

# Table of Contents

African Journal of Laboratory Medicine

ISSN: 2225-2002 (print) | ISSN: 2225-2010 (online)

Vol 14, No 1 (2025)

## Editorial

1

The silent epidemic: Tackling the burden of anaemia in Africa

*Glenda M. Davison*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2788 | 23 April 2025

## Editorial

3

Ending nuclear weapons, before they end us

*Kamran Abbasi, Parveen Ali, Virginia Barbour, Marion Birch, Inga Blum, Peter Doherty, Andy Haines, Ira Helfand, Richard Horton, Kati Juva, Jose F. Lapena Jr., Robert Mash, Olga Mironova, Arun Mitra, Carlos Monteiro, Elena N. Naumova, David Onazi, Tilman Ruff, Peush Sahni, James Tumwine, Carlos Umaña, Paul Yonga, Chris Zielinski*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2847 | 15 May 2025

## Editorial

6

Mainstreaming of biomedical waste management: Best practices for clinical laboratories in Africa

*Pasipanodya I. Machingura Ruredzo, Bettina Chale-Matsau*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2881 | 31 July 2025

## Editorial

9

The role of artificial intelligence in diagnostics: A new frontier for laboratory medicine in Africa

*Talkmore Maruta*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2952 | 26 September 2025

## Editorial

12

The status of newborn screening in Africa: Situation analysis, future plans and call to action

*Tumelo Satekge, Adekunle Okesina, John Anetor, Rajiv Erasmus*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2973 | 30 September 2025

## Editorial

15

Point-of-care testing and environmental sustainability: Balancing patient care and planetary health

*Adetoun Ejilemele*

African Journal of Laboratory Medicine | Vol 14, No 1 | a3015 | 25 November 2025

## Opinion Paper

17

United States foreign aid freeze: An urgent call to action for support for African national laboratory programmes

*Farouk A. Umaru*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2794 | 16 May 2025

## Opinion Paper

19

Preparing medical laboratories in low- and middle-income countries for a sustainable future

*Tony Badrick, John Anetor*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2734 | 16 September 2025

## Opinion Paper

22

From neglect to necessity: The case for routine work-up of nontoxigenic *Corynebacterium diphtheriae* in clinical microbiology*Kgaogelo R. Masemola*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2802 | 17 September 2025

## Opinion Paper

26

A comparative framework for regulatory oversight in Malawi's medical laboratory professionals: Lessons from Kenya and Nigeria

*Elias Chipofya*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2941 | 29 November 2025

## Review Article

33

Diagnostic accuracy of real-time polymerase chain reaction assay for the detection of *Trichomonas vaginalis* in clinical samples: A systematic review and meta-analysis*Emmanuel O. Babafemi, Benny P. Cherian, Khalid Rahman, Gilbert M. Mogoko, Oluwatoyin O. Abiola*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2522 | 16 April 2025

## Review Article

41

Narrative review: Continuous professional development training programmes in Africa and their limitations

*Nqobile Ndlovu, Rajiv T. Erasmus, Annalise E. Zemlin*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2602 | 16 May 2025

## Review Article

49

Mpox: An emerging or re-emerging infection with a potential colossal burden on healthcare globally

*Chikwelu L. Obi, Nqobile M. Mkolo, Liziwe L. Mugivhisa, Madupe O. Ogunrombi, Mukhethwa M. Mphephu, Clarissa M. Naidoo*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2644 | 31 May 2025

## Review Article

61

Bacterial agents and antibiotic resistance in febrile neutropaenia in Africa: A systematic review and meta-analysis

*Temitope O. Obadare, Adeyemi T. Adeyemo, Oluwaseun A. Ibrahim, Naheemot O. Sule, Mayowa M. Adeyemo, Olusegun I. Alatise*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2816 | 26 August 2025

## Lessons from the Field

70

Implementation of the laboratory strategic framework to strengthen health laboratory services in Eastern Mediterranean Region, 2016–2023

*Fausta S. Moshia, Rana Hajjeh, Rachel Ochola, Amany Ghoniem, Yvan J.-F. Hutin*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2611 | 30 April 2025

## Lessons from the Field

77

Lessons learnt from laboratory capacity building in supporting integrated disease serosurveillance using a multiplex bead assay in Nigeria

