



Second International Conference
Cape Town Convention Centre, South Africa
30 November - 4 December 2014

ASLM2014 CONFERENCE REPORT



Innovation and Integration of Laboratory and Clinical Systems: Reshaping the Future of HIV, TB, Malaria, Flu, Neglected Tropical Diseases and Emerging Pathogens in Africa

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EXECUTIVE SUMMARY

From 30 November to 4 December 2014, the African Society for Laboratory Medicine (ASLM), a pan-African medical laboratory membership association committed to expanding access to appropriate, high-quality and timely diagnostics and robust health services, hosted its second international conference, ASLM2014, in Cape Town, South Africa. The conference, themed, “Innovation and Integration of Laboratory and Clinical Systems: Reshaping the Future of HIV, TB, Malaria, Flu, Neglected Tropical Diseases and Emerging Pathogens in Africa”, convened over 1,200 participants, including African Ministers of Health, global health leaders, healthcare professionals, and international policy makers, to discuss innovations in strategies to improve patient care and disease control across Africa.

During the ASLM2014 opening ceremony, ASLM CEO **Dr. Tsehaynesh Messele** and ASLM2014 conference co-chairs **Dr. Amadou Sall** and **Sagie Pillay** welcomed dignitaries and speakers, including: **Dr. Seif Seleman Rashidi**, Honourable Minister of Health from Tanzania; **Dr. Khaliru Alhassan**, Acting Minister of Health from Nigeria; **Dr. Joe Phaahla**, Deputy Minister of Health from South Africa; **Dr. Kebede Worku**, State Minister of Health from Ethiopia; **Patrick Gaspard**, United States Ambassador to South Africa; **Dr. Badara Samb**, UNAIDS Chief of Special Initiatives; **Dr. Jean-Bosco Ndiokubwayo**, Focal Point, World Health Organization, Regional Office for Africa; and **Betsy Wonderly**, Global Product Manager of Daktari Diagnostics. **Dr. John Nkengasong**, Associate Director for Laboratory Science at the Division of Global HIV/AIDS, Center for Global Health of the United States Centers for Disease Control and Prevention (US CDC), delivered the keynote address, “A Decade of Strengthening Laboratory Medicine in Africa: Then, Now, and Future”.

ASLM2014 focused on the on-going need to ensure quality diagnostics access across Africa. Conference sessions emphasised innovative methods to expand diagnostics access, which include: sharing and adopting best practices; prioritising laboratory medicine in government health budgets; implementing laboratory quality improvement approaches in-country; engaging

in laboratory medicine partnerships for capacity-building; and championing diagnostic innovations such as novel point-of-care (POC) tests. Speakers reiterated healthcare goals previously outlined by the International Health Regulations, the Maputo Declaration of 2008, the UNAIDS 90-90-90 goals, and the ASLM2020 Strategic Vision, among others. By collaborating to adopt these practices, speakers said, current health goals for Africa will become a reality.

Main outcomes of ASLM2014 included the:

- Examination of Ebola diagnostics and outbreak response in West Africa, including from Dr. Peter Piot, Director of the London School of Hygiene and Tropical Medicine (LSHTM) and co-discoverer of the Ebola virus.
- Inauguration of the African Public Health Laboratory Network (APHLN).
- Call for ASLM to launch a Diagnostics Access Fund for Africa at the high-level Ministerial Panel, to directly channel financial investments to overcome some of the major barriers to strengthening diagnostics in Africa and improved healthcare.
- Partner Forum for the recently launched UNAIDS-led Diagnostics Access Initiative, which will strengthen partnerships and progress towards the 90-90-90 global HIV treatment goals.
- Announcement of ASLM’s Diagnostics 2020 Roadmap for Africa, a guideline to be published soon that is designed to help governments and stakeholders make the necessary investments to meet goals established in the ASLM2020 Strategic Vision.
- Launch of the ASLM Public-Private Partnership Diagnostics Consortium to tackle major health threats in Africa and strengthen critical areas of laboratory medicine, diagnostic services and health systems in Africa.



Keynote speaker Dr. John Nkengasong (US CDC).

ASLM2014 CONFERENCE COMMITTEES

ASLM2014 Co-Chairs

Dr. Amadou Sall, Institut Pasteur de Dakar, Senegal

Mr. Sagie Pillay, Immediate-past CEO, National Health Laboratory Service, South Africa

Executive Committee

Dr. Amadou Sall, Institut Pasteur De Dakar, Senegal

Sagie Pillay, Immediate-past CEO, National Health Laboratory Service, South Africa

Lauren Deaton, Courtesy Associates, USA

Graham Garrard, National Health Laboratory Service, South Africa

Dr. Elizabeth Luman, Centers for Disease Control and Prevention, USA

Dr. Tsehaynesh Messele, African Society for Laboratory Medicine, Ethiopia

Dr. Trevor Peter, African Society for Laboratory Medicine, Ethiopia

Kaamini Reddy, National Health Laboratory Service, South Africa

Corey White, African Society for Laboratory Medicine, Ethiopia

Dr. Katy Yao, Centers for Disease Control and Prevention, USA

Scientific Committee

Scientific Committee Chair, **Dr. Rosanna Peeling**, London School of Hygiene and Tropical Medicine, UK

Scientific Committee Deputy Chair, **Dr. John Nkengasong**, Centers for Disease Control and Prevention, USA

Pr. Alash'le Abimiku, Institute of Human Virology, Nigeria and University of Maryland, USA

