, having been established in 2006 with support from the Netherlands–African partnership for capacity development and clinical interventions of poverty-related diseases (NACCAP).
- In Zimbabwe, the RSC was established in 2011, and has since leveraged additional funding to construct offices and teaching facilities.
- The RSC in Zambia was established in 2011 and funded through SACORE. It consists of offices for research administration and lecturing facilities.
- All three centres are fully operational and later served as a model for other institutions in the region (eg, Makerere University in Kampala, Uganda, and the University of Rwanda in Butare, Rwanda).
- A professional development committee was established to determine the training needs of faculty and fellows.
MEPI was a US$130 million competitively awarded grant by the US President's Emergency Plan for AIDS Relief and National Institutes of Health to 13 medical schools in 12 sub-Saharan African countries.
MEPI: 5 GOALS

#1 CAPACITY
Increasing the numbers & quality of HCWs

#2 RETENTION
Retaining HCWs over time and in areas where they are most needed

#3 RESEARCH
Supporting regionally relevant research

#4 SUSTAINABILITY
Sustainability of the programs

#5 COMMUNITIES OF PRACTICE
Creating communities of Practice
Overall MEPI Major successes

✔ Establishment of 10 new schools

✔ Doubled student intake in some schools, increased postgraduate student numbers three-fold, and

✔ Improved faculty expansion and retention

✔ Establishment of Research Support Centers

✔ Embraced e-Learning by enhancing infrastructure, improving internet connectivity, installing more computers, and restructuring library spaces

✔ Over 376 peer-reviewed publications, including a special supplement in Academic Medicine in 2014

✔ Expansion of South-South & South-North Partnerships
AREF – EDCTP Essential Grant Writing Workshop  
(14-16 October 2019) – Libreville, Gabon

Document status: VERSION 5: For distribution.

Venue: Le Méridien Re-Ndama, Libreville, Gabon

<table>
<thead>
<tr>
<th>Timing</th>
<th>Day 0- Sunday 13 October 2019</th>
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</thead>
<tbody>
<tr>
<td>18:00 – 18:15</td>
<td>Welcome</td>
</tr>
<tr>
<td>15 mins</td>
<td>Location/meeting point: Eliwa Restaurant Outside (TBC)</td>
</tr>
<tr>
<td>18:15 – 19:00</td>
<td>Icebreaker / “Speed dating” (by PD)</td>
</tr>
<tr>
<td>45 mins</td>
<td>Location: TBC</td>
</tr>
</tbody>
</table>

AREF Facilitators:
Bridget Bannerman (BB) PhD, Science Manager, AREF
Peter Dukes (PD) PhD, Associate Director of Programmes, AREF
Dembo Kanteh (DK), Coordinator, West Africa Research Platform, MRC Unit The Gambia @ LSHTM
Modibo Sangare (SM) M, PhD, Associate Professor, FMOS, Bamako, Mali.

AFREhealth Facilitator:
Jean B. Nachega (JN) MD, PhD, Stellenbosch University, Cape Town, South Africa
EDCTP workshop grant proposal writing, Libreville, Gabon, 14-16 October 2019
Concluding Thoughts

• Research, capacity and expertise in Africa are increasing, but they can have a greater impact on health if the following recommendations are implemented.
• Human resources planning for research will need the same level of attention from local and global actors as human resources for personal health services.
• African governments must invest in health research if they want to take charge of the research agenda and sustain existing capacity building efforts, which are mostly foreign funded.
• Filling the health research gaps between region should also be priority.
Acknowledgements

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NIH/FIC: R25 TW011217-01
Thank You!
Insights on building capacity for health research in Africa

Presentation for the 2nd meeting of the ESSENCE Mechanism

November 2, 2021

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Catherine M. Jones, Department of Health Policy, LSE, United Kingdom - c.jones11@lse.ac.uk

This research was funded by Wellcome.
Background

- Being able to evaluate and measure a country’s performance in health research (HR) is important

- However, HR systems are complex and multifaceted in nature

- Challenges for the interpretation of HR performance indicators affect their relevance
Concerns with performance metrics

• **Context**
  • The construction and choice of metrics in global health are not as straightforward – are inherently constructed.
  • E.g., metrics may be decidedly political, with choices having to be made as to what to count in the first place, where to count it and how to use or aggregate data.