*Ado G. Abubakar, Mary Okoli, Oluwaseun O. Akinmulero, Andrew Thomas, Temitope A. Olaleye, Simon Gabo, Samuel S. Awala, Felicia Nwatu, Blessing Ugboaja, Ifeanyi Odoh, Joseph Dattijo, Loveth Akayi, Mudiaga Esiekpe, Ayuba Dawurung, Olusola A. Akanbi, Felix Villeng, Item I. Item, Olumide Okunoye, William Nwachukwu, James Avong, Olajumoke Babatunde, Nishanth Parameswaran, Stacie Greby, Matthias Alagi, Mahesh Swaminathan, Nwando Mba, Ernest Yufenyuy, Melissa Coughlin, Diana Martin, McPaul Okoye, Nnaemeka C. Iriemenam, Chikwe Ihekweazu*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2861 | 09 December 2025

**Original Research****83**

Flow cytometric characterisation of acute leukaemia in adolescent and adult Ethiopians

*Jemal Alemu, Balako Gumi, Aster Tsegaye, Abdulaziz Sherif, Fisihatsion Tadesse, Amha Gebremedhin, Rawleigh Howe*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2394 | 23 January 2025

**Original Research****93**

Comparison of chromogenic and cysteine lactose electrolyte deficient agar for identification of uropathogens in Gujarat, India

*Nisha Vadivelu, Rashmika D. Parmar, Hitesh Shingala, Krunal D. Mehta*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2551 | 10 February 2025

**Original Research****100**

Impact of viral load on sample pooling for reverse-transcription polymerase chain reaction detection-based diagnosis of coronavirus disease 2019 in Nigeria

*Timan T. Eliya, Elvis E. Iseri, Bassey Emmana, Chukwuebuka Ugwu, Jonathan Kushim, Precious Ishaku, Aisha E. Ibrahim, John S. Bimba*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2514 | 10 February 2025

**Original Research****106**

Association of obesity with hyperuricaemia among HIV-positive patients on antiretroviral therapy in South-Western Uganda

*Simon P. Rugera, Hope Mudondo, Jazira Tumusiime, Rahma Udu, Ritah Kiconco, Sylvia A. Lumumba, Charles N. Bagenda*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2565 | 19 February 2025

**Original Research****115**

Gamma gap and albumin-globulin ratio show poor sensitivity for monoclonal gammopathy screening in South Africa

*Njabulo Khumalo, Cameron A. Francis, Siphwe M. Baloyi, Jody A. Rusch*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2505 | 26 March 2025

**Original Research****123**

Thyroid and reproductive hormonal factors associated with menorrhagia among women in Kenya

*Phidelis M. Marabi, Paul M. Kosiyo, Stanslaus K. Musyoki, Collins Ouma*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2653 | 10 April 2025

**Original Research****132**

Mitigating the risk of tube shortages: A blood collection tube validation study conducted in South Africa

*Marizna Korf, Jody Rusch, Aye Aye Khine, Nalene Strauss, Lourens Jacobsz, Annalise E. Zemlin, Helena Vreede*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2628 | 23 April 2025

**Original Research****141**

Effects of sample age and storage temperature on the flow cytometric diagnosis of chronic lymphocytic leukaemia in South Africa

*Shaun M. Grobler, Anne-Cecilia van Marle*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2688 | 31 May 2025

**Original Research****149**

Effects of pre-storage leukoreduction on erythrocyte concentrates and performance of newer generation leuco-filters at a tertiary care oncology hospital in Western India

*Deep Madkaiker, Shashank Ojha, Arunkumar N., Kalpesh Chawan*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2723 | 25 June 2025

**Original Research****156**

Thromboelastography in COVID-19 patients: An observational study in the South African context

*Bavinash Pillay, Sarah A. van Blydenstein, Shahed Omar*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2681 | 26 June 2025

**Original Research****164**

Nasal carriage rate and multiple antimicrobial resistance indices of *Staphylococcus aureus* among healthcare students at the Ahmadu Bello University, Nigeria

*Sumayya Abdullahi, Idris N. Abdullahi, Hafeez A. Adekola, Nicholas Baamlong, Amos Dangana, Yahaya Usman, Abdurrahman E. Ahmad, Sumaiya Salisu, Mukhtar M. Abdulaziz*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2667 | 27 June 2025