Dr. Ousmane Diop, World Health Organization, Switzerland

Dr. Ogobara Doumbo, Malaria Research & Training Centre, Mali

Mackenzie Hurlston, Centers for Disease Control and Prevention, USA

Pr. Robert Marks, Biotechnology Ben Gurion University, Israel and Nanyang Technological University, Singapore

Pr. Souleymane Mboup, Cheikh Anta Diop University, Senegal

Pr. Stephen Morse, Columbia University, USA

Pr. Iruka Okeke, Haverford College, USA

Pr. Wendy Stevens, University of the Witwatersrand, South Africa

Pr. Oyewale Tomori, Redeemer's University, Nigeria

Dr. Karin Weyer, World Health Organization, Switzerland

DIAGNOSTICS ACCESS INITIATIVE

In July 2014, at the 20th International AIDS Conference in Melbourne, Australia, UNAIDS launched the Diagnostics Access Initiative (DAI) to improve laboratory capacity and link people with HIV to effective, high-quality treatment services. The DAI's goal is to help advance the achievement of the UNAIDS 90-90-90 targets, which include ensuring that at least 90% of all people living with HIV know their HIV status, that 90% of all people with diagnosed with HIV receive sustained antiretroviral treatment, and that 90% of all people who receive antiretroviral therapy experience viral suppression by 2020.

ASLM hosted a DAI symposium at ASLM2014 to provide participants with an overview of the goals and initiative plans. The session stressed the important role of diagnostics in addressing short-term and medium-term global health goals and challenges, such as the UNAIDS 90-90-90 targets and the growing burden of non-communicable diseases in low- to middle-income countries.

To improve diagnostics access and establish conditions conducive to ending the global AIDS epidemic, symposium speakers said, the DAI will focus its efforts on advocacy, financing, forecasting, systems strengthening, coordination and partnership, and normative guidance. The DAI will also focus on innovative strategies to combat HIV, including community-based testing, diagnostic campaigns, HIV self-testing, POC testing for early infant diagnosis, decentralisation of antiretroviral therapy, and improvements in HIV-related testing.

The DAI is led by the Joint United Nations Programme for HIV/AIDS (UNAIDS), working in partnership with the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the US President's Emergency Plan for AIDS Relief (PEPFAR), the US Centers for Disease Control and Prevention (US CDC), the Clinton Health Access Initiative (CHAI), the African Society for Laboratory Medicine (ASLM), USAID and UNITAID.



DIAGNOSTICS ACCESS FUND FOR AFRICA

African Ministers of Health met at the ASLM2014 conference with leading scientific leaders and representatives of global health organisations, including the Joint United Nations Programme on HIV/AIDS (UNAIDS), the World Health Organization (WHO), the US Centers for Disease Control and Prevention (US CDC), the Clinton Health Access Initiative (CHAI), and the private sector for a high-level roundtable panel discussion focused on how to build robust, consistent and sustainable healthcare infrastructure across Africa.

The recent Ebola outbreak has placed a huge strain on healthcare systems across the continent and underscores the importance of early diagnosis in saving lives, exposing the acute need to invest in Africa's health systems to ensure that they are viable and equipped to withstand a diffuse set of challenges. Such challenges include control and containment of the next communicable disease epidemic; advancement of the on-going response against diseases such as HIV/AIDS, tuberculosis and malaria; and development of responses to the increasing incidence of chronic conditions, such as diabetes and heart disease, which are predicted to become Africa's biggest health challenge by 2030.

The panel called for ASLM to launch a Diagnostics Access Fund for Africa to respond to these critical challenges and increase access to diagnostics and laboratory services—and ultimately improve healthcare infrastructure and service delivery across

the continent. Those present universally lauded this call.

The Diagnostics Access Fund for Africa will serve as a public-private partnership that will bring together a coalition of donors—including governments, private companies and implementing partners, both local and international—to support innovative projects and approaches in diagnostics. It will channel investments directly into the adoption of new technologies, infrastructure, training, and quality assurance. More generally, it will help make quality healthcare accessible to an ever greater proportion of the continent's population.

“By investing in diagnostics services now, we have an opportunity to transform Africa's future healthcare system and put it on a sustainable footing—which will deliver long-term benefits not only to the local population, but also enhance global health security. This is the aim of the Diagnostics Access Fund for Africa. However, collective and collaborative action from multiple parties is needed to tackle the major health challenges of our time—no government or organisation can do it alone,” said Dr. Tsehaynesh Messele, ASLM Chief Executive Officer.

An initial progress update on fund-building is expected during the third quarter of 2015.



EBOLA SEMINARS

ASLM2014 incorporated detailed presentations and discussions on the current Ebola outbreak in West Africa in the conference programme. The Ebola seminars provided much-needed, consolidated information and discussion on determining appropriate courses of action in regards to overall outbreak response and preparedness.

Dr. Peter Piot, Director of the London School of Hygiene and Tropical Medicine (LSHTM) and co-discoverer of the Ebola virus, reviewed the progress and impact of laboratory research on human understanding, tracking, and treatment of international health issues, including the Ebola crisis. He spoke to the necessity of developing better preparedness for Ebola and other diseases, saying, “The reactionary reaction is not helpful... we must keep in mind [a] post-crisis and post-conflict system.” He went on, “Let’s try not to be a fire brigade, but proactive.” Dr. Piot also suggested that the research agenda should focus on rural areas, where hospitals often treat all fever patients as if they were malaria patients—a generalisation that is increasingly problematic with the spread of Ebola and other haemorrhagic fevers. Community laboratory initiatives are a potential response, he said, and would involve training community members to correctly use rapid diagnostic tests. Speaking of the important role of ASLM in developing better disease preparedness and response efforts, Dr. Piot said, “ASLM is the new Africa.”



