18 SEPTEMBER 2025

SCHOOL OF CLINICAL MEDICINE

BIENNIAL RESEARCH DAY

PROGRAMME & ABSTRACT BOOK

KEYNOTE SPEAKERS • ORAL PRESENTATIONS • POSTER SESSIONS

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

FACULTY OF HEALTH SCIENCES

WITS SCHOOL OF CLINICAL MEDICINE

Dear colleagues and students,

It gives me great pleasure to welcome you to the 2025 School of Clinical Medicine Biennial Research Day.

We thank everyone who submitted their work for presentation. We, as the School of Clinical Medicine, are proud to have accepted 119 high-quality research abstracts for this year's event.

This year's programme includes 4 keynote lectures, 30 oral abstract presentations, and 89 poster presentations. This day is an excellent opportunity to showcase the outstanding research conducted in our School.

Special thanks go to the Organising Committee, under the co-chairmanship of Professor Zané Lombard and Professor Alisha Wade, for their dedication and contributions.

We are indebted to our guest speakers for their time and perspectives. Congratulations and thanks to all presenters for their submissions, and to the Chairs and adjudicators for their time and expertise - we truly appreciate your commitment. We are also grateful to our sponsors for their valued support.

We cannot end without giving a heartfelt thank you to our School Support team and our professional conference organiser, Conference Partner, for their support in ensuring the success of this day.

I am sure that you will enjoy the opportunity to share in our School's research achievements.

Kind regards,

Prof Willy Vangu
Acting Head of School
School of Clinical Medicine

PROGRAMME ORGANISING COMMITTEE

- Prof Zané Lombard | 2025 SOCM Research Day Co-Chairperson
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Professor Kevin Behrens

Professor Kevin Behrens is Professor of Bioethics and Director of the Steve Biko Centre for Bioethics, University of the Witwatersrand. Kevin's research interests lie in applied ethics - in particular, bioethics and environmental ethics. A major emphasis in his work is on applying African moral philosophical notions to ethical questions. He has published widely in international and national journals. He is a former Editor-in-Chief of the *African Journal of Business Ethics*. He holds a B2 rating as an internationally acclaimed researcher from the National Research Foundation. Kevin previously served on the Research Ethics Committee of the Council for Scientific and Industrial Research. He was on the organising committee of the Global Forum on Bioethics in Research held in Malaysia in 2024. He chairs the Hosting Committee of the 18th World Congress of Bioethics to be held in Johannesburg in 2026. He is a member of the Board of the International Association of Bioethics.

Ethics of precision medicine in an unequal world

Professor Ziyaad Dangor

Professor Ziyaad Dangor is the clinical research director at the world-renowned Wits Vaccines and Infectious Diseases Analytics Research Unit (VIDA) and a paediatric pulmonologist at the Chris Hani Baragwanath Academic Hospital in the Department of Paediatrics and Child Health. He has undertaken investigator-initiated, original research using a range of clinical, epidemiological and laboratory-based research techniques to establish a successful research output, including the publication of cited papers in high-impact factor journals in the field. For a complete list of published work, visit:
https://www.ncbi.nlm.nih.gov/myncbi/1tsJ8pHeTx1AO/bibliography/public/.
Prof Dangor is actively involved in undergraduate and postgraduate teaching at the University of the Witwatersrand. He is the past president of the South African Paediatric Association, and an examiner in the College of Paediatricians of South Africa. He is also an instructor with the Advanced Paediatric Life Support Group.

Building the clinician research pipeline-approaches, successes and challenges at Wits

Professor Glenda Gray

Professor Glenda Gray is an NRF A1-rated scientist and Distinguished Professor, former CEO and President of the South African Medical Research Council (SAMRC), and Director of Infectious Diseases and Oncology Research Institute (IDORI) in the Faculty of Health Sciences at the University of the Witwatersrand. She is a qualified paediatrician and co-founder of the internationally-recognized Perinatal HIV Research Unit in Soweto, South Africa, which she led prior to her appointment at the SAMRC. Glenda's global profile includes a role as Co-PI of the NIH-funded HIV Vaccine Trials Network (HVTN), a transnational collaboration for the development of HIV/AIDS prevention vaccines. She is the Chairperson of the Global Antibiotic Research and Development Partnership, a member of the Institute of Medicine of the National Academies, USA, the World Academy of Sciences, the African Academy of Science and the South African Academy of Science. She received South Africa's highest honour — the Order of Mapungubwe — for her pioneering research in prevention of mother to child transmission. Other prestigious accolades include the Nelson Mandela Health and Human Rights Award for significant contributions in the field of mother-to-child transmission of HIV.

Selected as one of *Time's* 100 Most Influential People in the World, and recently the Forbes Africa Champion of Change Award, Glenda is a recognized leader in her field. Her qualifications include an MBBCh, FCPaeds (SA), DSc (honoris causa SFU), DSc (honoris causa SUN) and LL.D (Rhodes).

The Infectious Diseases and Oncology Research Institute: can innovation improve access?

Professor Lynn Morris

Professor Lynn Morris is the Deputy Vice-Chancellor of Research and Innovation at the University of the Witwatersrand in Johannesburg, South Africa. She obtained her undergraduate degree from Wits and completed her DPhil at the University of Oxford in 1988. Lynn is the founding Director of the Antibody Immunity Research Unit (AIRU) based at the National Institute for Communicable Diseases (NICD) where she also served as the Interim Executive Director. Over the last 30 years she has made significant contributions to the understanding of the antibody response to HIV infection and vaccination. Lynn is an NRF A-rated scientist (international leader), has published over 274 papers holding an H-Index of 68 and featured in the Web of Science list of highly cited researchers for 5 consecutive years (2015-2019). She is a member of Academy of Science of South Africa (ASSAf), the African Academy of Sciences (AAS), the Royal Society of South Africa (FRSSA) and The World Academy of Sciences (TWAS)

The importance of research to clinical practice

WITS SCHOOL OF CLINICAL MEDICINE BIENNIAL RESEARCH DAY 18 SEPTEMBER 2025				
07.30-08.30	Registration - Foyer, Wits School of Public Health (SPH)			
08:30-09:30	**Opening plenary session- SPH Auditorium Chair: Prof Alisha Wade**			
08:30-08:40	**Welcome remarks** Prof Shabir Madhi, Dean, Faculty of Health Sciences			
08:40-09:00	**The importance of research to clinical practice** Prof Lynn Morris			
09:00-09:30	**The Infectious Diseases and Oncology Research Institute: can innovation improve access?** Prof Glenda Gray			
09.40-10.40	**PARALLEL ORAL SESSIONS**			
	Session 1: SPH Auditorium Chair: Prof David Moore Double threat: HIV & antimicrobial resistance		**Session 2: SPH Lecture Room 1 Chair: Ms Caz McNamara Biomedical advances**	
09:40-09:52	Uncovering adult HIV mortality causes using minimally invasive tissue sampling: a precision medicine research tool. **Dr Marguerite Hall**	SOCM1-01	Crossing the line: can AI be used to obtain informed consent? **Miss Vanessa Dimtcheva**	SOCM2-01
09:52-10:04	Characterisation of colistin-resistant Acinetobacter Baumannii and Klebsiella Pneumoniae isolates from a tertiary-level hospital in Johannesburg. **Mrs Anjali Mathew**	SOCM1-02	3D-printed, tissue-engineered scaffolds for potential liver regeneration following injury. **Miss Kate Da Silva**	SOCM2-02
10:04-10:16	Risk factors associated with Klebsiella pneumoniae colonisation and invasive disease in adults hospitalised in Johannesburg. **Dr Denasha Reddy**	SOCM1-03	The efficacy of glycerol processing method in the preparation and preservation of human amniotic membrane. **Mrs Cleo Ndhlovu**	SOCM2-03
10:16-10:28	Decoding genotypic antimicrobial resistance amongst colistin-resistant gram-negative bacterial isolates at Chris Hani Baragwanath Academic Hospital. **Dr Prenika Jaglal**	SOCM1-04	Ethical analysis of maintaining somatic support in brain-dead pregnant women for foetal viability and delivery. **Miss Priyanka Singh**	SOCM2-04
10:28-10:40	The effects of dolutegravir on creatinine clearance in children and adolescents living with HIV. **Dr Chiara Sewnarain**	SOCM1-05	Using international databases for generating Artificial Intelligence Computer Assisted Detection (AI-CAD) health applications in data scarce environments such as South Africa – a cautionary tale with a proposed solution. **Mr Sean Terespolsky**	SOCM2-05
10:40-11:00	**REFRESHMENT BREAK**			
11:00-12:00	**PARALLEL ORAL SESSIONS**			
	Session 3: SPH Auditorium Chair: Prof Deirdré Kruger Surgical innovations		**Session 4: SPH Lecture Room 1 Chair: Prof Nimmisha Govind Combating infectious disease**	
11.00-11.12	Outcomes of the living kidney donor program at Wits Donald Gordon Medical Centre. **Dr Charne Janse van Rensburg**	SOCM3-01	The use of traditional, complementary, and alternative medicine as a substitute to influenza vaccination. **Miss Tshepiso Msibi**	SOCM4-01