**Original Research****174**

Validation of Nova Stat Profile Prime Plus point-of-care testing for dialysis in South Africa

*Kagiso M. Masemola, Ngululawa Kone, Chemedzai Chikomba, Siyabonga Khoza*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2663 | 08 July 2025

**Original Research****183**

Molecular identification and antifungal susceptibility testing of *Aspergillus* species among patients with chronic pulmonary aspergillosis in Nigeria

*Adeyinka A. Davies, Bram Spruijtenburg, Eelco F.J. Meijer, Iriagbonse I. Osaigbovo, Oluwaseyi Balogun, Abiola Adekoya, Titilola Gbaja-Biamila, Jacques F. Meis, Rita Oladele*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2674 | 11 July 2025

**Original Research****191**

Feasibility analysis of the SICKLECHECK™ test kit for rapid screening of sickle cell disease at a County Referral Hospital in Kenya

*Antony S. Katayi, Phidelis M. Marabi, Stanslaus K. Musyoki*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2739 | 29 July 2025

**Original Research****198**

Expression of cyclooxygenase-2 (COX-2) in colorectal adenoma in an indigenous African population in northern Nigeria

*Abdulrazaq A. Jimoh, Zainab A. Adamu, Mumini W. Rasheed, Samuel K. Richard*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2613 | 30 July 2025

**Original Research****205**

Comparison of second and third-generation parathyroid hormone assays at a tertiary hospital in South Africa

*Nokuthula Nhlapo, Doreen Jacob, Siyabonga Khoza, Mpho R. Maphayi*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2700 | 30 August 2025

**Original Research****213**

Assessing the clinical implications of low-density lipoprotein cholesterol equations using Nigerian data

*Modupe A. Kuti, Jokotade O. Adeleye, Joshua O. Akinyemi, Olajumoke A. Ogundeji, Olusola O. Omoyele, Oluwadamilare A. Obe, Ademola S. Adewoyin, Oyeturji O. Soriyan*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2729 | 19 September 2025

**Original Research****220**

Comparative analysis of inflammatory markers in HIV-positive individuals on antiretroviral therapy versus HIV-negative individuals in South Africa

*Lungile Ndlovu, Nokukhanya Thembane, Ziningi N. Jaya*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2756 | 26 September 2025

**Original Research****226**

Knowledge, competence, experience of healthcare practitioners using glucometers for patient care in Nigeria

*Salisu B. Muazu, Hauwa Bako, Ahmad M. Bello, John N. Onuche, Faruk Salami, Abimbola O. Abioye, Zainab I. Nadabo, Richard J. Banya, Eni-yimini S. Agoro, Saheed A. Adekola*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2770 | 07 October 2025

**Original Research****234**

Erythrocyte glucose-6-phosphate dehydrogenase deficiency-induced anaemia in children in Jos, North-Central Nigeria

*Justine D. Niandat, Caroline A. Okoli*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2733 | 14 October 2025

**Original Research****240**

Genetic copy number variation of *TLR7*, *T-bet*, *IL12B*, and *FcγRIIIB* in Egyptian ankylosing spondylitis patients

*Nora M. Said, Enas M. Mekkawy, Dina Said, Dina G. Abdelhamed, Alia A. El Shahawy, Eman A. Abdelaziz, Fatma Z. Kamel, Alshymaa A. Ahmed*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2916 | 29 November 2025

**Original Research****246**

Oxidative stress in acne vulgaris of varying severities in India

*Astha Goyal, Sanjiv K. Bansal, Shikhar Ganjoo*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2912 | 29 November 2025

**Original Research****253**

A retrospective analysis of uropathogens isolated and antimicrobial susceptibility patterns at a regional hospital in North West province, South Africa

*Miguel J. Teixeira, Vian Pretorius, Robert C.J.G. Hunt, Sanam Morar, Jamie L. Colloty, Caleb M. Radebe, Rajen Morar*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2845 | 30 November 2025

**Original Research****262**

Diagnostic adequacy of adult bone marrow biopsies in Malawi: A retrospective cohort study

*Edwards Kasonkanji, Tarsizious Chikaonda, Luke Eastburg, Maurice Mulenga, Tamiwe Tomoka, Yuri Fedoriw, Matthew Painschab, Amy Brownlee*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2966 | 30 November 2025