Dr. Peter Piot (LSHTM).

Dr. Amadou Sall, the Head of the Arboviruses and Viral Haemorrhagic Fever Unit and Governing

Board Member at the Institut Pasteur de Dakar, presented on his personal experiences fighting Ebola in West Africa. He pointed out that during the initial outbreak in Guinea, there was no laboratory to diagnose Ebola; it took two months to successfully get a sample tested by a laboratory in another country. This wait time, along with the lack of laboratory diagnostic capacity, proved fatal, and was a root cause of the spread of the disease. The development of rapid testing assays and better POC tests will be essential to avoiding further system-delay-caused fatalities, Dr. Sall stressed. He noted that in the absence of vaccines and treatment for Ebola, laboratories remain critical for Ebola diagnosis, containment, research and monitoring.

Dr. Alex Opio, Assistant Commissioner of Health Services in the Department of National Disease Control, Uganda, spoke about his experiences managing Ebola in-country, which has experienced five epidemics to date. Uganda has succeeded in managing the virus, due to several strengths: political mobility to educate the community, effective coordination of response, strong community door-to-door health teams, and an efficient laboratory system. By implementing these practices, Dr. Opio said, other countries can strengthen their management of Ebola outbreaks and mirror Uganda’s successes.

The costs incurred as a result of outbreak unpreparedness and insubstantial healthcare infrastructures in many African countries is astronomical, said Dr. Shannon Hader, Director of the Division of Global HIV/AIDS (DGHA), US Centers for Disease Control and Prevention (US CDC). She explained that the cost from resultant GDP losses numbers in the billions of dollars, and the cost of human life is countless. Furthermore, she said, unpreparedness for Ebola has forced a redirection of international resources from other health issues/initiatives, increasing mortality for other diseases in Africa.

In “Laboratory Networks and Systems in the Recent Ebola Outbreak,” Dr. Jean-Bosco Ndiokubwayo, of the WHO Regional Office for Africa, established that the resources needed to curtail the Ebola outbreak include technical

Continued on page 7.

EBOLA SEMINARS

expertise for preparedness; rapid diagnostic tests; more mobile laboratories; country ownership; leadership and coordination between governments, WHO and partners; and financial investment. Meanwhile, Dr. Jordan Tappero discussed the plans of the US CDC's Global Health Security (GHS) Agenda to help address global unpreparedness for public health threats. On 13 February 2014, the GHS Agenda launched and formed partnerships with 28 countries, WHO, and other partners, with goals of early detection of and response to threats, effective patient care, reduction of zoonotic disease spreading, and prevention of human-to-human transmission. He emphasised the heightened importance of laboratories in providing local Ebola detection and care, as fear has prevented the quick turnaround of samples and test results.

Other Ebola highlights from ASLM2014 included discussion of the South African National Institute for Communicable Diseases' Ebola diagnostic mobile laboratory, lessons from laboratory work in Sierra Leone and the Democratic Republic of the Congo, as well as the roles of national leadership and laboratory networks in addressing the Ebola outbreak.

ASLM can continue to help address the Ebola outbreak by training local staff to conduct diagnostic tests, and carrying on the work within its established overall goal of improving healthcare in Africa by strengthening diagnostics. As many of the conference speakers emphasised, investing in laboratory networks is more urgent than ever.



ASLM2020 DIAGNOSTICS ROADMAP FOR AFRICA

On 1 December 2014, a roundtable session entitled “A Roadmap for Strengthening Laboratory Diagnostic Services in Africa” took place in which ASLM introduced the concept and key components for a roadmap to achieve the ASLM2020 Strategic Vision goals to ensure better health outcomes for the continent.

The creation of the roadmap corresponds to the Ministerial Call for Action to Strengthen Laboratory Services in Africa, which was devised, adopted and signed at an ASLM-convened meeting of African Health Ministers in 2012. The Call for Action appeals for support in four key areas: workforce development, laboratory quality improvement and accreditation, improved regulatory standards and harmonisation, and laboratory network strengthening, which are the pillars of ASLM2020. Since 2012, more than 14 African Health Ministers have signed the Call for Action.

Dr. Trevor Peter, Chair of the ASLM Board of Directors, opened the roundtable session by outlining the commitments of African governments and the international community to combatting health threats that challenge Africa. Of particular note to the roadmap was Abuja+12, in which the African Union defined the framework for addressing existing health issues in a coordinated manner. Many additional strategies and frameworks currently exist for how to tackle health issues, including the International Health Regulations (IHR), UNAIDS 90-90-90, PEPFAR Blueprint, Diagnostics Access Initiative (DAI), Ebola Response Roadmap, STOP TB and framework for malaria. Dr. Peter noted that robust diagnostic systems are central to achieving the goals of such initiatives. Improved laboratory-led systems, he urged, will result in better health outcomes, reduced healthcare spending, enhanced global health security and the achievement of global health targets. To that end, a structured roadmap for governments, donors and implementing partners is required in order to realise meaningful progress in the ASLM2020 key areas.