11.12-11.24	The outcome of hookwire guided breast conserving surgery at CMJAH Breast Unit. **Dr Danielle Ferrar -** WITHDRAWN	SOCM3-02	Vaccine hesitancy among pregnant women in South Africa. **Dr Mrinmayee Dhar**	SOCM4-02
11.24-11.36	Vascular and bleeding complications associated with transcatheter aortic-valve implantation (TAVI) for aortic stenosis. **Dr Akshay Manga**	SOCM3-03	Retrospective analysis of microbial colonisation of intravascular catheters at an academic hospital in Johannesburg, 2019-2022. **Mr Shawn Lutchman**	SOCM4-03
11.36-11.48	The prevalence of prosthetic joint infections in haemophilic patients treated at a tertiary hospital. **Dr Ntshuxeko Malepfana**	SOCM3-04	Profiles of people reached and accessing pre-exposure prophylaxis through a novel pharmacy model: South Africa. **Miss Lettie Makola**	SOCM4-04
11.48-12.00	Changes in ventricular volume following successful endoscopic third ventriculostomy in a South African paediatric cohort. **Dr Mohammed Ouwais Abdul Sattar**	SOCM3-05	High-throughput screening of South African medicinal plants identifies potent antiviral compounds against SARS-CoV-2 and influenza. **Dr Luke Invernizzi**	SOCM4-05
12:05-13.30	**LUNCH BREAK/POSTER SESSION/SPECIAL SESSIONS**			
12:05-12:45	**Poster session**		**SPH Resource Centre**	
12:45-13:30	**Special lunchtime sessions**			
	Preparing for a career in industry		SPH Auditorium	
	Advancing your career at Wits - everything you need to know about the promotions process		SPH Lecture Room 1	
	Chair yoga and mindfulness		SPH Lecture Room 3	
	Focused mentoring ○ The juggle is real – finding contentment with your work-life choices ○ Climbing the research ladder – finding and securing that first grant ○ Learning to lead – developing skills for successful leadership		SPH Lecture Room 5	
	Separations: Empowering clinical medicine through genomics, diagnostics, and precision innovation.		SPH Lecture Room 4	
13:45-14:45	**PARALLEL ORAL SESSIONS**			
	Session 5: SPH Auditorium Chair: Prof Nqoba Tsabedze Chronic disease considerations		**Session 6: SPH Lecture Room 1 Chair: Dr Craig Keyes Applications beyond the clinic**	
13.45-13.57	Antitumor activity of polymer-conjugated betulinic acid in human pancreatic cancer cells. **Ms Karabo Sekopi Mosiane**	SOCM5-01	Prevalence and patterns of workplace violence in primary health care settings in Ekurhuleni, South Africa. **Dr Afolake Amodu**	SOCM6-01
13.57-14.09	A dual microbiome-targeted chemotherapeutic drug delivery system for the treatment of non-small cell lung cancer. **Miss Shivani Nana**	SOCM5-02	Post-traumatic stress disorder in an antenatal population South Africa: prevalence and associated factors. **Dr Megan Fyffe**	SOCM6-02
14.09-14.21	Hypertension incidence and its correlates in an urban South African middle-aged cohort. **Mr Boitumelo Komane**	SOCM5-03	Long-acting injectable antipsychotics vs oral antipsychotics: comparing utility and relapse rates in dual diagnosis outpatients. **Dr Mohlalefi Charles Letuka**	SOCM6-03
14.21-14.33	Genetic insights into dilated cardiomyopathy in African patients using exome sequencing. **Miss Minenhle Mayisela**	SOCM5-04	Decomposition dynamics in shifting environmental conditions: subaerial to freshwater aquatic transitions and vice versa. **Miss Alexandra Lindsay**	SOCM6-04
14.33-14.45	Predicting whole exome sequencing results in children with developmental disorders and congenital heart defects. **Dr Aliya Mukadam**	SOCM5-05	Bone: formation by autoinduction ex vivo? **Dr Roland Klar**	SOCM6-05

14.45-15.00	**REFRESHMENT BREAK**
15:00-17:00	**Closing plenary session - SPH Auditorium** **Chair: Prof Zané Lombard**
15.00-16.00	**Ethics of precision medicine in an unequal world** Prof Kevin Behrens
16.00-16.30	**Building the clinician research pipeline-approaches, successes and challenges at Wits** Prof Ziyaad Dangor
16:30-17:00	**Closing remarks and prizegiving** Prof Willy Vangu, Acting Head of School, School of Clinical Medicine

PRIZES

Prizes will be presented to the best oral and poster presenters in the following categories:

(1) MBBCh/GEMP/Other Bachelor's degree/Honours

(2) Masters/MMED/Other Master's degree

(3) PhD

(4) Non-degree research

CONTINUING PROFESSIONAL DEVELOPMENT (CPD)

This meeting has been accredited by the Wits Health Consortium for up to 5 clinical CPD points and 1 ethical CPD point.

To claim CPD points, please scan the QR code set up in the foyer area outside the auditorium and indicate the sessions attended.

CPD Hub will administer the CPD points. Points will be allocated to your HPCSA profile. Please allow at least 14 working days for your points to reflect on the Council website. Should you require an electronic certificate of attendance, please contact CPD Hub at colin@cpdhubsa.co.za

ACKNOWLEDGEMENTS

This 2025 School of Clinical Medicine Biennial Research Day would not have been possible without the support and contributions of many. We would like to thank the Dean of the Faculty of Health Sciences, Prof. Shabir Madhi, for opening our Research Day and our four keynote speakers for their valuable insights. We also extend our appreciation to our session chairs and adjudicators for their commitment to promoting research in our School. Our special lunchtime session facilitators brought novelty to our proceedings and we are very grateful for their time.

We gratefully acknowledge our industry partners whose generous involvement allowed us to offer attractive prizes to our presenters. We also acknowledge the key roles played by our colleagues in audio-visual, parking, protection, cleaning and venue services without whom events such as these would not run smoothly.

Last, but certainly not least, thank you to the staff and students in the School of Clinical Medicine who continue to promote a high standard of innovative research.

SESSION 1: DOUBLE THREAT: HIV & ANTIMICROBIAL RESISTANCE

SOCM1-01

Uncovering adult HIV mortality causes using minimally invasive tissue sampling: a precision medicine research tool.

Dr Marguerite Hall, Dr Siobhan Johnstone, Prof Ziyaad Dangor, Prof Shabir Madhi

Introduction: In the context of global health inequities, Minimally Invasive Tissue Sampling (MITS) can serve as an important precision medicine tool, offering a validated and cost-effective alternative to complete diagnostic autopsy.

Objectives: This prospective study investigates adult HIV deaths across four African countries using MITS. In South Africa, adults with known HIV who died in two Johannesburg hospital wards are sequentially enrolled.

Methods: The MITS procedure retrieves blood, cerebrospinal fluid, and tissue from the liver, lung, and brain via core biopsy needles within 72 hours after death. Following histological and molecular testing, results are integrated with clinical and verbal autopsy data and reviewed by an expert panel to determine the causal pathway leading to death which is coded in ICD-11 according to the World Health Organization (WHO) diagnostic standards.

Results: Between 20 Sep 2024 and 17 Jun 2025, 114 participants were enrolled. The first 70 cases have undergone expert review (32 males, 38 females; median age 58). Sepsis caused 44% (31/70) deaths, followed by meningitis (10/70) and pneumonia (10/70).
HIV was the underlying cause in 83% (58/70) of deaths, and 62% (36/58) of this group had sepsis in the causal pathway. Tuberculosis contributed to 50% (29/58) of HIV deaths with 62% (18/29) of TB cases being disseminated. Of note, 45% (13/29) of TB cases succumbed to nosocomial sepsis. There were ten cases of cryptococcosis, of which 50% (5/10) were co-infected with TB.
The expert panel deemed most deaths preventable: 69% (40/58) among those with underlying HIV, and 67% (47/70) overall.

