ASSOCIATION UPDATE



The Nairobi Declaration—Reducing the burden of dementia in low- and middle-income countries (LMICs): Declaration of the 2022 Symposium on Dementia and Brain Aging in LMICs

Delegates of the 2022 Symposium on Dementia and Brain Aging in Low- and Middle-Income Countries, representing over 40 countries, met in Nairobi, Kenya, December 5–9 to highlight advances in dementia prevention, diagnosis, care, and research, as well as explore the future needs of the global community.

Dementia poses a major threat to optimal brain health and remains a priority for the demographically ever-changing worldwide population. It incurs substantial individual, societal, and global costs. By 2030, the majority of the 78 million people with dementia will be living in low- and middle-income countries (LMICs). Upon consideration of these grave statistics and new diagnostic paradigms with available prevention and treatment strategies, we, the undersigned delegates of the symposium, including the Organizing Committee and speakers, and the African Dementia Consortium (AfDC), with frontline and lived experience, call upon the global community, including governments, policymakers, international economic forums, health and social care providers, together with private and public research funding agencies, research-focused organizations such as universities, nongovernmental organizations, and technology and pharmaceutical companies, to act as follows:

- Rethink a global approach to dementia, being more focused on the diversity of underserved and underrepresented populations.
- Shift the balance of investment further toward LMICs, which bear
 a high burden, to tackle the challenges and seize opportunities
 and to mitigate the burden of various forms of dementia, including
 Alzheimer's disease, vascular dementia, and others, globally.
- Engage and influence policymakers and advocacy organizations to encourage implementation and evaluation of population-level dementia risk reduction interventions at a more diverse global level.
- In addition to promoting education, controlling cardiovascular risk, and preventing stroke, seriously consider nutritional factors as well as psychosocial activities for brain health and longevity.
- Ensure that the health and social care systems are equipped to meet the needs of aging populations in the LMICs as well as low-resource settings in high-income countries (HICs).
- Support research into more affordable, pragmatic, and effective solutions to improve the quality of life of people living with dementia and reduce the expenses of hospitalization, long-term care, and loss of income and indirect costs resulting from dementia.
- Equip higher education institutions in HICs and LMICs with the capacity to develop a pipeline of local highly motivated early career

- researchers (ECRs) to ensure future research will be responsive to local population needs and to leverage opportunities offered by different countries.
- Ensure a research framework with international collaboration that will unwind the rigid structures in LMICs and encourage young, enthusiastic people to give the best of their potential in their countries, thereby preventing brain drain.

We believe that timely intervention to address these goals will bring about significant and sustainable improvements in the prevalence, outcomes, and personal and societal impacts of dementia, resulting in a higher quality of life, better care, and global benefits.

Nairobi, Kenya, December 9, 2022

Organizing Committee and Speakers of the 2022 Symposium on Dementia and Brain Aging in Low- and Middle-Income Countries.