Dr. Tsehaynesh Messele, ASLM Chief Executive Officer, then outlined the ASLM2020 diagnostics roadmap and specific steps for strengthening

laboratories in Africa. Dr. Messele presented the current landscape for laboratory workforce, accredited laboratories, existing regulatory policies and laboratory networks in Africa, and discussed specific opportunities to ensure access, equity and efficiency for laboratory services in Africa. The content was based on well-established best practices and innovations from various stakeholder meetings. Dr. Messele stressed the importance of governments, multi-lateral organisations, implementing partners and private entities and communities working in a collaborative and coordinated fashion for optimal results.

The session highlighted the critical role of country leadership and stakeholder involvement in the roadmap development process, which includes helping to define goals and action items applicable to respective countries. Presenters noted that engaging multi-disciplinary groups, including healthcare providers, personnel and community members is essential to navigating ASLM goals and to improving the clinical-laboratory interface in service delivery. It was noted that such a roadmap is intended to guide diagnostic testing that occurs within the laboratory and in community and home settings, such as POC testing. Moving forward, ASLM will obtain further stakeholder input to finalise the roadmap.



ASLM PUBLIC-PRIVATE PARTNERSHIP DIAGNOSTICS CONSORTIUM

On 1 December 2014, at the seminar, “ASLM: Shared Opportunity to Save Lives: Public-Private Partnership Diagnostics Consortium to Tackle Major Health Threats in Africa”, ASLM and partners presented a plan to launch a new public-private partnership (PPP) diagnostics consortium initiative aimed at bringing together industry members, the public sector, and regional and international agencies to strengthen critical areas of laboratory medicine, diagnostic services and health systems in Africa.

Through innovative partnerships among these diverse entities, the consortium plans to influence health policy through the creation of Africa’s first pan-African network of public health reference laboratories, and make access to innovative

The consortium’s specific priorities will include aligning its goals and activities to the UNAIDS-led Diagnostics Access Initiative and ASLM2020 Diagnostics Roadmap goals, assuring excellence in the quality of laboratory services (HIV viral load testing, serology, molecular diagnostics, POC testing, microscopy), expanding coverage of diagnostics, and addressing challenges in equipment maintenance, specimen referral, laboratory information and supply chain management.

The PPP consortium will be structured such that the consortium members will become the decision makers and will decide collectively on priority projects. The consortium will also engage policy makers and planners from African Ministries of Health, regional bodies and international agencies. ASLM will partner with private-sector entities in both healthcare and other arenas, thus providing an opportunity for innovations from the private sector to be explored within the public sector. ASLM will also collaborate with members of the public sector for sharing programme costs, facilitating interventions by accessing private-sector networks, ensuring programme sustainability by working on the capacities of local organisations.

To register for information about participating in the ASLM PPP consortium, please visit www.aslm.org/ppp.



OVERVIEW OF PLENARY SESSION ONE

Plenary Session 1 of ASLM2014, “Laboratory Medicine and Infectious Disease Control”, opened on Monday, 1 December 2014.

Dr. Peter Piot, Director of the London School of Hygiene and Tropical Medicine (LSHTM) and co-discoverer of the Ebola virus, opened the session by outlining the important role of laboratories in determining health policy. He emphasised that policies and practices must be informed by laboratory science, stating that researching existing strategic policies and laboratory medicine practices is critical to understanding emerging infections and the eradication of diseases. Dr. Piot also made the case for further investment in rapid diagnostic tests and POC testing, saying that challenges to improving laboratory infrastructure and resources necessitates the innovation of easy-to-use, transportable diagnostic devices in African settings.

Presenting on the current need to ensure that excellent laboratory services be available in rural and hard-to-reach settings in Africa, **Dr. Alex Coutinho** of the Infectious Diseases Institute, Uganda, noted that people in many urban areas rely on trusted laboratory services that are not always available in tertiary settings. He reported that as patient knowledge evolves, patient-driven diagnostics will be the future of laboratory medicine. Dr. Coutinho also outlined five levels of

approaches to be employed in building laboratory capacity in resource-limited regions in Africa, including tools, skills, staff and infrastructure, roles and systems, and knowledge of local customs.

The key message of **Prof. Salim Abdool Karim** (Centre for the AIDS Programme of Research, South Africa) was that laboratory science has been crucial to the HIV/AIDS response, generating the most HIV technologies available in the global AIDS fight. He also spoke of a number of new approaches to enhancing ART (antiretroviral treatment) adherence for HIV management and prevention, including long-lasting ART formulations and generalised neutralising antibodies.

All speakers emphasised the importance of the laboratory in patient care and the significant advances made in HIV research over the past 30 years, many of which have evolved around the laboratory. Presenters also emphasised the importance of laboratory quality assurance in ensuring that results are always reliable, particularly in resource-limited settings. Through advancements in laboratory tools, diagnostics, skills, personnel and systems, the laboratory medicine field will be better suited to address infectious disease control efforts.



Left to right: Dr. Trevor Peter, Dr. John Nkengasong, Dr. Karim Abdool Karim, Dr. Alex Coutinho, Dr. Peter Piot, and Dr. Alex Opio.

OVERVIEW OF PLENARY SESSION TWO

The second Plenary session, “Laboratory Medicine and Policy”, took place on 2 December 2014 and featured speakers **Dr. Shannon Hader**, Director of the Division of Global HIV/AIDS, US CDC, **Dr. Peter Lamptey**, President Emeritus at Family Health International 360, and **Dr. Rosanna Peeling**, Professor and Chair of Diagnostics Research at the London School of Hygiene and Tropical Medicine (LSHTM).