Conclusion: These findings highlight the burden of preventable deaths, resulting from sepsis, Tuberculosis, and opportunistic infections, among adults with HIV. MITS detects these conditions and provides accurate post-mortem diagnoses. The procedure bridges innovation and equity, guiding interventions, improving health system accountability, and informing policy reform to reduce mortality.

SOCM1-02

Characterisation of colistin-resistant Acinetobacter Baumannii and Klebsiella Pneumoniae isolates from a tertiary-level hospital in Johannesburg.

Mrs Anjali Mathew, Dr Michelle Lowe, Dr Trusha Nana, Dr Teena Thomas

Colistin remains one of the few remaining therapeutic options for treating infections caused by multidrug-resistant (MDR) Gram-negative bacteria. However, the emergence of colistin resistance poses a rising clinical challenge. While colistin resistance has been documented in South Africa, the genomic characteristics of this resistance is still unknown. This study aimed to characterise colistin-resistant Acinetobacter baumannii and Klebsiella pneumoniae isolates from a tertiary-level hospital in Johannesburg.

A retrospective, cross-sectional study was conducted on clinical isolates collected between January 2022 and June 2024. Epidemiological data was extracted from the Corporate Data Warehouse, National Health Laboratory Service. Whole-genome sequencing (WGS) of 96 phenotypically confirmed colistin-resistant isolates was performed using Oxford Nanopore Technology, of which 60 passed quality control and were included in downstream molecular analysis.

Of the 830 isolates tested, 22% (186/830) were resistant to colistin, with 63% (117/186) being K. pneumoniae. Notably, 62% (116/186) of colistin-resistant isolates were classified as extensively drug-resistant (XDR), underscoring the limited treatment options available for these infections. Most cases (45%, 84/186) were reported from adult multidisciplinary intensive care units (ICUs) and 60% (111/186) of affected patients were male. No mobile colistin resistance (mcr) genes were detected in the sequenced isolates. Several known chromosomal mutations associated with colistin resistance were identified, including pmrA-M12I, pmrB-R256G, phoQ-G385S. A novel non-synonymous SNP (pmrC-I131V) was identified in six colistin-resistant A. baumannii isolates, suggesting a potentially unrecognised mechanism of resistance.

This study provides new molecular and epidemiological insights into colistin resistance in a South African healthcare setting. The findings highlight the predominance of chromosomally-mediated resistance mechanisms and the identification of novel variants. These insights advance our understanding of resistance evolution and emphasise the need for strengthened genomic surveillance.

SOCM1-03

Risk factors associated with Klebsiella pneumoniae colonisation and invasive disease in adults hospitalised in Johannesburg.

Dr Denasha Reddy, Prof Ziyaad Dangor, Dr Lyle Murray, Dr Merika Tsitsi, Dr Jeremy Nel, Dr Trusha Nana, Dr Jeannette Wadula, Dr Rispah Chomba, Dr Sinenhlanhla Ndzabandzaba, Dr Vicky Baillie, Dr Courtney Olwagen, Prof Shabir Madhi

Introduction: Klebsiella pneumoniae (KPn)-associated antimicrobial resistance is responsible for high mortality rates from KPn-invasive disease (KPn-ID), particularly healthcare-associated infections (HAIs). Gastrointestinal colonisation represents a major reservoir for KPn and is a risk factor for KPn-ID.

Objectives: We conducted a multicentre prospective observational study of KPn-ID in adults, with a nested case-control component to determine the prevalence of KPn gastrointestinal colonisation and risk factors for KPn-ID.

Methods: Surveillance for culture-confirmed KPn-ID from blood and cerebrospinal fluid samples of hospitalised individuals was undertaken from May 15th, 2023 to May 14th, 2024 across three hospitals in Johannesburg, South Africa. Furthermore, age-matched controls were enrolled to assess for gastrointestinal colonisation, KPn-ID risk factors and to compare outcomes to cases.

Results: Of 524 KPn-ID cases, 330 (63.0%) consented to study participation and were matched to 651 eligible controls. The prevalence of KPn gastrointestinal colonisation amongst controls was 34.4% (224/651). On multivariate analysis, an independent risk factor for gastrointestinal colonisation amongst controls was having a presumed HAI at the time of enrolment (aOR 3.25; 95% CI: 1.10- 9.55). Independent risk factors for KPn-ID were male sex (aOR 3.20; 95% CI: 2.13- 4.79), intensive care unit (ICU) admission (aOR 7.21; 95% CI: 2.18- 23.83), recent hospitalisation within the past two weeks (aOR 1.87; 95% CI: 1.06- 3.28), recent surgery (aOR 1.67; 95% CI: 1.04- 2.69), a central venous catheter (CVC) (aOR 8.43; 95% CI: 4.17- 17.07), and a urethral catheter in situ (aOR 5.22; 95% CI: 1.51- 17.97). Cases had a higher in-hospital case fatality risk (CFR) (42.1%, 139/330, p<0.001) than controls (3.1%, 20/651).

Conclusions: We found a modest prevalence of KPn gastrointestinal colonisation in hospitalised South African adults. Male sex, ICU admission, recent hospitalisation, recent surgery, CVC and urethral catheterisation were independent risk factors for KPn-ID, and cases had a higher in-hospital CFR than controls.

SOCM1-04

Decoding genotypic antimicrobial resistance amongst colistin-resistant Gram-negative bacterial isolates at Chris Hani Baragwanath Academic Hospital.

Dr Prenika Jaglal, Prof Khine Swe Swe-Han, Prof Sithembiso Velaphi, Prof Colin Menezes

Introduction: Antimicrobial resistance (AMR) remains a silent global pandemic in paediatric units worldwide. Colistin resistance can occur commonly with Gram-negative (GN) cell wall lipopolysaccharide (LPS) modification via various routes.

Objectives: This cross-sectional study aimed at describing the genotypic AMR characteristics of colistin-resistant Gram-negative (GN) bloodstream (BS) isolates from paediatric inpatients at Chris Hani Baragwanath Academic Hospital (CHBAH) in Soweto from January 2023 until August 2024.

Methods: Whole genome sequencing (WGS) using Illumina (USA) short-read technology, followed by bioinformatics analysis, was performed on phenotypically confirmed colistin-resistant (CR) Klebsiella pneumoniae (CRKP) (n=24), CR Acinetobacter baumannii (CRAB) (n=3), and CR Escherichia coli (CREC) (n=1).

Results: Notable high-risk bacterial clones (HRBC) of CRKP (blaOXA-48 and blaNDM) i.e. three of the sequence type (ST) 17 and a single ST2497 isolate displayed mgrB gene mutations denoting chromosomal colistin-resistance. Clustering of seventeen ST2497 isolates phylogenetically indicated possible outbreak related bacterial strains. The mechanism of the two-component system sensor histidine kinase PmrB was the source of the CR expressed in the CREC (O157:H7; ST11), a notable enterohaemorrhagic diahorreal strain that exhibited diverse AMR. No plasmid or chromosomal mediated colistin-resistance was detected among the CRAB isolates. The majority of CRKP and all CRAB exhibited AMR to aminoglycosides, fluoroquinolones, tetracyclines and fosfomycin, including quaternary ammonium compound resistance.

Conclusion: This study highlights mgrB and PmrB mutants as chromosomal mechanisms of colistin resistance amongst the K. pneumoniae and describes the multidrug-resistant (MDR) spectrum of CR GN bacteria among paediatric BS isolates. There is an urgent need to advocate strict infection control measures, judicious antimicrobial use and outbreak management to halt the spread of MDR microbes. Genomic surveillance is necessary for monitoring MDR bacterial clones as paediatric pathogens. Further research is warranted into the molecular characterization of the hospital microbiome as well as GN bacteria causing healthcare-associated infections from sites other than BS.

SOCM1-05

The effects of dolutegravir on creatinine clearance in children and adolescents living with HIV.

Dr Chiara Sewnarain

Background: According to the National ART guidelines, dolutegravir (DTG) can result in serum creatinine (SC) elevation that should be less than 15% from the baseline and remain stable after initial rise. We wanted to explore whether DTG's effects on SC were similar in our patients.