Gladys Maestre¹

Maria Carrillo²

Raj Kalaria³

Daisy Acosta⁴

Larry Adams⁵

Thierry Adoukonou⁶

Kazeem Akinwande⁷

Joshua Akinyemi⁸

Rufus Akinyemi⁹

Onoja Akpa¹⁰

Опоја Акра

Suvarna Alladi¹¹

Ricardo Allegri¹²

Raul Arizaga¹³

Faheem Arshad¹⁴ Ovedunni Arulogun¹⁵

Jyeuuriii Aruloguri

David Babalola¹⁶ Olusegun Baiyewu¹⁷

Thomas Bak¹⁸

Tarek Bellaj¹⁹

Judith Boshe²⁰

Carol Brayne²¹

David Brodie-Mends²²

Richard Brown²³

Jennifer Cahn²⁴

Nkouonlack Cyrille²⁵

Albertino Damasceno²⁶

Ranil de Silva²⁷

Rohan de Silva²⁸

Mamuka Djibuti²⁹

Anna Jane Dreyer³⁰

Ratnavalli Ellajosyula³¹

Temitope Farombi³²

Bernard Fongang³³ Stefania Forner³⁴

Rob Friedland³⁵

Noe Garza³⁶ Antoine Gbessemehlan³⁷

Eliza (Eleni- Zacharoula) Georgiou³⁸

Riadh Gouider³⁹

Ishtar Govia⁴⁰

Lea Grinberg⁴¹

Maëlenn Guerchet⁴²

Seid Gugssa⁴³

Joy Louise Gumikiriza-Onoria⁴⁴

Deborah Gustafson⁴⁵

Eef Hogervorst⁴⁶

Michael Hornberger⁴⁷

Agustin Ibanez^{48,49}

Masafumi Ihara⁵⁰

Ozama Ismail⁵¹

Thomas Issac⁵²

Linus Jönsson⁵³

Celestin Kaputu⁵⁴

Wambui Karanja⁵⁵

Jackline Karungi⁵⁶

Desire Tshala-Katumbay⁵⁷

Brian Kunkle⁵⁸

Joseph H Lee⁵⁹

Iracema Leroi⁶⁰

Raphaella Lewis⁶¹

Gill Livingston⁶²

Francisco Lopera⁶³

Kamada Lwere⁶⁴

Facundo Manes⁶⁵

Lingani Mbakile-Mahlanza⁶⁶

Pedro Mena⁶⁷

Bruce Miller⁶⁸

Athanase Millogo⁶⁹

Abdul Mohamed⁷⁰

Christine Musyimi⁷¹

Victoria Mutiso⁷²

Noeline Nakasujja⁷³

David Ndetei⁷⁴

Sam Nightingale⁷⁵

Alfred K. Njamnshi⁷⁶

Gabriela Novotni⁷⁷

Primrose Nyamayaro⁷⁸

Solomon Nyame⁷⁹

Julius Ogeng'o⁸⁰

Adesola Ogunniyi81

Maira Okada De Oliveira⁸²

Njideka Okubadejo⁸³

Martin Orrell⁸⁴

Akintunde Orunmuyi85

Mayowa Owolabi⁸⁶

Stella Paddick⁸⁷

Margaret A Pericak-Vance⁸⁸

Zvezdan Pirtosek⁸⁹

Felix Potocnik⁹⁰

Bill Preston⁹¹

Rema Raman⁹²

Kirti Ranchod⁹³

Mie Rizig⁹⁴

Monica Rosselli⁹⁵ Roy Deepa⁹⁶

Upal Roy⁹⁷

Marufjon Salokhiddinov⁹⁸

Mary Sano⁹⁹

Fred Sarfo¹⁰⁰

Claudia L Satizabal 101

Diego Sepulveda-Falla¹⁰²

Sudha Seshadri 103

Claire Sexton¹⁰⁴

Ingmar Skoog¹⁰⁵

Peter St George-Hyslop¹⁰⁶

Claudia Suemoto¹⁰⁷

Jeremy Tanner¹⁰⁸

Prekshya Thapa¹⁰⁹

Kamadore Toure¹¹⁰

Valentine Ucheagwu¹¹¹

Chinedu Udeh-Momoh¹¹²

Victor Valcour¹¹³ Jeffery Vance¹¹⁴

Mathew Varghese¹¹⁵

Jaime Vera¹¹⁶

Richard Walker¹¹⁷

Wendy Weidner¹¹⁸

Walsh Sebastian 119

Patrice Whitehead Gay¹²⁰

Henrik Zetterberg¹²¹

Yared Zewde¹²²

The African Dementia Consortium 123

¹Departments of Neuroscience and Human Genetics, University of Texas

Rio Grande Valley, Brownsville, TX, USA

²Alzheimer's Association, Chicago, IL, USA

³Translational and Clinical Research Institute, Newcastle University, Campus for Ageing and Vitality, Newcastle upon Tyne, UK

⁴Internal Medicine Department, Universidad Nacional Pedro Henriquez Ureña, Santo Domingo, Dominican Republic