Dr. Shannon Hader emphasised the evolution of the role of the US President’s Emergency Plan for AIDS Relief (PEPFAR) as a global emergency response to HIV/AIDS. PEPFAR has surpassed its original goals and is currently on its way to creating an AIDS-free generation through the massive scale-up of programmes for HIV care and prevention of mother-to-child transmission (PMTCT). Throughout PEPFAR’s evolution, the laboratory has been critical to screening, diagnostic testing and monitoring of patients on antiretroviral treatment (ART). The laboratory is now poised to help achieve PEPFAR’s AIDS-free target and the UNAIDS 90-90-90 HIV treatment goals. Dr. Hader also emphasised the key importance of decentralised testing using POC technologies in scaling up HIV testing and treatment initiatives. Issues of access, efficiency and quality still remain for HIV rapid testing, she said, and the ratio of HIV viral load services to African populations served is still 1 service per 40,000 people, a large mismatch compared to other continents.

Noting sub-Saharan Africa’s competing health priorities and inadequate facility-based laboratory responses, **Dr. Peter Lamptey** spoke on the importance of uniting laboratory science, policy and implementation to achieve better quality standards and health outcomes. Laboratory medicine may take two directions in parallel with one another, he said, which includes using evidence to formulate policies to establish population-based screening, and developing population-based screening and management for non-communicable diseases.

Dr. Rosanna Peeling explained that the role of the laboratory now goes beyond clinical decision-making and patient management. The medical laboratory is increasingly involved in the early

detection of communicable diseases, surveillance and outbreak investigation, monitoring progress in the elimination of neglected tropical diseases, and monitoring antimicrobial resistance trends. To gain and maintain credibility and trust, she said, the laboratory needs to invest in quality, timely and reliable results. The impact of high-quality laboratory medicine includes lives saved, infections avoided, evidence-based treatments, reduced drug resistance, and increased efficacy of healthcare systems through simpler patient management. Fortunately, Dr. Peeling said, several disease-specific quality improvement programmes have recently been launched to improve access and use of the new POC and laboratory innovations, including the GLI Stepwise Process Towards Tuberculosis Laboratory Accreditation and the One World Quality Program.

By advocating for medical laboratory needs and advancements, such as accessible and accurate rapid testing, POC technologies, population-based screening methods, and surveillance investigations, health professionals can ensure the inclusion of important topics in laboratory medicine in policy documents and decisions that affect healthcare implementation.



OVERVIEW OF PLENARY SESSION THREE

ASLM2014 Plenary Session 3, “Innovation in Diagnostics”, was hosted on 3 December 2014 and chaired by **Dr. Tsehaynesh Messele**, ASLM CEO, and Prof. Alash’le Abimiku of the Institute of Human Virology, USA. Session speakers included **Mr. Paul Tanui**, African Union-New Partnership for Africa’s Development (AU-NEPAD), South Africa; **Dr. Tom Chiller**, National Center for Emerging and Infectious Zoonotic Diseases, (NCEZID), USA; and **Dr. Kasirim Nwuke**, United Nations Economic Commission for Africa, Ethiopia.

Mr. Paul Tanui spoke of on-going efforts to improve diagnostics regulation and harmonisation in Africa. He identified five priority areas for regulation and harmonisation, including risk classification, common registration file, clinical performance studies, quality system audits, and post-market surveillance. He also spoke about the current activities of the Pan-African Harmonization Working Party (PAHWP), which is evolving with the goal of tapping into global harmonisation efforts and tracking regulatory processes to improve access to innovative and high-quality diagnostics. PAHWP anticipates establishing a resource and learning centre, as well as implementing joint quality system audits in the near future. PAHWP welcomes the newly created Diagnostics Access Initiative, Mr. Tanui said, and will work with governments and development partners to support the initiative.

Developing techniques to quickly identify those with cryptococcal meningitis infection, institute appropriate treatment, and create preventive measures is essential to reducing deaths and improving public health outcomes, stated **Dr. Tom Chiller**, as the infection has a mortality rate of nearly 100%. Cryptococcal meningitis POC tests now include antigen lateral flow methods, which are simple, affordable, and require no cold chain. Cryptococcal meningitis POC testing should be included in country health plans to ensure its full implementation, Dr. Chiller recommended.

One of the challenges to improved health services in Africa, said **Dr. Kasirim Nwuke**, is the inadequate application and diffusion of modern health technologies. The current skills deficit in healthcare

human resources is also causing governments to promote greater investment in health and health systems. The African Union has a post-2015 agenda strategy focused on innovation in science and technology through regional integration, support of regional health markets, government investment in research and development, and strengthening of the manufacturing sector. Through the African Union’s science and technology strategy, Dr. Nwuke said, African markets will be able to enhance the uptake of new, high-quality innovations in healthcare.

Developing new diagnostic techniques to quickly and accurately identify disease is essential to improving health outcomes, but the importance of innovation in diagnostics does not stop at technological invention. To improve diagnostics, innovations must also take place at the levels of diagnostics regulation and harmonisation, regional integration and health markets, government research and development, and manufacturing.



Dr. Tsehaynesh Messele (ASLM).

OVERVIEW OF PLENARY SESSION FOUR

Prof. Anthony Emeribe of the Medical Laboratory Science Council of Nigeria (MLSCN), Nigeria, and Dr. Ilesh Jani of the National Health Institute, Mozambique, co-chaired Plenary Session 4, “Disease-Specific Threats”, on 4 December 2014. Session speakers included **Dr. Jordan Tappero**, Director of the Division of Global Health Protection for the Center for Global Health, US CDC; **Dr. Chewe Luo**, Senior Programme Advisor and Technical Leader for UNICEF’s Global HIV Programme; and **Dr. Amadou Sall**, Head of the Arboviruses and Viral Haemorrhagic Fever Unit at the Institut Pasteur of Dakar, Senegal. The focus of the session was the impact of epidemics on the world economy, and the overlap between global health security and laboratory medicine. The session co-chairs noted the interdependence of economies and of health systems around the world, saying, “A threat anywhere is a threat everywhere.”