Objectives: We investigated the effect of DTG on renal function and if there were any adverse renal effects when paired with tenofovir (TDF).

Methods: Adolescents on anti-retroviral treatment were divided into the number of patients on TDF only, those that had started TDF prior to DTG, and the number of patients started on DTG prior to or concurrent with TDF. SC values were compared to reference ranges and glomerular filtration rate (GFR) was calculated. The renal functioning for these patients was then separated into those that had significant renal dysfunction (GFR<80 in under 16-year olds and <50 in over 16-year olds).

Results: The percentage change of SC between start of TDF and 12 months on TDF was > 15% in 50% cases. By 24 months of TDF 70% patients had >15% rise in SC, more so in the DTG concurrent group (p<0.0001). SC was above reference range in 4% at 12 months and 5% at 24 months while GFR was below recommended cut off in 3% at 12 and 24 months more so in adolescents also on DTG. Younger age at TDF start was associated with low GFR.

Conclusion: Our study showed that contrary to the guidelines, most of our patients had significant increases in SC, but few had significant renal dysfunction (low GFR).

SESSION 2: BIOMEDICAL ADVANCES

SOCM2-01

Crossing the line: can AI be used to obtain informed consent?

Miss Vanessa Dimtcheva, Prof Dominic Griffiths, Dr Deidré Pretorius, Prof Alexander Ziegler

As artificial intelligence (AI) enters into the medical sphere to improve image interpretations and diagnoses, its role in the informed consent process remains an open question. Namely, could AI solicit genuine informed consent from a patient, or does this cross an ethical line in medical practice? On the backdrop of the current capabilities of large language models (LLMs), AI alone cannot obtain informed consent.

Informed consent is a concept encompassing legal and ethical aspects forming a governing framework for both medical professionals and researchers engaging and interacting with patients and human participants respectfully.

While AI may have access to the contents of the Belmont report and accurately discusses autonomy, beneficence and justice, it has no semantic understanding of these concepts. These syntax-driven explanations are illustrated using the Turing (Imitation Game) Test, developed by Alan Turing, and the Chinese Room Test, described by John Searle. Apart from understanding, intent plays a central role in defining an ethical entity. For machine logic, determining this relative and largely intuitive concept, has only been achieved in theory.

Considering AI to be a means to an end for the informed consent process, it cannot be held liable for any misinformation, intentional or unintentional deception or fabricated information in the form of hallucinations. No punitive process exists to encourage moral and ethical "growth" from AI, despite the training and learning processes that make it unpredictable and generative as it evolves.

Finally, the informed consent process is not only based on the scientific aspects around a procedure, but rests on the cultural, religious and societal norms defining the person as an individual and a member of their respective society. Certain situational queues cannot be detected by AI, unless explicitly stated and the appropriate response to these queues is neither defined, nor generalisable.

SOCM2-02

3D-printed, tissue-engineered scaffolds for potential liver regeneration following injury.

Miss Kate Da Silva, Dr Clement Penny, Prof Pradeep Kumar, Prof Yahya Choonara

Introduction: Hepatic trauma is the leading cause of mortality associated with abdominal trauma. Severe trauma results in endogenous repair overload, excessive collagen deposition, fibrotic scar formation and significant structural alterations within hepatic tissue. Conventional “one-size-fits-all” approaches fail to accommodate the complex, individualised needs of patients and highlight the need for personalised regenerative strategies.

Objectives: To design a biomaterial-based, 3D-printed scaffold using a combination of polymers as a biomimetic platform to potentially facilitate hepato-regeneration after acute trauma.

Methods: A novel, dual crosslinked 3D-printed regenerative scaffold, designed through blending Cationic Gelatin (CG) and Sodium Alginate (SA) and crosslinked with Genipin and Calcium Chloride, is presented for potential hepato-regeneration. High printing resolution was achieved with a 0.2 mm bore needle, with optimal extrusion pressure (3.8-4.3 bar) and a speed (10 mm/s) on a 10x10 mm scaffold. The 3D-printed scaffold was subjected to physicochemical-co-mechanical and in vitro analyses.

Results: Thermogravimetric Analysis (TGA) exhibited enhanced thermal stability and controlled degradation in comparison to the non-crosslinked variant (degradation onset >300°C and 280°C, respectively). The dual-crosslinked system demonstrated superior mechanical integrity (85% strain before rupture), including toughness, compressive strength (6.2 N), and surface cohesion, suggesting it can withstand hepatic movement, surgical forces and sealing the damaged liver parenchyma. Biocompatibility was confirmed through native Huh-7 cell morphology and viability (no significant change in comparison to the control over 72 hrs, 95% CI). Additionally, the scaffold promotes cellular interactions evidenced through uniform, circular Huh-7 spheroids over 12 days, indicating advanced hepatic functionality. Furthermore, RAW246.7 cells remained unpolarised M0 phenotypes (>80% over 72 hrs), suggesting no innate immune activation.

Conclusions: The dual-crosslinked scaffold shows a strong potential for a liver tissue mimetic post-trauma. The 3D-printed scaffold's mechanical resilience, biocompatibility and viability make it a promising regenerative alternative to current treatments, whilst reducing the risk of implant rejection and fibrosis formation.

SOCM2-03

The efficacy of glycerol processing method in the preparation and preservation of human amniotic membrane.

Mrs Cleo Ndhlovu

Introduction: Human amniotic membrane (hAM) is widely used in burn care due to its antimicrobial properties, biocompatibility, and ability to retain moisture. In settings where cadaveric skin is scarce, reliable preservation methods are essential to ensure a consistent supply of viable biological dressings.

Objective: This study evaluated the effectiveness of a glycerol-based method in preserving the structural and functional integrity of hAM.

Methods: This in-vitro experimental study was conducted at MagiTech Science Laboratories and Charlotte Maxeke Johannesburg Academic Hospital. hAM samples from 142 donors were processed using ≥99.5% molecular biology-grade glycerol. Paired unprocessed and processed hAM samples were tested for tensile strength and strain (Instron 5966), transparency (PerkinElmer Lambda 750s), thickness (digital caliper), and antimicrobial activity using a disk diffusion method. Statistical tests included paired t-tests, repeated measures ANOVA, and Cohen’s d.

Results: Glycerol-processed hAM showed a slight, non-significant reduction in tensile strain (3.7%, $P=0.262$) and strength (8.5%, $P=0.179$). Transparency improved significantly from 90.8% to 97.1%, $P<0.001$; $d=0.92$. A statistically significant decrease in thickness was observed ($P=0.001$), though the actual difference (0.001 mm) was clinically negligible ($d=0.50$). Antimicrobial effects varied by species (ANOVA, $P<0.001$), with strongest inhibition against S. aureus and K. pneumoniae.

Conclusion: Glycerol processing maintained the mechanical integrity of hAM while enhancing optical clarity. This can facilitate visual inspection of the underlying wound without removing the membrane. The antimicrobial profile remained intact. These findings support the potential of glycerol-processed hAM as a practical and scalable biological dressing for burn care. A follow-up in vivo study is currently underway to confirm clinical performance and long-term safety.

SOCM2-04

Ethical analysis of maintaining somatic support in brain-dead pregnant women for foetal viability and delivery.

Miss Priyanka Singh

Introduction: Advancements in medical technology have made it possible to maintain somatic support in brain-dead pregnant women, enabling foetal development until viability. While innovative, this practice presents complex ethical challenges as it constitutes experimental and medically non-essential intervention.

Objectives: I argue that it is ethically impermissible to maintain somatic support in brain-dead pregnant women solely for fetal viability and delivery via caesarean section. My aim is to guide clinical practice and contribute to the development of clear, ethically sound guidelines, through a principled ethical analysis.

Methods: I apply the bioethical framework of Principlism, based on four core principles, autonomy, non-maleficence, beneficence and justice, which guide a structured ethical evaluation. I critically examine common objections such as, the moral status of the foetus and the sanctity of life which offer a well-rounded, reflective analysis. I address conflicting legal frameworks to differentiate between legal permissibility and ethical justification.

Results: My analysis suggests that maintaining somatic support in such cases often undermines respect for autonomy, particularly when the woman's prior wishes are unknown or family input is excluded. I argue that the practice can cause more harm than benefit to the mother, foetus and family, also lacking sufficient clinical evidence to justify its use. Furthermore, I find that it raises justice concerns, particularly regarding the allocation of limited healthcare resources and the exclusion of key decision-makers.
I show that the objections do not withstand scrutiny within the Principlism framework and highlight that ethical analysis must guide clinical decision-making beyond legal precedent.