• **Challenges in measurements of complex phenomena**
  • Conceptualisation, measurement, aggregation

• To ensure accuracy and avoid potential biases, explicitly consider the objectives of the given measurement
  • why is the measure needed…….which should then determine the choice of indicators used

• Measuring complex phenomena also requires that we consider the fact that some direct measures of a given entity may be unobservable and that important data can be missing.
## Key issues identified with potential health research performance metrics

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Issues identified</th>
<th>Measurement</th>
<th>Aggregation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publications</td>
<td>It is unclear how or when publications capture meaningful collaborations versus tokenistic ones.</td>
<td>The metric cannot easily measure relevance to local needs.</td>
<td>It is also unclear how to combine article with differing contributions (first, last or any author) to reflects goals of HR development.</td>
</tr>
<tr>
<td>Clinical trials</td>
<td>This biases attention to some forms of research (eg, clinical/epidemiological).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patents filed</td>
<td></td>
<td>Counts do not distinguish usefulness or quality.</td>
<td></td>
</tr>
<tr>
<td>Research institutions</td>
<td>Unclear what constitutes a relevant institution.</td>
<td>Quality hard to assess (in context).</td>
<td>Unclear how to weigh the value of large centres of excellence versus smaller institutions.</td>
</tr>
<tr>
<td>Research personnel</td>
<td>Lack of clarity on what constitutes research staff or how to include support elements.</td>
<td>Quality hard to assess.</td>
<td>Unclear how to combine different types of researchers into a single indicator.</td>
</tr>
<tr>
<td>Resources for HR</td>
<td>Unclear when or how domestic versus international funding matters to HR performance.</td>
<td>Lack of standard national budget lines to identify comparable spending.</td>
<td></td>
</tr>
<tr>
<td>Policies and regulations</td>
<td>Not clear what constitutes relevant policies, and these may be context-sensitive.</td>
<td>Actual impact or influence of policies and regulations hard to evaluate.</td>
<td>Unclear how to combine elements such as policies, supportive regulations and agencies into a single indicator.</td>
</tr>
</tbody>
</table>
A qualitative approach to understanding health research capacity in national health research systems

*Health Research: Essential Link to Equity in Development* (Commission on Health Research and Development, 1990) introduced an agenda to strengthen national health research systems in low- and lower-middle-income countries (LMICs).

A National Health Research System (NHRS) is:

*the people, institutions, and activities whose primary purpose is to generate high-quality knowledge that can be used to promote, restore, and/or maintain the health status of populations.* (Pang *et al.*, 2003, p. 816)

Literature on NHRS generally counts, evaluates, and describes pillars for an NHRS to fulfil four key functions as a basis for key health research performance metrics.
Implications for ESSENCE Mechanism to coordinate HR funding in LMICs

Include variety of national stakeholders to participate, not only those researchers and institutions holding the grants from ESSENCE funders

- Benefits to local coordination, alignment, advocacy and political will from involving government policy sectors including higher education, health, and science, technology and innovation as well as university and research leadership

Consider founding the coordination process of multiple funders in-country on principles of shared governance, emphasizing national leadership and ownership of the agenda, discussions, and decisions
Thank you Research team and collaborators
Amos Ankotche (Côte d’Ivoire), Emily Canner (LSE Health) Fatma Habboubi (Tunisia), Mamuye Hadis (Ethiopia), Aaron Heidquist (LSE Health), Catherine M. Jones (LSE Health), Pamela A. Juma (Kenya), Dineo Kebadiretse (Botswana), Tiny Masupe (Botswana), Rhona M. Mijumbi (Uganda), Namuunda Mutombo (Zambia), Aina Anjatiana Rakotobe (Madagascar), Joëlle Sobngwi-Tambekou (Cameroon), Abel Welwean, Sr. (Liberia), Olivier Wouters (LSE Department of Health Policy).