**Original Research****269**

*In silico* and *in vitro* validation of a duplex polymerase chain reaction assay for detecting *Cronobacter sakazakii* in powdered infant milk

*Danielle Martin, Rispah Chomba, Tshегоfatso Pelego, Sanelisiwe T. Duze*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2902 | 30 November 2025

**Original Research****277**

Whole-genome sequencing for surveillance of *Salmonella* at a public health institution in South Africa

*Anthony M. Smith, Phuti Sekwadi, Hlengiwe M. Ngomane, Bolele Disenyeng, Linda K. Erasmus, Juno Thomas, Dineo Bogoshi, Shannon L. Smouse, Nomsa P. Tau*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2900 | 09 December 2025

**Original Research****289**

Vitamin D deficiency and its associated factors among HIV patients at Mbarara City Health Centre IV, south-western Uganda

*Jazira Tumusiime, Charles N. Bagenda, Daniel Nzaramba, Bashir Ruzige, Elastus Ssemwanga, Frank Ssedyabane, Winnie R. Muyindike, Ritah Kiconco, Simon P. Rugera*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2957 | 10 December 2025

**Original Research****299**

Seroprevalence and risk factors of *Brucella* antibodies among patients seeking medical attention at health facilities in selected districts of Western Province in Zambia

*Armand M. Mambote, Ruth L. Mfune, Victor Daka, Melai Mubanga, Mary Mubiana, Flavien N. Bumbangi, Chitalu Chanda, John B. Muma*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2885 | 11 December 2025

**Original Research****306**

Infection prevention and control practices, policy adherence and knowledge of healthcare workers at COVID-19 treatment centres in Nigeria

*Adesola Olalekan, Bamidele Iwalokun, Marcellinus Aguwa, Abosede Adegbite, Barakat Bello, Sunday Adesola, Olusola Ojuronbe, Olayinka Ogunleye, Taiwo Ojuronbe*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2878 | 12 December 2025

**Original Research****314**

Antenatal *Toxoplasma gondii* IgG/IgM seroprevalence at the University Hospital of Cocody

*Amah P.V. Goran-Kouacou, Oppong R. Yéboah, Aya U.A. Assi, Yida J. Séri, Séry R. Dassé*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2846 | 16 December 2025

**Original Research****319**

Apolipoproteins and high-density lipoprotein phospholipids as indicators of atherosclerotic cardiovascular disease in Nigeria

*Promise C. Nwaejigh, Maria O. Ebesunun, Stephen S. Udofia, Adebisola A. Shakunle*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2942 | 17 December 2025

**Original Research****328**

*In vitro* antibacterial activity of tigecycline against multidrug-resistant bacteria isolated at the Sourô Sanou University teaching hospital in Bobo-Dioulasso, Burkina Faso

*Odilon D. Kaboré, Mélissa J. Gonfouli, Merci Muhigwa, Abdourahmane Sow, Fernand Michodigni, André Nagalo, Jacques Zoungrana, Arsène Hema, Augustin Konkobo, Hervé Kafando, Adama Ouattara, Armel Poda, Sylvain Godreuil, Abdoul-Salam Ouedraogo*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2895 | 18 December 2025

**Original Research****336**

Using data science to investigate rising HIV low-level viraemia results at Groote Schuur laboratory in South Africa

*Mo Se Kwon, Khumo O. Sematle, Lucia Hans, Stephen Korsman, Nei-yuan Hsiao, Diana R. Hardie*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2953 | 20 December 2025

**Original Research****346**

Usability of a blood-based HIV self-test kit in Lusaka province, Zambia: A cross-sectional analysis

*Fales Z. Mwamba, Mwansa Mwape, Brenda C. Simfukwe, Nowella M. Musunga, Evans M. Mathebula, Geoffrey Mupeta*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2903 | 20 December 2025

**Case Study****352**

Pseudomonocytosis on a Sysmex XN haematology analyser masking the monocytopenia of hairy cell leukaemia in a South African woman

*Stephanie J. Kennedy, Anne-Cecilia Van Marle*

African Journal of Laboratory Medicine | Vol 14, No 1 | a2617 | 25 March 2025

**Reviewer Acknowledgement****357**

African Journal of Laboratory Medicine | Vol 14, No 1 | a3038 | 30 October 2025