Conclusions: I conclude that maintaining somatic support for brain-dead pregnant women solely for fetal viability is ethically impermissible within the framework of Principlism. I recommend the development of ethically sound clinical guidelines that uphold maternal dignity, reduce harm and promote welfare while also promoting fair and inclusive decision-making in end-of-life pregnancy care.

SOCM2-05

Using international data bases for generating Artificial Intelligence Computer Assisted Detection (AI-CAD) health applications in data scarce environments such as South Africa – a cautionary tale with a proposed solution.

Mr Sean Terespolsky, Mr Joshua Bruton, Mr John Statheros, Dr Hairong Bau, Prof Richard Klein, Dr Warrick Sive

Introduction: Silicosis and Tuberculosis (TB) remain significant health burdens in South Africa, particularly among mine workers. Limited access to qualified radiologists delays diagnosis and treatment. In these settings, computer-aided diagnosis (CAD) systems offer promise for scalable patient screening. However, these tools are typically trained on international datasets, where silicosis is rare and imaging protocols differ. This results in poor model performance and clinically misleading outcomes when applied to local patients.

Objectives: Our goal is to develop reliable CAD models for detecting TB and silicosis in a local target dataset. Through Domain Adaptation (DA) techniques, we aim to address data scarcity and imbalance while highlighting the risks of relying on international datasets for local applications. The research emphasizes the importance of local data in tackling region-specific diseases.

Methods: We trained CAD models using several DA strategies to bridge the gap between international datasets and the local target dataset. Beyond classification accuracy, we assessed whether the models attended to clinically relevant regions of the lung, using visual localisation tools. We paid particular attention to the effects of limited local data and reduced image resolution on model behaviour.

Results: DA improved CAD performance over internationally-trained baselines. However, limited local data led to overfitting and misclassifications. More than 80% of local samples exhibited both silicosis and TB, making the conditions difficult to distinguish. Lowering image resolution obscured fine-grained disease features, worsening diagnostic confusion. Localisation analysis showed that external CAD models often focused on irrelevant regions, reducing clinical reliability.

Conclusion: Local data is vital for effective CAD in region-specific diseases like silicosis. International datasets, while helpful, require adaptation to avoid misdiagnosis. This work underscores the need for expanded local data collection and robust validation to ensure the deployment of reliable and interpretable CAD systems in South Africa.

SESSION 3: SURGICAL INNOVATIONS

SOCM3-01

Outcomes of the living kidney donor program at Wits Donald Gordon Medical Centre.

Dr Charne Janse van Rensburg, Dr Francisca Van der Schyff, Dr June Fabian, Prof Deidre Kruger

Introduction: South Africa faces a high burden of chronic kidney disease (CKD), with limited access to dialysis and transplantation contributing to significant mortality. Living donor kidney transplantation is the preferred treatment for eligible patients with end-stage kidney disease (ESKD), yet little is known about the local demographic characteristics and outcomes associated with living kidney donation.

Objectives: To describe the demographic characteristics of living kidney donors at Wits Donald Gordon Medical Centre (WDGMC) and to compare one-year graft and recipient survival outcomes between living and cadaveric kidney transplant recipients.

Methods: This was a secondary analysis of prospectively collected data from the REDCap adult transplant database at WDGMC. Living donor data (2017–2023) and first-time transplant recipient data (2014–2021) were included. Descriptive statistics summarized donor and recipient demographics. Categorical comparisons between living and cadaveric transplant recipients were performed using chi-squared or Fisher's exact tests. One-year patient and graft survival were analyzed using Cox proportional hazards regression.

Results: Among 103 living donors, 58.3% were related, 32.7% were aged 18–34, and 64.4% were female. Of 271 kidney recipients, 36% received living donor grafts. No significant differences in one-year survival were observed between donor types. Adjusted hazard ratios showed no statistically significant difference in patient (HR 1.21, 95% CI 0.35–4.12) or graft survival (HR 1.72, 95% CI 0.66–4.46).

Conclusions: Living kidney donation at WDGMC is safe and associated with favorable one-year outcomes, comparable to those of cadaveric transplantation and other transplant centers worldwide. However, broader inclusion, improved data collection, and more extended follow-up periods are essential to guide and enhance equitable and effective transplant policy in South Africa.

SOCM3-02

The outcome of hookwire guided breast conserving surgery at CMJAH Breast Unit.

Dr Danielle Ferrar, Prof Jenny Edge, Prof Deirdre Kruger, Prof Boitumelo Phakathi

Introduction: Improved breast cancer awareness, screening and radiological technology have led to an increasing detection of impalpable breast cancers. The gold standard for treating impalpable cancers is breast-conserving surgery (BCS), which requires pre-operative localization. At our institution, hookwire-guided localization, a method of wire guided localization (WGL), is the only method available. This study aims to assess if our practice of WGL aligns with international standards and to identify factors influencing recurrence.

Objectives: To describe the outcome of hook-wire guided BCS at CMJAH Surgical breast unit.

Methods: We retrospectively reviewed records of patients who underwent hookwire guided BCS of breast carcinoma from 1 January 2016 to 31 May 2024 using the Charlotte Maxeke Johannesburg Academic Hospital (CMJAH) breast cancer database.
Results: A total of 119 patients were eligible, with 55 having had malignancies excised via hookwire guidance. 76.7% presented with a self-palpated mass, and 14.5% were detected via screening. Most patients (50.9%) received neoadjuvant chemotherapy (NAC) to shrink the tumour. The median size of masses was 19mm. Of those undergoing hookwire guided BCS, 58.18% received radiation, with a median of 216 days from surgery to radiation (IQR 175 – 357). Margin positivity and re-excision rates were 10.9% and 12.7%, respectively. The recurrence rate was 25.5%, higher than international standards. TNBC (triple negative breast cancer) and NAC significantly increased the likelihood of recurrence.

Conclusion: Hookwire guided BCS at CMJAH has acceptable margin adequacy and re-excision rates compared to international standards. The higher recurrence rate likely results from delayed adjuvant radiation access. TNBC molecular subtype was a significant tumour-specific risk factor increasing recurrence risk.

SOCM3-03

Vascular and bleeding complications associated with transcatheter aortic-valve implantation (TAVI) for aortic stenosis.

Dr Akshay Manga, Dr Ahmed Vachiat, Dr Arthur Mutyaba, Dr Farzahna Mohamed

Introduction: Vascular and bleeding complications are some of the most frequent complications associated with Transcatheter Aortic Valve Implantation (TAVI), and they are associated with an increase in morbidity and mortality. However, there is a lack of data describing these severe events in South Africa.

Objectives: To evaluate the vascular and bleeding complications of patients who underwent TAVI within a South African context.

Methods: A retrospective cohort study of 105 patients who underwent TAVI for aortic stenosis at a private hospital in Johannesburg, from January 2019 to December 2023. The Valve Academic Research Consortium (VARC)-3 criteria defined vascular and bleeding complications.

Results: Vascular and bleeding complications occurred in 12.4% and 9.5% of patients, respectively. The mortality rate before discharge was significantly higher for patients with bleeding complications (20.0%; 95% CI 2.5-55.6%) compared to those without bleeding complications (2.1%; 95% CI 0.3-7.4%) (p=0.045). Patients with a bleeding complication had a significantly longer median length of hospital stay (3 days; IQR 3-9 days) compared to patients without this complication (2 days; IQR 1-3 days) (p=0.0096). Surgical vascular access closure had a significantly higher rate of vascular complications (29.4%) compared to device closure (9.1%) (p=0.035). Within the group that underwent device closure, use of a large-bore collagen plug-based vascular closure device (MANTA; Teleflex) had significantly higher rates of vascular complications compared to other closure devices. Patients with diabetes mellitus had substantially higher rate of bleeding complications (22.7%) compared to non-diabetics (6.0%) (p=0.032).

Conclusions: Bleeding and vascular complications resulted in higher rates of extended hospital stay, while patients with bleeding complications had an almost tenfold higher risk of death. The study emphasises the importance of choosing appropriate closure techniques and considering comorbidities, like diabetes, to enhance safety and reduce complications in vascular access procedures. Active strategies to minimise these complications are essential.