Justin Parkhurst (co-PI, LSE Department of Health Policy), Clare Wenham (co-PI, LSE Department of Health Policy)

For more information: https://www.lse.ac.uk/lse-health/research/projects/research-capacity-in-africa-2

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Scientific papers published from the project

Beyond the metrics of health sciences research performance in African countries

*BMJ Global Health* [https://gh.bmj.com/content/6/7/e006019](https://gh.bmj.com/content/6/7/e006019)
- Critical review of key indicators of health research capacity and performance

Measuring health sciences research capacity and performance in Africa: mapping the available data

*Health Research Policy and Systems* (in press)
- Mapping structural, process, and output indicators of health research performance in all 54 African countries

Governance of Health Research in four Eastern and Southern African countries

- Comparative analysis of health research governance in Botswana, Kenya, Uganda, and Zambia

Health research in Madagascar: state of the art, challenges, and perspectives (article in French/article en français)

*Pan African Medical Journal* [https://www.panafrican-med-journal.com/content/article/39/36/full/](https://www.panafrican-med-journal.com/content/article/39/36/full/)
- Analysis of factors influencing the development of the health research system in Madagascar
Policy and grey papers from two projects
Available at: https://www.lse.ac.uk/lse-health/research/projects/research-capacity-in-africa-2

Building the case for investment in health sciences research in Africa

- Policy brief for national stakeholders - Recommendations for strengthening health sciences research in Africa (in English) (en Français)
- Strengthening national health research systems in Africa: infographic summary of key findings (in English) (en Français)
- Executive summary of final report (in English) (en Français)
- Strengthening national health research systems in Africa: lessons and insights from across the continent (full report)
  - Appendix 1 to the report – Research methods
  - Appendix 2 to the report – Phase 1 results tables and figures

Strengthening national health research systems: a regional analysis

- Strengthening health research systems in Africa: a regional analysis (full report)
- Research brief on the roles of regional organisations (in English) (en Français)
Leading a Consortium for Health Research Capacity Building in the West Indies

02 November 2021

John F. Lindo* and Gene D. Morse‡
Co-chairs SUNY-UWI Health Research Consortium
*University of the West Indies and ‡University at Buffalo-SUNY
February 1, 1947
The University College of the West Indies was officially opened.

Early 1947
University College relocated to Gibraltar Camp at Mona.

1948
Mona Campus open with 10 female and 23 male Caribbean students admitted to Faculty of Medicine.
UWI now in the top 1.5% of institutions globally.

University moved up 94 places.

Performance:
- Exceptional performance in ‘Citations’
- Improvements in teaching scores
- Research reputation scores
- International co-authorship
- % of international staff

University moved up from 501-600 (2021) to 401-500 (2022).

- Teaching
- Research
- Citations
- Industry income
- International outlook

Students/academic staff ratio and % of international students remained constant.

Industry income increased.
GOVERNMENT CONTRIBUTIONS to Campus expenditure

GOVERNMENT CONTRIBUTIONS (%)
Per capita research output

• Required by contract >2.0 papers per year
• Web of Science per capita output of Mona campus
  • 2015/16 = 0.952
  • 2016/17 = 0.929
  • 2017/18 = 0.721
  • 2018/19 = 0.763
SUNY-UWI Health Research Consortium (HRC) Activities

• HRC Timelines
• Health Research Priority Areas
• Health Research Infrastructure
  • Clinical Research Center Network
  • Core Laboratory Network
  • Health Information Technology Network
• Sustainable Development Goals
  • SUNY-UWI MBA program collaboration
Health Research Priority Areas

- Emerging Infectious Diseases
- Oncology
- Cardiovascular, Hepatic and Renal Diseases
- Diabetes, Metabolic and Digestive Diseases
- Behavioral and Mental Health