The US CDC has a vision of a world safe and secure from global health threats, said Dr. Jordan Tappero, who presented on the US CDC’s direct collaborations with countries to prevent avoidable catastrophes, to reduce zoonotic disease spill-over, to detect threats early, and to respond rapidly and effectively to outbreaks. An effective epidemic response is difficult, and often hindered by challenges such as poor transportation modes, fear and miscommunication, difficulty in contact tracing, poorly trained personnel, and overcrowding of treatment units. The role of the laboratory in the Ebola outbreak response is particularly crucial in the absence of adequate vaccination or treatment options. Prioritising community laboratories and treatment units, as well as robust healthcare human resources, is essential to preventing the further transmission of Ebola. Dr. Tappero also spoke of US CDC’s Global Health Security Agenda, which includes the pillars of prevention, detection, and response, and incorporates ASLM’s role in achieving targets related to laboratory diagnoses and monitoring.

Opening her speech by informing the audience that the risk of HIV transmission from mother to child without treatment can be as high as 40-45%, Dr. Chewe Luo of UNICEF presented on the role of laboratory medicine and diagnostics in eliminating paediatric HIV/AIDS. With the right interventions,

including laboratory-based early infant diagnostic testing, mother-to-child transmission can be reduced to less than 5%. The use of dried blood spot testing and the strengthening of referral laboratory networks has revolutionised HIV/AIDS testing capacity and coverage, said Dr. Luo.

Dr. Amadou Sall discussed the scientific and social experiences and lessons learned from the 1976 Ebola outbreaks in Zaire and Sudan informed some of the practices applied to the current outbreak in West Africa. Dr. Sall informed the audience that the lack of laboratory diagnostic capacity in heavily affected countries was a major cause of the spread of the disease in the region and beyond; for example, it initially took two months for healthcare professionals in Guinea to confirm the presence of Ebola in a patient sample tested by a laboratory in another country. It is essential to develop rapid testing assays for Ebola, said Dr. Sall, so that early diagnosis can be achieved in affected communities.

Specific diseases, such as HIV/AIDS and Ebola, come with their own particular challenges that require unique response efforts. By addressing topics such as early diagnosis for paediatric HIV/AIDS and biosafety needs for laboratories testing for Ebola, public health officials and medical laboratory professionals can better prevent and contain outbreaks and diminish disease spill-over, ultimately improving public health security and encouraging economic development.



Dr. Amadou Sall (Institut Pasteur of Dakar).

ASLM2014 CONFERENCE AWARDS



On 3 December 2014, ASLM hosted its biennial Awards Ceremony to recognise the excellence of individuals and laboratories committed to strengthening laboratory medicine in Africa. Speaking before an audience of distinguished guests, ASLM CEO **Dr. Tsehaynesh Messele** said, “ASLM honours the dedication, innovation and perseverance of professionals who have overcome and addressed laboratory medicine challenges to make significant contributions.” The ASLM2014 Awards Ceremony publicly honoured merit in the following areas:

- Certificate of Recognition for Accredited Government Laboratories: Recognising accredited government laboratories in Africa.
- Best Practice in Laboratory Medicine: Recognising sustainable laboratory improvement or best practice leading to tangible and replicable outcomes for enhanced quality in laboratory systems and patient care.
- Best Laboratory Champion Clinician: Recognising clinicians who positively impact public health.
- Lifetime Achievement: Recognising an exceptional individual whose contribution to laboratory science has made a positive impact on public health.

The first award, “Recognition for Accredited Government Laboratories”, recognised laboratories that have attained a certificate of accreditation from an established accrediting body affiliated with the International Laboratory Accreditation Cooperation (ILAC). Awardees included the National HIV Reference Laboratory (Kenya); the National Health Laboratory Service, King Edward VIII Hospital (South Africa); the Central Pathology Laboratory, Muhimbili National Hospital (Tanzania); Mbeya

Referral Hospital Laboratory (Tanzania); the Bugando Medical Centre Laboratory (Tanzania); the National Health Laboratory Quality Assurance and Training Centre (Tanzania); the Laboratoire d’Hématologie de l’Institut National d’Hygiène (Togo); and the National Tuberculosis Reference Laboratory (Uganda). The ALERT Centre Clinical Laboratory (Ethiopia), accredited through a non-ILAC affiliated body was also recognised.

The “Best Practice in Laboratory Medicine” Award recipient, the **Uganda Virus Research Institute’s Viral Haemorrhagic Fever Laboratory**, was chosen based on its tangible, measurable, replicable, and demonstrable contributions to improving outcomes in laboratory medicine such as diagnosis, surveillance, policy, and quality assurance. The laboratory serves as the national reference laboratory for viral haemorrhagic fevers in Uganda, and was honoured for building capacity for the detection and confirmation of viral haemorrhagic fever in Uganda and for a surveillance programme that has contributed to early detection, leading to improved control of outbreaks, including Ebola.