SOCM3-04

The prevalence of prosthetic joint infections in haemophilic patients treated at a tertiary hospital.

Dr Ntshuxeko Malepfana

Introduction: Haemophilia is an X-linked inherited bleeding disorder that presents with repeated spontaneous bleeds into soft tissues and joints. Orthopaedic surgeons may need to treat haemophilic arthropathy (HA) with joint replacement (JA) and therefore one of its complications, i.e. prosthetic joint infection (PJI).

Objectives: This paper aimed to evaluate the prevalence of PJI in the HA patients, its characteristics and clinical-pathological features. We hypothesised HA patients to be at an increased rate of PJI compared to the non-haemophilic (non-HA) group.

Methods: We conducted a retrospective comparative review of 208 JA (105 HA and 103 non-HA) patients operated between 1st January 2003 to 31st December 2023. Demographics, clinicopathological and laboratory data were collected. In the HA group, 79 had total knee replacements and 26 total hip replacements. Data was analysed using the Chi-square or Fisher's exact tests, and a Kaplan-Meier curve was used to determine the infection-free survival.

Results: The PJI rate was equal in both groups (4%), with Staphylococcus aureus being the commonest pathogen in the HA group, while Klebsiella pneumoniae was the most common pathogen in the non-HA group. The HA group had longer infection-free years from their index surgery. Seven patients were reported to be HIV-positive, with a statistically significant viral suppression in the HA group.

Conclusion: We conclude that HA patients are not at an increased risk for PJI. They develop PJI later than their non-HA counterparts. This may be due to a good clotting factor replacement program, counseling, strict infection control measures and being operated on by the most experienced surgeons.

SOCM3-05

Changes in ventricular volume following successful endoscopic third ventriculostomy in a South African paediatric cohort.

Dr Mohammed Ouwais Abdul Sattar, Dr Jason Labuschagne, Dr Denis Mutyaba

Introduction: Endoscopic third ventriculostomy (ETV) is an established alternative to ventriculoperitoneal shunting (VPS) for treating paediatric hydrocephalus. While shunt success is often correlated with marked ventricular volume reduction, radiological indicators of ETV success remain less clearly defined. This study investigates the change in cerebral ventricular dimensions following technically successful ETV in a South African paediatric population.

Objective: To assess changes in ventricular size and volume following successful ETV and evaluate their potential as radiological predictors of clinical success.

Methods: A retrospective review was conducted of hydrocephalic children aged 0–13 years who underwent technically successful ETV at Nelson Mandela Children's Hospital between January 2019 and June 2022. Ventricular volume and dimension changes were assessed using pre- and post-operative MRI/CT scans. Metrics analysed included the frontal occipital horn ratio (FOHR), third ventricular index (TVI), and lateral ventricle volume (LVV). Successful ETV was defined by shunt freedom for at least six months post-operatively.

Results: Fifty-four patients were included (mean age: 7.17 months; 33 successful ETVs, 21 failures). Statistically significant reductions in TVI (mean change: 14.15 vs. 3.38; $p<0.05$) and LVV (mean change: 17.06 vs. 6.38; $p<0.05$) were observed in the successful group compared to failures. FOHR changes were not statistically significant ($p=0.1644$). These findings suggest TVI and LVV may be more sensitive markers of ETV success than FOHR.

Conclusion: ETV is associated with measurable reductions in ventricular volume among paediatric patients, particularly when assessed via TVI and LVV. These parameters may serve as useful adjuncts in early post-operative evaluation and long-term follow-up, particularly in resource-limited settings.

SESSION 4: COMBATING INFECTIOUS DISEASE

SOCM4-01

The use of traditional, complementary, and alternative medicine as a substitute to influenza vaccination.

Miss Tshepiso Msibi, Mulalo Mashamba, Gugulethu Tshabalala, Lerato Tsotetsi, Izzy Goldstein, Sarah Malycha, Stefanie Vermaak, Kimberley Gutu, Catherine Hill, Ziyaad Dangor, Janan Dietrich

Introduction: Vaccination is the most effective prevention against influenza, but uptake is typically low. Many people in African settings prefer the use of traditional, complementary, and alternative medicines (TCAM) to prevent and treat influenza.

Objectives: This study explored the preference for TCAM use in place of vaccination among adults in Soweto and Thembelihle, Johannesburg.

Methods: This qualitative evaluation was part of the larger mixed-methods Bambisana Study, assessing an integrated communication strategy to increase influenza vaccination uptake in Soweto. Researchers conducted 16 focus group discussions (FGDs) from 8 August to 8 September 2023 and 20 key informant interviews (KIIs) between 18 October and 23 November 2023. Participants included community members and community influencers, aged 18 years and older. Interviewers used semi-structured discussion and interview guides to conduct FGDs and KIIs. FGDs and KIIs were audio-recorded, translated and transcribed, then analysed using framework analysis in Dedoose.

Results: Findings indicate the preference for using TCAM was related to participants' previous experiences with influenza and the subsequent view that influenza is not serious enough to warrant vaccination. Using TCAM and over-the-counter medication offered participants the convenience of multiple options of treatments that could be made or purchased and used at home. Some of these methods included the consumption of home remedies made with herbs and other ingredients, as well as inhaling steam from infused water. Opting for TCAM aligned with knowledge and practices passed down to participants by familial figures, particularly grandmothers and ancestors. Additionally, participants expressed concerns about the possible effects of vaccination and the uncertainty about the composition of influenza vaccines.

Conclusion: The findings point to a gap in information regarding the nature of influenza and an underappreciation of the benefit of influenza vaccination. These findings also suggest that using TCAM provides a familiar and trusted alternative to influenza vaccination.

SOCM4-02

Vaccine hesitancy among pregnant women in South Africa.

Dr Catherine E Martin, Glory Chidumwa, **Dr Mrinmayee Dhar**, Mr Jean Le Roux, Ms Shobna Sawry, Alka Larkan, Melissa Dahlke, Dr Diane Morof, Benjamin A Dahl, Prof Lee Fairlie, Prof Saiqa Mullick

Introduction: Vaccine hesitancy negatively impacts vaccine uptake and may compromise control of vaccine-preventable diseases. Understanding vaccine hesitancy among pregnant women is essential to strengthening maternal vaccination programmes, especially as new vaccines are introduced.

Methods: We conducted a cross-sectional, descriptive study among 315 pregnant women (≥18 years, ≥30 weeks gestation), attending antenatal care in one of six primary healthcare facilities in three areas of South Africa, from August to October 2024. Data were collected through fieldworker-administered surveys; vaccine hesitancy was assessed using standardized questions and a 10-item Vaccine Hesitancy Scale, adapted from the SAGE Working Group.

Results: Among 315 pregnant women, 39/315 (12.4%) reported reluctance and 5/315 (1.6%) had refused a vaccination whilst pregnant. Most participants agreed or strongly agreed that vaccines were safe (n=254, 80.6%), and compatible with religious (n=253,80.3%) and cultural beliefs (n=260,82.5%). Most agreed or strongly agreed that vaccinations were important for their health (n=299,94.9%) and the health of others (n=279,88.6%) and were effective (n=256,81.3%); that vaccines offered in the government programme were beneficial (n=243,77.1%); that information received about vaccines is reliable (n=254,80.6%); that vaccines are a good way to protect themselves from disease (n=303,96.2%); and that they follow their healthcare provider recommendations regarding vaccines (n=310,98.4%). Further, 60.3% (n=190) disagreed or were unsure that vaccines were not needed for diseases not common anymore, or that new vaccines carried more risks than older vaccines (n=223,70.8%). The most frequently reported concerns about vaccination in pregnancy were the baby's health and well-being (n=95,30.2%), side effects (n=82,26.0%), and the mother's health and well-being (n=51,16.2%).

Conclusion: Overall, pregnant women were accepting of vaccinations during pregnancy, although concerns about adverse events may be a barrier and interventions may be needed to improve confidence in the government's immunization programme. Highlighting vaccine safety and benefit to the baby are important in creating demand for maternal vaccination.

SOCM4-03

Retrospective analysis of microbial colonisation of intravascular catheters at an academic hospital in Johannesburg, 2019-2022.

Mr Shawn Lutchman, Ms Sanelisiwe Duze, Dr Teena Thomas

Introduction: Intravascular catheters (IVCs) are integral healthcare devices used to monitor and manage critically ill patients. These devices cause complications due to microorganism colonisation, leading to central line-associated bloodstream infections (CLABSIs), which account for the highest nosocomial infections globally. Studies on CLABSI events in South Africa are scarce.