- Arboviruses, Chronic Viral Infections, SARS-CoV-2
- Prostate, Colorectal, Cervical
- Hypertension, Hepatic Disease, Chronic Kidney Disease
- Diabetes, Women’s Health, Nutrition, Food Security, GI -Microbiome
- Depression, Anxiety, Substance Use
Viral Epidemics in Jamaica

BMJ 2016;352:j3833 doi: 10.1136/bmj.j3833 (Published 21 January 2016)

Jamaica advises women to avoid pregnancy as Zika virus approaches

Owen Dyer

Trends of Microcephaly and Severe Arthrogryposis in Three Urban Hospitals following the Zika, Chikungunya and Dengue Fever Epidemics of 2016 in Jamaica


Zika virus evolution and spread in the Americas

Hayden C, Meltzer,2,6,17, Christian R, Manangö,2,6,17, Stéphane Wrobel,2,6,17, Stephen F, Schaffter,2,6,17, Catherine A, Hedge,2,6,17, Sarah M, Winiwarter,2,6,17, Kristen West,2,6,17, James Yue,2,6,17, Mary Lynn Brennack,2,6,17, S Hameed,2,6,17, Ajay S, Lilt,2,6,17, Christopher H, Tenkate-Teoh,2,6,17, Simon H, W,2,6,17, Daniel J, Price,2,6,17, Cynthia Y, Lutf,2,6,17, Katy G, Barlow,2,6,17, Ricky J, Stahl,2,6,17, Bridget Chick,2,6,17, Gordia Barba,2,6,17, Edson DeSousa,2,6,17, Yannick R, Veyrol,2,6,17, Laren M, Paul,2,6,17, Amanda L, Ivey,2,6,17, Carolyn M, Barcelon,2,6,17, Mario C, Poncelet,2,6,17, Chaimers Vinage,2,6,17, Andrew C, Cannons,2,6,17, Marshall R, Cone,2,6,17, Kelly N, Hoglan,2,6,17, Edgar W, Kopk,2,6,17, Anjali J, Ansong,2,6,17, Kimberly F, Garcia,2,6,17, Leda A, Pacheco,2,6,17, Rose M, Gilles Rasmussen,2,6,17, Maria C, Miranda Mompou,2,6,17, Diana P, Bujis,2,6,17, Catherine M, Brown,2,6,17, Scott Hennig,2,6,17, Rodrigo Saliba,2,6,17, Sarah Scott,2,6,17, Karthik Gaggaravasan,2,6,17, Nathan D, Gribowski,2,6,17, Dennis Obreza,2,6,17, Bella-Hoche-Bahadu,2,6,17, Andrew Ramrout,2,6,17, Lee Gebhardt,2,6,17, Sandra Simich,2,6,17, M Elizabeth Halloran,2,6,17, Luísa Villar,2,6,17, Gallin Mattar,2,6,17, Jette Lorensen,2,6,17, José-Cristina Jato,2,6,17, Clarisa Valder,2,6,17, Wim Steenge,2,6,17, Patricia S, Baux,2,6,17, Andrew Goelz,2,6,17, Kristian C, Anderson,2,6,17, Sharron Jerum,2,6,17, Scott F, Michalek,2,6,17, Fernando A, Roza,2,6,17, Itzag M, L, Souza,2,6,17, Ivera Rosch,2,6,17, Nathan L, Vivier,2,6,17, Bowery W, Macintosh,2,6,17 & Purna C, Sabotii,2,6,17

Zika

Dengue

Chikungunya

SARS-CoV-2

Unravelling the Paediatric and Perinatal Zika Virus Epidemic through Population-based Research

CDC Christie,1 C Giaquinto1

BMJ Open Zika virus infection in pregnancy: a protocol for the joint analysis of the prospective cohort studies of the ZIKAlliance, ZikaPLAN and ZIKAction consortia