The “Best Laboratory Champion Clinician” Award went to **Dr. Charles Awasom**, Director of Bamenda Regional Hospital, Cameroon. The award recognised Dr. Awasom’s work implementing two quality improvement programmes to the hospital: the Strengthening Laboratory Management Toward Accreditation (SLMTA) and the Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA).

The “Lifetime Achievement” Award recognised an exceptional individual whose contribution to laboratory science has made a significant impact to public health. In order to be eligible, nominees had to be senior professionals who work in a public health context with a focus on laboratory medicine. The ASLM2014 winner was **Prof. Mireille Dosso**, Director of the Institut Pasteur de Côte d’Ivoire. As a leading scientist, she has led important research and published scientific publications on mycobacterium tuberculosis and mycobacterium ulcerans, helping to strengthen diagnosis and treatment of tuberculosis and Buruli Ulcer disease in Côte d’Ivoire.

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ASLM2014 CONFERENCE AWARDS

Additionally, ASLM recognised the best poster presentations of the conference, which included award recipients in the following categories:

Diagnostics and Antimicrobial Resistance

- Aaron Aboderin, “Genetic context for the transmissible Quinolone-resistance gene qnrS1 in Nigeria”
- Kepher Otieno, “CD4 point of care testing at household-level in Kenya: Added novelty from a nationally-representative based cross-sectional survey”
- Eleaor Ochodo, “Over diagnosis of malaria: the role of non-adherence to test negative results”

Diagnostics, Economics and Other Scientific Research

- Pedro Catarino, “Automatic quantification malaria test of thick smear”
- Lindi Marie Coetzee, “Applying the integrated tiered service delivery model in KwaZulu-Natal province to identify optimal placement of CD4 testing facilities”
- George Alemnji, “HIV rapid testing policies and practices in the Caribbean Region: Interventions, outcomes, challenges and recommendations”

Laboratory Systems and Quality Improvement

- Cheryl Johnson, “Are we delivering the wrong results? Examining misclassification of HIV status and false positive test results”
- Lynee Galley, “Quantification of microbiology laboratory mentoring progress in Tanzania”
- Olatilewa Amusu, “From zero to five stars: the improvement process of 44 Nigerian Army Reference Hospital Laboratory”

Policy and Laboratory Management

- Nei-yuan Hsiao, “A snapshot of the state of adult ART programmes - an analysis of aggregated laboratory HIV viral load testing data”
- Angela Amayo, “Innovative improvements in biosafety practices following biosafety skill-based trainings in Kenya”

- Dumisani Mhlongo, “The use of an internal quality control programme to monitor quality assurance of HIV rapid testing in the Limpopo Province, South Africa”

Surveillance, Epidemiology, Economics and Other Scientific Research

- Mulamuli Moyo, “Mentoring laboratory personnel in viral load and CD4 testing in Botswana: Successes and challenges”
- Inocencio Mate, “Investigation of dengue in Nampula City, Nampula Province, Mozambique, 2014”
- Humphrey Musuluma, “Remarkable reduction in downtime following implementation of laboratory equipment maintenance strategy in FHI-360-supported hospitals in Nigeria”

Outstanding Francophone Posters

- Julien Nzeze, “Partenariat publique/privé en RDC pour l’implémentation de l’option B plus chez les femmes enceintes HIV positives: le cas du programme DREAM”
- Patrick Malumba Kabitantshi, “Facteurs de pronostic de l’accès pernicieux palustre de l’enfant à Kinshasa”
- Edgard Lafia, “Détermination du taux normal des lymphocytes CD4+ chez le sujet sain séronégatif au VIH par une méthode de cytométrie en Flux à Cotonou, République du Bénin”

Excellence in Visual Communication

- Jean Maritz, “Using laboratory information system data to assess successes and challenges of an HIV early infant diagnosis programme”
- Eric Wakaria, “Quality improvement initiatives towards provision of safe and sufficient blood in Kenya”
- Nassim Cassim, “Assessing the impact of implementing a community CD4 laboratory in a rural health district in South Africa”

HIGHLIGHTS FROM CONFERENCE PARTICIPANTS

“Another successful conference. The content was once again relevant and practical, with excellent workshops, talks and sharing of experiences. The need for the ASLM as a pan-African organisation was reaffirmed; delegates definitely took a lot back with them. The conference gave a clear mandate to ASLM to drive the Diagnostics Access Initiative on the continent, together with other stakeholders and partners.”

- *Sagie Pillay, Immediate-past CEO, National Health Laboratory Service, South Africa*

“I would like to thank ASLM for organising the conference and creating a forum for laboratory scientists to meet and exchange ideas. Laboratory medicine in Africa is currently being revolutionised by implementing quality managements systems, and I am glad ASLM is playing a pivotal role in this process.”

- *Bashir Farah, Laboratory Manager, Kenya AIDS Vaccine Initiative, Institute of Clinical Research, University of Nairobi*

“I learned numerous things that directly have an impact on my organisation’s work in responding to the HIV/AIDS and TB dual epidemic...the ASLM2014 conference also provided me with an opportunity to network and strengthen collaborations with various public health leaders and specialists.”

- *Rogers Kisame, University Research Co., Swaziland*

“I had a great time. The sessions were interesting, educative, and I learned new techniques on how to handle infectious diseases.”

- *Adebola Olayemi Akintola, Ladoke Akintola University of Technology (LAUTECH), Ogbomoso, Nigeria*

“ASLM2014 was a great opportunity for me as it provided a learning atmosphere and exchange of ideas and knowledge with regard to laboratory medicine.”

