Seventh Annual Research Meeting of the Noguchi Memorial Institute for Medical Research, University of Ghana

Ghana Med J 2024; 58(2) supplement: 1-3 doi: http://dx.doi.org/10.4314/gmj.v58i2s.1

INTRODUCTION

The Noguchi Memorial Institute for Medical Research (NMIMR) is a semi-autonomous institute of the University of Ghana.[1] It was established in 1979 by the Government of Japan and donated to the Government and the people of Ghana in memory of Dr. Hideyo Noguchi, the famous Japanese scientist who succumbed to yellow fever, a disease he was researching in Ghana in 1928. The NMIMR is the premier biomedical research institution in the country and a biomedical research centre of excellence in Africa. Its mandate is to conduct research into diseases of public health importance, train postgraduate students in biomedical sciences and support the public health programmes of the Ministry of Health and Ghana Health Service. As such, the NMIMR plays a crucial role in ensuring the health and safety of the Ghanaian population and contributes to disease surveillance and policy.

Since its inception, the NMIMR has researched infectious and non-communicable diseases, nutrition, and environmental impacts on health. The diseases worked on include malaria, HIV/AIDs, tuberculosis, polio, asthma and allergies, onchocerciasis, Buruli ulcer, lymphatic filariasis, schistosomiasis, soil-transmitted helminths, rotavirus infections, yellow fever, dengue, toxoplasmosis, snake bite envenomation, influenza, among others. Research activities have expanded to include viral hemorrhagic fevers and strengthening health systems. Being a reference centre of excellence, the NMIMR provides service to the Government and people of Ghana by providing evidence to guide policy and the control of diseases in the country.

Annual Research Meetings

Since early 2000, the NMIMR has conducted annual research meetings (ARM) to share research findings that directly impact policy and practice with key stakeholders, including policymakers, collaborators, funders, and the public. It also allows scientists, including young researchers (Early Career Scientists/Postgraduate students), to showcase their excellent work and build collaborations. These meetings also create opportunities for stakeholders to engage one another, ultimately increasing understanding of the major health challenges confronting Ghana and the world. The ARM has always been the climax of the Institute's activities, with the 2022 ARM being the 7th in the series.

The last ARM was in 2019. In 2020, the world came to a standstill with the SARS-COV-2 pandemic.[2] After the first case in Ghana was detected in early March by the NMIMR, the Government of Ghana imposed a lockdown on March 15, 2022, to limit the transmission of the infection and safeguard the health of the Ghanaian population. Thus, three years had passed, and the NMIMR resumed its ARM in 2022 with the theme "***Epidemics, Pandemics and Diseases of Public Health Importance: Bridging the research-policy divide"***. The theme aligned with the Institute's role in tackling the COVID-19 pandemic in Ghana, detecting the first Marburg case[3], monkeypox, and other activities like the surveillance of yellow fever and meningitis.

Professor Nana Aba Appiah Amfo, Vice-Chancellor of the University of Ghana, chaired the opening ceremony. She recognised the NMIMR as one of the flagship Research Institutes in Ghana that has been at the forefront of research into both communicable and non-communicable diseases, surveillance and specialised diagnosis of most emerging and re-emerging diseases, including Ebola virus disease and influenza outbreaks, with the most recent being the COVID-19, Marburg and Monkeypox outbreaks. She also noted the significant impact the Institute has made over the years in shaping several health policies and healthcare practices through important research findings. Key among these is the Institute's contribution to the change in the national anti-malaria drug policy in the early 2000s, its leadership in COVID-19 testing and diagnosis, and the expansion of testing capacity through training health personnel nationwide. Other areas of the Institute's impact include COVID-19 sequencing capacity building in Ghana and across Africa, as well as the hosting of several national, regional and international reference laboratories, including those for Influenza, Polio, HIV drug resistance, Buruli ulcer, Tuberculosis and childhood diarrheal disease caused by Rotavirus.

Dr. Anarfi Asamoa-Baah, the Presidential Coordinator for Ghana's COVID-19 response, gave the keynote address. He noted that NMIMR's diverse research areas had been recognised long before the COVID-19 pandemic. However, the remarkable work, professionalism, dedication, leadership, and foresight exhibited by the Institute during the pandemic increased the general public's respect and admiration for the Institute.

He touched on the challenges researchers face, including funding for research, collaborators, publishing, and the non-use of research findings and recommendations in policy formulation. He also proposed strategies for ensuring an increased uptake of research data in policy formulation.

Other plenary speakers included Dr. Abdourahmane SOW from the West African Health Organization, who presented on the "West African regional public health research agenda in the context of pandemic preparedness and response". He listed the objectives of WAHO, which are to i) develop operational public health research technical capacity to enhance emerging and remerging infectious diseases detection and surveillance, ii) develop regional capacity in research on Antimicrobial Resistance, iii) support the establishment of a regional research agenda and database and iv) build the capacity of national and regional ethics committees to support clinical research during epidemics. Professor William Ampofo, the national COVID-19 coordinator, presented a paper on "Emerging health threats and the contribution of NMIMR's research to health systems and policy". He reiterated the significant contribution of NMIMR to improved disease surveillance in Ghana and how the Test, Treat and Trace approach helped the country during the COVID-19 pandemic and the Marburg and Monkeypox control. Dr Gerald Mbowa of the Africa Centre for Disease Control presented a paper on "Africa pathogen genomics: lessons learnt and opportunity beyond COVID-19". He mentioned that at the beginning of the COVID-19 pandemic, the Africa CDC didn't have the resources to respond effectively and depended on already established research institutions like NMIMR. However, regional sequencing laboratories were established across Africa during the pandemic, and samples from countries without sequencing capacity were shipped to regional hubs such as NMIMR. Africa is now undertaking routine genomic surveillance after forming the Africa Pathogen Genomic Initiative (Africa PGI), and Africa CDC has trained at least one individual from over 44 countries.

Other presentations at the ARM were grouped into thematic sessions, with over 265 abstracts received for oral and poster presentations. These sessions included malaria, bacterial infections and antimicrobial resistance, viral infections, neglected tropical diseases, non-communicable diseases, and health systems. In this supplement to the Ghana Medical Journal, we present a brief report of the proceedings of the 2022 ARM according to the above topics and the book of abstracts.

Click on the following links to access the abstracts:

Seventh Annual Research Meeting of the Noguchi Memorial Institute for Medical Research: Plenary session abstracts

Seventh Annual Research Meeting of the Noguchi Memorial Institute for Medical Research: Parallel session abstracts

Seventh Annual Research Meeting of the Noguchi Memorial Institute for Medical Research: Poster session abstracts

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