A E Ates, Elizabeth B Brickley,1 Naz Alaezadeh,2 David Brown,3 Thomas Jwawiec,4 Memón de Barra Miranda-Filho,5 Moritz Pfühl,6 Karolin D Rosenberger,7 António Soranzo-Aranha,8 Chia-Tea Tham,9,10 Ricardo Arias de Alencar Ximenes,4 Thaila Vello Barreto de Araújo,4 Vivian I Avelino-Silva,2 Sarah Esperanca Bittencourt Castillo,11 Victor Hugo Botto Abreu,12 Patricia Brasil,13 Celia D C Christe,13 Wayne Vieira de Souza,14 Jose Eduardo Gattas H,15 Bruno Hoen,16,17 Marion Koopmans,18 Celina Maria Turri Martelli,19,20 Mário Martins Teixeira,18 Ernesto T A Marques,18,21 Maria Consuelo Miranda,21,22,23 Lilbones Reinoso Montenegro,23 Maria Elizabeth Moraes,23 J Glenn Morris,24 Barry Rocka,24 Patricia Maria Bubba Villellas,25 Carmen Soria Segura,25,26 Adriana Tami,25,26 Marta Falta Turchi,25 Carlo Giaquinto,25 Xavier de Lamballe,12,27 Annies Wilde-Smih,13 EC Zika Consortia Vertical Epidemiology Study Group
Global Infectious Diseases Research Training Program
National Institutes of Health, Fogarty International Center

Leadership Group

• Gene D. Morse, PharmD (PD/PI), SUNY Distinguished Professor and Director, Center for Integrated Global Biomedical Sciences, University at Buffalo, SUNY

• Timothy Endy, MD (Co-PD/PI), Professor and Chair, Department of Microbiology and Immunology, Upstate Medical University, SUNY

• John F. Lindo, PhD (Co-I), Professor of Microbiology, UWI; Director of National Laboratory Services, Ministry of Health,
Global Infectious Diseases Research Training Program
National Institutes of Health, Fogarty International Center

Specific Aims:

• **Create a core of young investigators** by providing “value added” training based on a mentored curriculum and core laboratory experiences
  - Emphasize research design, methods and analytic techniques to address virology research questions that confront Jamaica.

• **Provide an integrated mentoring program** that fosters innovative research and enhances the trainees’ ability to conceptualize research problems with increasing independence.

• **Develop future research leaders in virology** who will establish extramurally funded research programs and mentor the next generation.
Global Infectious Diseases Research Training Program

• Focus on Master’s and PhDs while piloting post-doctoral programs
• UWI has demonstrated a commitment to create new faculty positions to accommodate well trained researchers

• Strategy of GIDRTP
  • Train individuals who will be suited for these positions
  • Attain peer reviewed funding
  • Contribute to the growing critical mass of independent researchers at UWI and Ministry of Health
Research Capacity Training

TWO - D43 Applications through Fogarty Institute
- Social Determinants of Health
- Cancer Research Capacity

Graduate Research Pathways

MSc Biomedical Sciences / MPhil

Residency Training / DM Programmes

D43 Training Grants

PHD — Postdoctoral Programme — Junior Faculty

Physician Scientist
Global Infectious Diseases Research Training Program: Focus on Emerging and Chronic Virology Research

Program Administration

University at Buffalo

Upstate Medical University

University of the West Indies, Mona Campus

Jamaica Ministry of Health

Training Advisory Committee

Steering Committee
Global Infectious Diseases Research Training Program

Mentoring Core

Program Operations and Administration Core

GIDRTP Graduate Students and Fellows

Virology Laboratory Training Core

Immunology Laboratory Training Core

Pharmacology Laboratory Training Core

NIH Fogarty International Center: 1D43TW010919 - 01
Health Research Priority Areas - Partners

**Arboviruses, Chronic Viral Infections, SARS-CoV-2**
- NIH Fogarty International Center – Global Infectious Diseases Research Training Program
- GVN Affiliate Centers at UWI Mona Campus and St. Augustine Campus
- Abbott Pandemic Defense Coalition

**Prostate, Colorectal, Cervical**
- Prostate Cancer Center of Excellence with Roswell Park Comprehensive Cancer Center
- Pelvic Oncology Center – Includes Prostate, Colorectal and Cervical Cancer
- Robotics Surgery Program – Fellowship Program - Roswell Park Comprehensive Cancer Center