- *Jackton Indangasi, Laboratory QA Manager, Kenya AIDS Vaccine Initiative, University of Nairobi*



ASLM2016

During the Closing Ceremony of ASLM2014, information about the third biennial international conference of the African Society for Laboratory Medicine was publicly announced.

ASLM2016 is scheduled for 3-8 December 2016 in Cape Town, South Africa, and will be organised under the theme “Laboratory Medicine in Africa: Combatting Global Health Threats”.

The development of ASLM2016 is being led by conference co-chairs **Prof. Anthony Emeribe** and **Prof. Wendy Stevens**. Prof. Emeribe is

the Registrar/Chief Executive of the Medical Laboratory Council of Nigeria (MLSCN). He is also President of the Federation of African Association of Medical Laboratory Scientists. Prof. Stevens is the Head of Molecular Medicine and Haematology at the University of the Witwatersrand and the South Africa National Health Laboratory Service (NHLS). She is also Head of the National Priorities Programs at NHLS.

To learn more about the ASLM2016 conference, please visit www.ASLM2016.org.



ASLM2014 SUPPORTERS AND SPONSORS

CONFERENCE SUPPORTERS

Bill & Melinda Gates Foundation (BMGF)

Guided by the belief that every life has equal value, BMGF works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health and giving them the change to lift themselves out of hunger and extreme poverty.

National Health Laboratory Service (NHLS)

The NHLS is the largest diagnostic pathology service in South Africa with the responsibility of supporting the national and provincial health departments in the delivery of healthcare. The NHLS provides laboratory and related public health services to over 80% of the population through a national network of laboratories.

STRATEGIC PARTNER SPONSOR

Daktari Diagnostics

Daktari Diagnostics develops POC diagnostics that address the needs of patients, healthcare providers, and institutions in resource limited settings. Daktari strives to provide the highest quality diagnostics, at an affordable price, that can be used by anyone, anywhere in the world.

OFFICIAL AIRLINE NETWORK SPONSOR

Star Alliance

The Star Alliance network is the leading global airline network, with the highest number of member airlines, daily flights, and destinations. It was established in 1997 as the first truly global airline alliance to offer customers convenient worldwide reach and a smoother travel experience.

PLATINUM SPONSORS

Abbott

Abbott Molecular, leader in molecular diagnostics specializes in the analysis of DNA and RNA at molecular level. Abbott Molecular's tests detect subtle but key changes in patients' genes and chromosomes and have the potential to aid with early detection or diagnosis, which can influence the selection of appropriate therapies, and may assist with monitoring of disease progression.

Roche Diagnostics

Roche, a pharmaceutical company founded in Basel, Switzerland creates innovative medicines and diagnostic tests that help millions of patients globally. A leader in personalised healthcare, Roche was one of the first companies to bring targeted treatments to patients. Its local South African organisation is ISO 13485 certified and committed to capacity building initiatives through on-going training of laboratory scientists at the Roche Scientific Campus and through its training partnership with the African Centre for Integrated Laboratory Training (ACILT), ensuring high quality and reliability.

GOLD SPONSORS

Hologic

Hologic, Inc. is a leading developer, manufacturer and supplier of premium diagnostic products, medical imaging systems and surgical products, with an emphasis on serving the healthcare needs of women. The Company operates four core business units focused on breast health, diagnostics, GYN surgical and skeletal health. With a comprehensive suite of technologies and a robust research and development programme, Hologic is committed to improving lives.

ASLM2014 SUPPORTERS AND SPONSORS

Alere

Alere helps patients and healthcare professionals get timely and actionable information anywhere, anytime. From the hospital to the home, Alere's diagnostic products and services empower caregivers and patients with the data they need to make better decisions to achieve better health and economic outcomes.

Cepheid

Cepheid is a leading on-demand molecular diagnostics company that is dedicated to improving healthcare by developing fully integrated systems and accurate, yet easy-to-use molecular tests. The company is focusing on applications where rapid and actionable test results are needed most, in fields such as critical and healthcare-associated infections, sexual health, genetic diseases and cancer.

BD

BD Biosciences, a segment of Becton, Dickinson and Company, is one of the world's leading businesses focused on bringing innovative tools to life science researchers and clinicians. Its product lines include: flow cytometers, monoclonal antibodies, research reagents, and diagnostic assays.

SILVER SPONSOR

BioMérieux

BioMérieux has been a world leader in in vitro diagnostics for more than 50 years. Our development has been driven by an unrelenting commitment to improve public health worldwide (clinical, agri-food, biopharmaceutical and veterinary applications). BioMérieux is present in more than 150 countries through 41 subsidiaries and a network of distributors.

OTHER SPONSORS

South African National Convention Bureau (SANCB)

The South African National Convention Bureau (SANCB) assists and promotes South Africa's business events and MICE industry.

TRAVEL SCHOLARSHIP SPONSORS

Daktari Diagnostics

Daktari Diagnostics develops POC diagnostics that address the needs of patients, healthcare providers, and institutions in resource-limited settings. Daktari strives to provide the highest quality diagnostics, at an affordable price, that can be used by anyone, anywhere in the world.

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Omega Diagnostics Limited

Omega Diagnostics Group PLC is a group of companies specialising in the testing for Allergies, Food Intolerance, Autoimmune and Infectious Disease. Omega Diagnostics GmbH, Genesis Diagnostics Ltd, Cambridge Nutritional Sciences and Omega Diagnostics Ltd are subsidiary companies of the Group. All manufacture and develop quality Immuno-Diagnostic tests for use in hospitals, clinics and laboratories.

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