Objectives: The study aimed to determine (1) the number of colonized IVCs between 2019 – 2022, (2) the colonizing aetiological agents, (3) their AMR profile, along with (4) the number of CLABSI events, (5) their aetiological agents, (6) with special attention to the data before, during, and after the Coronavirus disease 2019 (COVID-19) pandemic.

Methods: The study aimed to investigate the epidemiology of microbial colonization of IVCs and CLABSI events at a tertiary-level hospital between January 2019 to December 2022. Data was collected from the National Health Laboratory Services and analyzed using Microsoft Excel and Stata/SE 18.

Results: Results showed that 2020 had the most colonized IVCs (28.21%; 431/1528), with the Trauma ICU (11.71%; 179/1528) being the most burdened area. CLABSI events also occurred mostly in 2020 (32.61%; 75/230), with the multidisciplinary ICU (30/230; 13.04%) being the most affected. There were (52.60%; 121/230) CLABSI events during the COVID-19 pandemic (2020-2021), higher than pre- and post-pandemic periods. Klebsiella pneumoniae and Staphylococcus epidermidis were the most implicated in IVC colonization and CLABSI events. The most prevalent antimicrobial resistance profile of IVC-colonisers was multidrug-resistant Acinetobacter baumannii and Pseudomonas aeruginosa (33.66%; 162/496).

Conclusion: Intensive care units had longer catheterization periods, resulting in greater catheter colonisation and CLABSI events. Gram-negative organisms predominantly caused the CLABSI events. CLABSI events peaked during the first year of COVID-19 due to

increased patient hospitalizations and poor infection prevention and control practices. The study illustrates that understanding the epidemiology and drivers of CLABSI events can assist in preventing these infections.

SOCM4-04

Profiles of people reached and accessing pre-exposure prophylaxis through a novel pharmacy model: South Africa.

Miss Lettie Makola, Ms Tsitsi Nyamuzihwa, Mr Theodore Wonderlik, Mrs Mantsi Mkansi, Ms Siphokuhle Tinzi[1], Mrs Angela Temb[1], Mr Siphamandla Gumede

Introduction: The PPREPP-SA study is currently underway across 11 community pharmacies in Gauteng and the Western Cape. The study is offering PrEP to individuals utilizing two major pharmacy chain groups and Independent pharmacies.

Objective: To describe the demographics, risk factors, and continuation patterns of individuals reached and accessing PrEP in pharmacies.

Methodology: Adults (≥18 years) visiting pharmacies are recruited and consented, with demographic data captured in REDCap. Following screening and a self-reported risk assessment, participants are initiated on PrEP by an in-pharmacy nurse. They are followed up at months 1, 4, 7, 10, and 13 over a 13-month period. Data on socio-demographics, sexual behaviours, and self-reported PrEP adherence are collected at each visit. Family planning support and syndromic STI management are also provided. Frequencies were calculated to describe categorical variables while median and interquartile range were calculated for continuous variables. Analyses were conducted using STATA version 17.

Results: Utilizing the in-pharmacy model,1906 individuals were reached, the majority being women, 1195(63%), and Black (1779,93%), with 1005(53%) having secondary level education. Of these, 1703 (89%) individuals initiated PrEP, 1294 (76%) reporting condomless sex, 869(51%) having a partner/s with unknown HIV status and 695(37%) having sex under the influence of alcohol or drugs. Most (1516, 89%) individuals were PrEP naïve. Continuation data declined over time: 802(47%) at month 1, 457(26%) at month 4, 382(22%) at month 7, 320(18%) at month 10 and 158(9%) at month 13, Month 10 and month 13 follow-ups are still ongoing.

Conclusion: This model effectively reaches young men and women, especially black women. The decline in PrEP continuation over time indicates that additional support strategies are needed to maintain PrEP use. Scalable, tailored service delivery that ensures continuity will be crucial for improving long-term engagement and maximizing the public health benefits of PrEP.

SOCM4-05

High-throughput screening of South African medicinal plants identifies potent antiviral compounds against SARS-CoV-2 and influenza.

Dr Luke Invernizzi, Prof Vinesh Maharaj, Dr Phanankosi Moyo, Dr Ian Tietjen, Prof Thomas Klimkait

Introduction: The COVID-19 pandemic and seasonal influenza continue to pose public health challenges. South Africa's biodiversity and traditional medicinal knowledge present a rich but underexplored source of novel antiviral compounds.

Objectives: To identify and characterise antiviral agents from South African medicinal plants active against SARS-CoV-2 and influenza viruses.

Methods: A high-throughput, bioassay-guided pipeline was implemented using automated ultrasonic extraction and fractionation systems. Twenty ethnomedically relevant species were processed to yield over 300 extracts and fractions. Samples were screened using spike/ACE2 disruption, cytopathic effect (CPE), and plaque-reduction assays against SARS-CoV-2 variants (Wuhan, Beta, Delta, Omicron). Active compounds were characterised using UPLC-QTOF-MS, NMR, and HPLC. Separately, the novel compound HLS was screened against influenza A (H1N1) and B using RT-PCR, and its toxicity assessed via a 10-day maximum tolerated dose (MTD) study in mice.

Results: From Gunnera perpensa L., punicalin and punicalagin disrupted spike/ACE2 binding (IC_{50} <10 nM) and reduced viral plaques by >75% at 15 µg/mL with no cytotoxicity. Imunakilactone B, isolated from a separate species, showed potent activity against Beta and Omicron variants in CPE assays (IC_{50} = 0.3 µg/mL). HLS, structurally distinct and not previously reported for antiviral activity, demonstrated >87% inhibition of H1N1 and significant activity against influenza B, with >85% cell viability. No toxicity was observed in mice at 1000 mg/kg/day.

Conclusion: This study highlights the utility of high-throughput ethnobotanical screening for antiviral discovery. The identification of multiple structurally diverse, potent antivirals, including Imunakilactone B and HLS, demonstrates the therapeutic promise of South African medicinal flora and supports greater integration of traditional knowledge into biomedical innovation.

SESSION 5: CHRONIC DISEASE CONSIDERATIONS

SOCM5-01

Antitumor activity of polymer-conjugated betulinic acid in human pancreatic cancer cells.

Ms Karabo Sekopi Mosiane, Prof Ekene Emmanuel Nweke, Dr Mohammed Balogun, Prof Pascaline Fru

Introduction: Pancreatic cancer (PC) is one of the most aggressive solid malignancies, characterised by poor response to treatment and consequently low survival rates. Phytochemicals like betulinic acid (BA) have shown potential in treating various solid tumours, although limited. Conjugation to polymeric carriers has been investigated as an approach to improving the therapeutic potential of BA. This study aimed to determine the effect of the polyethylene glycol-betulinic acid conjugate (PEG-BA) on PC cells.

Objectives: To determine cell death inducing effect of PEG-BA on pancreatic cancer (MIA-PaCa-2) and non-cancerous (Vero) cells. To investigate the expression of apoptotic genes, post BA and PEG-BA treatment. To determine the antioxidant potential of the BA and PEG-BA. To assess the effect of BA and PEG-BA treatment on the apoptosis evasion mechanism of MIA PaCa-2 cells

Methodology: Cell death was analysed using 2,3-Bis-(2-methoxy-4-nitro5-sulfophenyl)-2Htetrazolium-5-carboxanilide salt (XTT) and flow cytometry-based assays. Antioxidant potential was assayed using 2,2-diphenyl-1-picrylhydrazyl (DPPH) and N,N'-diethyl-1,4-phenylenediamine (DEPPD). Real-time PCR was used for gene expression studies and ELISA for NFκB/p65 enzyme quantification.

Results: PEG-BA treatment resulted in selective cytotoxicity against the MIA PaCa-2 cells with an IC_{50} of 3.01±0.62µM compared to 40.29±3.60µM for BA. Furthermore, PEG-BA induced apoptotic cell death through the arrest of MIA-PaCa-2 cells in the Sub-G_1 phase of the cell cycle compared to BA and untreated cells (39.50±5.32%>19.63±4.49%>4.57±0.82%). The conjugate resulted in moderate expression of NFκB/p65. However, significant ($p<0.05$) overexpression of the pro-apoptotic genes TNF (23.72±1.03) and CASPASE 3 (12059.98±1.74) compared to untreated cells was notable. The antioxidant potential of PEG-BA was greater (IC_{50}=15.59±0.64µM) compared with ascorbic acid (25.58±0.44 µM) and BA-only (>100 µM).