**Hypertension, Hepatic Disease, Chronic Kidney Disease**
- Needs assessment for cardiovascular diseases ongoing
- Seroprevalence and genotype diversity of Hepatitis B and C Viruses in Jamaica
- Participation in UB’s Abbott Virology Diagnostics Center

**Diabetes, Women’s Health, Nutrition, Food Security, GI-Microbiome**
- Electronic medical record transition project at Kingston Public Hospital
- Diabetes Management Center with WellCell Inc and Mona Clinical Research Center
- Microbiome Research Training Program planning with UWI and UB/SUNY Schools of Dental Medicine

**Depression, Anxiety, Substance Use**
- Formation of a UB/SUNY – UWI Behavioral and Mental Health Research Working Group
- UB/SUNY, UWI Mona and NYS Center for Discovery to plan Autism Spectrum Disorder research.
- Cannabinoid Sciences and Substance Use research planning
1. Captures challenges of working across two university systems
2. Identifies strengths and novel approaches to building capacity
3. Links outcomes to SDGs – therefore measureable
A Growing Consortium

• New Initiatives
  • Schools of Management – Sustainable Development Projects
  • Microbiome Research – Schools of Dental Medicine
  • H3E Caribbean Genomics Initiative – Harvard collaboration
  • GVN Emerging Pathogens Working Group

• New Consortium Participants
  • Roswell Park, Rush, Stanford, Case, Tulane, University College Dublin, NAJASO
Using a Matrix Approach

Health Informatics
- Emerging Infections and Pathogen Discovery
- COVID-19, Emerging Pathogens
- Oncology
- Prostate
- Cardiovascular, Hepatic, Renal
- Hypertension
- Diabetes, Metabolic and Digestive Health
- Diabetes Mellitus
- Behavioral and Mental Health
- Depression, Anxiety

Laboratory Core
- Arboviruses
- Colorectal
- Hepatic Disease
- Women's Health
- Substance Use

Biorepository
- Chronic Viral Diseases
- Cervical
- Renal Disease
- Nutrition/Food Insecurity
- GI Disease and Microbiome

Sustainable Development Goals
- Breast
Identify funding mechanisms

• External agencies (grants, contracts), foundations
• Organizational partnerships
• Academic/Business Partnerships
• Academic/Government Initiatives
• Integrated Sustainable Development Models
Sustainable Funding Model

• Consortium Initiated with in-kind activities, grants
  • Not sustainable, and timelines will be delayed

• Need to catalyse financial input across projects
  • Support development of Clinician Scientists through external scholar funding
  • Simultaneous support for research infrastructure cores (informatics, laboratory, biorepository)

• Create win-win with business development, industry growth, global donors
Acknowledgements

• SUNY and UWI top leadership
• Ministry of Health, Jamaica
• Partner Universities
• NAJASCO
• Business partners
• Dr Alaina Scott
Research Capacity Building in West and Central Africa

Professeur Oumar Gaye
Africa Health Research Strategy: Key Priorities interventions

- Developing human capacity for sustained health research and innovation
- Developing a conducive environment for research and innovation
- Promoting Sustained Investments and Financing Mechanisms in Research,
- Generating, sharing, and utilizing data to inform and guide decision making.
- Strengthening regulatory systems, Intellectual property and ethics
Definition of research priorities

MoH, Higher Education & Research, Partners

Scientists, Partners, Communities, Private sector

Research-Training → Action
Challenges

• Inadequate Research Financing

• Human resources, Brain drain

• Weakness Health system

• Climate Change, Demography, Urbanization

• Global economic recession
Developing Excellence in Leadership, Training & Science in Africa (DELTAS Africa)
Malaria & NTDs Research Capacity Development in West and Central Africa (MARCAD-Plus)

Supported by

UCAD (Lead institution)

USTTB, MRCG, UHAS, UoY1, BHP, COMAHS, LSTM & Coll
Background to MARCAD-Plus

2001 - 2010

Strengthening individuals

2009 – 2015

MCDC
MALARIA CAPACITY DEVELOPMENT CONSORTIUM

Strengthening institutions, and individuals

2016 – 2021

MARCAD
MALARIA RESEARCH CAPACITY DEVELOPMENT IN WEST AND CENTRAL AFRICA

Strengthening individuals, research teams and institutions,

Despite progress still Challenges:
Parasite & vector resistance, changing epidemiological profiles,
climate change, diseases outbreak, residual transmission,
high burden countries

Malaria & NTDs : Impact on the SDGs.