⁵ Institute of Human Genomics, University of Miami, Miami, FL, USA ⁶Department of Neurology, University of Parakou, Parakou, Benin ⁷Department of Chemical Pathology and Immunology, Federal Medical Centre, Abeokuta, Nigeria

⁸College of Medicine, University of Ibadan, Ibadan, Nigeria ⁹Institute for Advanced Medical Research and Training, University of Ibadan, Ibadan, Nigeria

¹⁰College of Medicine, University of Ibadan, Ibadan, Nigeria

¹¹Department of Neurology, NIMHANS, Bangalore, India ¹²Department of Cognitive Neurology, Instituto Neurologico Fleni, Buenos Aires, Argentina

¹³Neurología Cognitiva y Neuropsicología, Hospital Dr. Cesar Milstein, Buenos Aires, Argentina

¹⁴Department of Neurology, NIMHANS, Bengaluru, India ¹⁵Department of Health Promotion and Education, University of Ibadan, Ibadan, Nigeria

¹⁶University College Hospital, University of Ibadan, Ibadan, Nigeria ¹⁷Department of Psychiatry, University of Ibadan, Ibadan, Nigeria ¹⁸Department of Neurology, University of Edinburgh, Edinburgh, UK ¹⁹Department of Psychological Sciences, Qatar University, Doha, Qatar ²⁰Department of Medicine, Kilimanjaro Christian Medical College, Moshi, Tanzania

²¹Cambridge Public Health, University of Cambridge, Cambridge, UK ²²Department of Medicine, Korle-Bu Teaching Hospital, Accra, Ghana ²³Department of Psychology, Dalhousie University, Halifax, Canada ²⁴Departments of Neuroscience and Human Genetics, University of Texas Rio Grande Valley, Brownsville, TX, USA

²⁵ Faculty of Health Sciences, University of Buea, Buea & Brain Research Africa Initiative, Yaounde, Cameroon

²⁶Department of Medicine, University of Maputo, Maputo, Mozambique ²⁷ Faculty of Medical Sciences, University of Sri Jayewardenepura, Rathmalana, Sri Lanka

²⁸Institute of Neurology, University College London, London, UK ²⁹ Partnership for Research and Action for Health, Tbilisi, Georgia ³⁰Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa

³¹Department of Neurology, Manipal Hospitals, Bangalore, India ³²Department of Neurology, University of Ibadan, Ibadan, Nigeria

³³Glenn Biggs Institute, University of Texas, San Antonio, TX, USA ³⁴Alzheimer's Association, Chicago, IL, USA

³⁵Department of Neurology, University of Louisville, Louisville, USA ³⁶Departments of Neuroscience and Human Genetics, University of Texas Rio Grande Valley, Harlingen, TX, USA

³⁷institute of Epidemiology and Tropical Neurology, University of Limoges, Bordeaux, France

³⁸Department of Psychiatry, Medicine, University of Patras, Patras, Greece ³⁹ Neurology Department, Razi University Hospital, Tunis, Tunisia ⁴⁰Caribbean Institute for Health Research, University of the West Indies, Kingston, Jamaica

⁴¹Department of Neurology, University of San Francisco, San Francisco, CA, USA

⁴²Inserm U1094, IRD UMR270, Univ. Limoges, CHU Limoges, EpiMaCT -Epidemiology of chronic diseases in tropical zone, Institute of Epidemiology and Tropical Neurology, OmegaHealth, Limoges, France ⁴³Department of Neurology, Addis Ababa University,

Addis Ababa, Ethiopia

⁴⁴Department of Psychiatry, Makerere University, Kampala, Uganda ⁴⁵Department of Neurology, State University of New York Downstate Health Sciences University, Brooklyn, NY, USA

> ⁴⁶Department of Psychology, University of Loughborough, Loughborough, UK

⁴⁷Department of Neurology, University of East Anglia, Norwich, UK ⁴⁸Global Brain Health Institute, Trinity College, Dublin, Ireland ⁴⁹Latin American Brain Health Institute (BrainLat), Universidad Adolfo Ibañez, Chile