MARCAD-Plus
Strengthening individuals, research teams, institutions and intra-African networks
MARCAD-Plus: Objectives

• To Support high quality research in malaria & NTDs
• To develop a career pathway for MARCAD Fellows
• To Strengthen Management & Environment Research
• To Develop a community & public engagement strategy
• To Deliver evidence to support malaria control
**MARCAD-Plus: Programme Strategy, Management & Governance**

**Strategy:** To invest in malaria & NTDs research and Capacity Building ➔ The future African scientific leaders for a positive impact on the SDGs

**Governance**

- **Research Training Committee**
- **Steering Committee** (Partners)
- **Expert Advisory Board**

UCAD Secretariat governance and financial management, monitoring and evaluation
MARCAD-Plus: Research Leadership

- Recruiting MSc students, PhDs fellows, Postdocs, mid careers researchers: Gender, Diversity

- On site courses, short courses (malaria elimination, leadership, biostatistics)

- Workshops (grant writing, data management, risk management, communication)

- Developing research teams in training with Integrated research

- Provision of supervision and mentorship from leading scientists
MARCAD-Plus: Research Management

- Research support office in partner institutions
- Research platform: laboratories, field sites, HDSS
- Supportive and gender-sensitive work environments
- GFGP management, internal & external audit
- Monitoring, evaluation, measurement and reporting
MARCAD-Plus : Research Management & Infrastrutures
COLLABORATION AND NETWORK

• WWARN/IDDO
• WAGHA
• DELTAS

• WANETAM-CANTAM
• SMC Working Group
• INDEPTH Network

Data sharing platforms
Senegal: Map of interventions by stratification, 2015-2018

**Incidence ≤ 5% popn**
MSAT + Active surveillance + SUFI +/- MDA

**Incidence > 5 and ≤ 15% popn**
FSAT + Active surveillance + SUFI

**Incidence > 15 and ≤ 25% popn**
SUFI = LLIN, ACT, RDT, IPTp, PECADOM

**Incidence > 25% popn**
SUFI + SMC (if eligible)

Smarter Know - Mar 2018

Sources: PIPLP
Fev. 14

- SMC AREA
- BEDNET
- SWARM TRAPPING
Community Case management approaches
NMCPs from Benin, Burkina Faso, Cameroon, Chad, The Gambia, Ghana, Guinea, Guinea Bissau, Mali, Senegal, Niger, Nigeria and Togo

University of Thies: Jean Louis Ndiaye, Ibrahima Mbaye, Amadou Seck, Ndeye Fatou Diop

LSHTM: Paul Milligan, Susana Scott, Paul Snell, Lucy Bell

WHO/TDR: Corinne Merle, Nines Lima

MMV: Andre Tchouatieu, Abena Poku-Awuku
IMPACT: CAREER’s PATHs

• Appointments & new positions for Fellows & Faculties

• Highly trained & skilled staff who have been managing grants

• New interdisciplinary teams

• MARCAD teams member of the ACE program with IDA support
Funding opportunities

• EDTCP, AFD
• AU, WAHO, ECOWAS
• NIH, Fogarty, BMGF
• Wellcome Trust, DFID, Royal Society
• IBD, World Bank
• CAMES PRIZE
LESSONS LEARNED

• Taking leadership in African-led research

• Engagement with communities and stakeholders is important

• Establishment of good research environment.

• High consideration of career paths

• Advocating for increased funding for higher education and research

• Advocating for sustainability