⁵⁰Department of Neurology, National Cerebral and Cardiovascular Center, Suita, Japan

⁵¹Alzheimer's Association, Chicago, IL, USA

⁵²Centre for Brain Research (CBR), Indian Institute of Science (IISc), Bengaluru, India

⁵³Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Sweden

⁵⁴Department of Neurology, University of Kinshasa, Kinshasa, Democratic Republic of the Congo

⁵⁵Global Brain Health Institute, Trinity College, Nairobi, Kenya ⁵⁶Department of Psychiatry, Makerere University, Kampala, Uganda ⁵⁷ Department of Neurology, Oregon Health & Science University, Portland, OR, USA

⁵⁸Institute of Human Genomics, University of Miami, Miami, FL, USA ⁵⁹ Sergievsky Center & Taub Institute, Columbia University,

New York, NY, USA

⁶⁰TCIN, Lloyd Building, Trinity College, Dublin, Ireland ⁶¹Department of Psychology, University of Cape Town, Cape Town, South Africa

⁶²Department of Psychiatry, University College London, London, UK ⁶³Grupo de Neurociencias de Antioquia, Universidad de Antioquia, Medellin, Colombia

⁶⁴Department of Medical Microbiology, Makerere University, Mulago, Uganda

⁶⁵Institute of Cognitive and Translational Neuroscience (INCYT), INECO Foundation, Favaloro University, Buenos Aires, Argentina

⁶⁶Department of Psychology, University of Botswana, Gabrone, Botswana ⁶⁷ Institute of Human Genomics, University of Miami, Miami, FL, USA ⁶⁸ Department of Neurology, University of San Francisco,

San Francisco, CA, USA

⁶⁹Department of Neurology, University of Ouagadougou,

Ouagadougou, Burkina Faso

⁷⁰Department of Psychology, Linnaeus University, Vaxjo, Sweden ⁷¹African Mental Health Research & Training Foundation, Nairobi, Kenya ⁷² African Mental Health Research & Training Foundation, Nairobi, Kenya ⁷³Department of Psychiatry, Makerere University, Kampala, Uganda ⁷⁴Africa Mental Health Research and Training Foundation and University of Nairobi, Nairobi, Kenya

⁷⁵Department of Neurology, University of Cape Town, Cape Town, South Africa

⁷⁶Department of Neurology, FMBS, The University of Yaoundé I & Brain Research Africa Initiative, Yaounde, Cameroon

⁷⁷Department of Neurology, Ss. Cyril and Methodius University, Skopje, North Macedonia

⁷⁸Department of Psychology, University of Harare, Harare, Zimbabwe

⁷⁹ Kintampo Health Research Centre, Ghana Health Service, Kintampo,

⁸⁰Department of Human Anatomy & Medical Physiology, University of Nairobi, Nairobi, Kenya

⁸¹Department of Medicine, University of Ibadan, Ibadan, Nigeria
⁸²Cognitive and Behavioral Neurology Unit, University of São Paulo, São
Paulo, SP, Brazil

⁸³Neurology Unit, Department of Medicine, College of Medicine, University of Lagos, Nigeria

⁸⁴Institute of Mental Health, University of Nottingham, Nottingham, UK

⁸⁵Integrated Molecular Imaging Centre, Kenyatta University,
Nairobi, Kenya

⁸⁶Center for Genomic and Precision Medicine, College of Medicine, University of Ibadan, Ibadan, Nigeria

⁸⁷Translational and Clinical Research Institute, Newcastle University, Newcastle upon Tyne, UK

⁸⁸Institute of Human Genomics, University of Miami, Miami, FL, USA
⁸⁹Department of Neurology, Ljubljana University Medical Centre,
Ljubljana, Slovenia

⁹⁰Department of Geriatric Psychiatry, Stellenbosch University, Durbanville. South Africa

⁹¹Roots Worldwide LLC and Innovative California Biosciences International Inc. Fullerton, CA, USA

⁹²Alzheimer's Therapeutic Research Institute, University of Southern California, San Diego, CA, USA

⁹³Global Brain Health Institute, Trinity College, Johannesburg, South Africa ⁹⁴UCL Queen Square Institute of Neurology, London, UK

⁹⁵ Department of Psychology, Florida Atlantic University, Miami, FL, USA
⁹⁶ Department of Health and Biomedical Science, The University of Texas
Rio Grande Valley, Brownsville, TX, USA

⁹⁷Department of Health and Biomedical Science, The University of Texas Rio Grande Valley, Brownsville, TX, USA

> ⁹⁸Zangiota-2 Clinical Hospital, Tashkent Medical Academy, Tashkent, Uzbekistan

> > Bronx, NY, USA

⁹⁹Alzheimer's Disease Center, Mount Sinai School of Medicine,

¹⁰⁰Department of Medicine, Kwame Nkrumah University of Science &

Technology, Kumasi, Ghana ¹⁰¹Glenn Biggs Institute for Alzheimer's and Neurodegenerative Diseases

and Department of Population Health Sciences, UT Health San Antonio,
San Antonio, Texas, United States

¹⁰²Institute of Neuropathology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany ¹⁰³Glenn Biggs Institute, University of Texas, San Antonio, MA, USA ¹⁰⁴Alzheimer's Association, Chicago, IL, USA

¹⁰⁵Center of Health and Aging (AgeCap), University of Gothenburg, Goteborg, Sweden

106 Tanz Centre for Research in Neurodegenerative Diseases and Division of Neurology, University of Toronto, Toronto, Canada

107 Division of Geriatrics, Universidade de São Paulo, São Paulo, Brazil
 108 Glenn Biggs Institute, University of Texas, San Antonio, TX, USA
 109 Department of Psychiatric Nursing, B.P. Koirala Institute of Health
 Sciences, Dharan, Nepal

110 Department of Neurology, Université de Thiès, Thies, Senegal
 111 Global Brain Health Institute, Trinity College, Onitsha, Nigeria

¹¹²School of Public Health, Imperial College London, Worcester Park, UK
¹¹³Global Brain Health Institute, University of San Francisco, San Francisco, CA, USA

114 Institute of Human Genomics, University of Miami, Miami, FL, USA
 115 Department of Psychiatry, St John's Medical College, Bangalore, India
 116 Brighton and Sussex Medical School, University of Sussex, Brighton, UK
 117 Department of Medicine, North Tyneside General Hospital,
 North Shields, UK

¹¹⁸Alzheimer's Disease International, London, UK

119 Cambridge Public Health, University of Cambridge, Cambridge, UK
 120 Institute of Human Genomics, University of Miami, Miami, FL, USA
 121 Clinical Neurochemistry Laboratory, Moelndal Hospital, Moelndal,
 Sweden

¹²²Department of Neurology, Addis Ababa University, Addis Ababa, Ethiopia

¹²³The African Dementia Consortium, University of Ibadan, Ibadan, Nigeria

Countries represented: Argentina, Benin, Botswana, Brazil, Burkina Faso, Cameroon, Canada, Colombia, Croatia, Democratic Republic of Congo, Dominican Republic, Egypt, Ethiopia, Finland, France, Germany, Ghana, Greece, India, Indonesia, Ireland, Italy, Jamaica, Japan, Kenya, Republic of Korea, Mozambique, Nepal, Netherlands, Nigeria, North Macedonia, Portugal, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Tanzania, Tunisia, Uganda, United Kingdom, United States, Uzbekistan, Venezuela, Zambia, Zimbabwe.

Correspondence

Raj Kalaria, Translational and Clinical Research Institute, Newcastle University, Campus for Ageing and Vitality, Newcastle upon Tyne NE4 5PL, United Kingdom.

Email: raj.kalaria@newcastle.ac.uk