Conclusion: Overall, conjugation of PEG to BA resulted in more specific cytotoxicity, apoptotic induction of cell death and antioxidant activity in MIA PaCa-2 cells compared to free BA suggesting its potential for effective PC treatment.

SOCM5-02

A dual microbiome-targeted chemotherapeutic drug delivery system for the treatment of non-small cell lung cancer.

Miss Shivani Nana

Introduction: Non-small cell lung cancer (NSCLC) is the leading cause of cancer-related deaths globally. Chemotherapy, while effective, often disrupts the lung microbiome, which plays a crucial role in respiratory health and immune function. This study aims to develop a dual-delivery system that combines probiotics with chemotherapy to restore microbial balance while effectively targeting cancer cells.

Objectives: To formulate and evaluate a nebulized Eudragit S100 microparticle system co-encapsulating Lactobacillus acidophilus and etoposide for targeted pulmonary delivery, with the goal of enhancing anti-cancer efficacy and preserving lung microbiota symbiosis.

Methods: Lactobacillus acidophilus was cultured, quantified, and co-encapsulated with etoposide into Eudragit S100 microparticles using an oil-in-water emulsion solvent evaporation technique. Etoposide was dissolved in a 70% methanol organic phase with Eudragit S100 before emulsification. Microparticles were characterized for size, zeta potential, morphology, entrapment efficiency, and release profiles. Probiotic viability post-nebulization was evaluated via colony-forming unit (CFU) counts. Cytotoxicity of the formulations was tested on A549 lung carcinoma cells using the MTT assay, and microscopy was used to distinguish cancer cells from bacteria.

Results: Successful co-encapsulation of etoposide and probiotics produced microparticles within the ideal aerodynamic range (1–5 µm) for lung deposition. The formulation maintained viable probiotics post-nebulization and showed sustained drug release. MTT results, supported by microscopy, demonstrated marked cytotoxicity of the dual-loaded system against A549 cells, with minimal interference from probiotic metabolism.

Conclusion: This co-delivery strategy presents a promising therapeutic platform that targets NSCLC while supporting microbial homeostasis in the lungs. The formulation shows potential to improve treatment outcomes and reduce chemotherapy-induced microbiome disturbances. Ongoing studies aim to optimize the delivery system and investigate its mechanisms in greater depth to support clinical application

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SOCM5-03

Hypertension incidence and its correlates in an urban South African middle-aged cohort.

Mr Boitumelo Komane, Associate Professor Juliana Kagura, Prof Julia Goedecke, Prof June Fabian, Prof Lisa Micklesfield

Introduction: Longitudinal studies on the incidence and risk factors for hypertension in urban populations living in resource constrained settings are needed.

Study aim: To determine the incidence of hypertension and its correlates in a longitudinal cohort of middle-aged men and women from Soweto.

Methods: Data from a cohort of middle-aged men and women from Soweto, an urban township in Johannesburg, South Africa, was used for this study. Data on blood pressure, socio-demographic, anthropometry, and chronic diseases and medication use was collected at 4 time points between 2011 and 2025. Participants were included if they had data for at least two time points and were normotensive at baseline. Hypertension was defined as systolic BP ≥140 mm Hg and/or diastolic BP ≥90 mm Hg, or hypertension diagnosis by a healthcare provider, or current use of antihypertensive medication. The incidence of hypertension was calculated using survival analysis and the risk factors for incident hypertension were determined using Cox proportional hazard regression model.

Results: Of the 683 participants who were eligible for the study, there were 326 incident cases of hypertension during the study period. The overall incidence of hypertension was 22.6/100 person years. The incidence did not differ significantly between men (20.7/100) and women (24.8/100) (p=0.0723). In multivariable analyses, older age (hazards ratio (HR): 1.02, 95% CI: 1.00-1.04), higher BMI (HR: 1.04, 95% CI: 1.03-1.06), and being an alcohol consumer (HR: 2.30, 95% CI: 1.54-3.42, p<0.001) were associated with incident hypertension.

Conclusion: The study identified a high incidence of hypertension, highlighting that hypertension is a growing health issue in urban Soweto. Intervention strategies should focus on health literacy campaigns, community-based screening BP programs, and lifestyle change programs. Continued longitudinal studies are needed to understand the complexities related to incident hypertension over time.

SOCM5-04

Genetic insights into dilated cardiomyopathy in African patients using exome sequencing.

Miss Minenhle Mayisela, Dr Dineo Mpanya, Dr Phelelani Mpangase, Prof Zané Lombard, Dr Megan Shuey-Henthorn, Prof Quinn Wells, Prof Roy Zent, Prof Nqoba Tsabedze

Approximately one-third of DCM cases are familial, indicating an urgent need for population-specific genomic insights. This study aimed to characterize genetic variants associated with DCM using whole exome sequencing (WES) in a cohort of African patients presenting with idiopathic heart failure. Conducted at a tertiary academic center in Johannesburg, South Africa, the study prospectively enrolled 100 probands with an ejection fraction below 40% and no identifiable clinical cause for their condition. Genomic DNA was sequenced using the Illumina HiSeq 2000 platform, and variants were filtered across 14 genes commonly implicated in DCM based on international consensus guidelines. The pathogenicity of each variant was assessed using ACMG criteria and supported by computational prediction tools and curated databases. Among the 100 probands, 32 unique variants were detected across the candidate genes. Seven probands harbored pathogenic or likely pathogenic variants, primarily in TTN (n=4), MYH7 (n=2), and LMNA (n=1), including two TTN variants not previously reported. Overall, the diagnostic yield for clinically actionable variants was 7%, which is lower than rates observed in European cohorts. This low yield underscores the limitations of current gene panels when applied to African populations and highlights the need for broader genomic discovery to improve variant interpretation frameworks. The study advocates for inclusive, ancestry-informed approaches in cardiovascular genomics to advance equitable precision medicine and improve outcomes for African patients.

SOCM5-05

Predicting whole exome sequencing results in children with developmental disorders and congenital heart defects.

Dr Aliya Mukadam, Ms Zandisiwe Goliath, Ms Daniesha Govender, Ms Nadja Louw, Dr Nadia Carstens, Prof Zané Lombard, Prof Michael Urban, Prof Amanda Krause

Introduction: The Deciphering Developmental Disorders in Africa (DDD-Africa) project aims to study causes of developmental disorders using whole exome sequencing (WES). This sub-study assesses how well deep clinical phenotyping, compared to online and artificial intelligence (AI) tools, predicts results of WES in patients with developmental disorders (DD) and congenital heart defects (CHD) in South Africa, a low-resource setting.

Methods: The DDD-Africa study recruited participants under 18 years with developmental disorders. 50 participants with both DD and CHD, and final WES results, were assessed. Facial photographs were entered into AI tools (Face2Gene, GestaltMatcher). A feature search of Human Phenotype of Ontology (HPO) terms (from clinical notes and photographs) was conducted using the London Medical

Database (LMD) and YieldPred, a tool that predicts likelihood of positive WES. A Medical Geneticist in training used the above sources,

a literature review and clinical acumen to predict whether each participant would have a positive or negative WES result and what the top five differential diagnoses were. Predictions from the various tools and clinical assessment were statistically compared.

Results: Diagnostic yield for WES in the cohort of patients with DD and CHD was 17/50(34%). The clinician assessment had 17/17(100%) sensitivity (95%CI:0.82-1) and 22/33(67%) specificity (95%CI:0.50-0.80) for predicting positive versus negative WES results. By comparison, YieldPred (>0.5; </=0.5) had 10/17(59%) sensitivity (95%CI:0.36-0.78) and 14/33(42%) specificity (95%CI:0.27-0.59). The correct diagnosis was in the top five differentials by clinical assessment in 15/17(88%) cases, significantly better than with any of the tools: Face2Gene Features/LMD 5/17(29%) (p=0.0013, Fisher's exact); Face2Gene DeepGestalt 4/17(24%); Face2Gene GestaltMatcher 0/17(0%); and GestaltMatcher Database 5/17(24%).

Conclusion: In a South African setting where WES availability is limited, thorough Medical Genetics assessment appears to have high sensitivity and moderate specificity for identifying patients likely to benefit from WES, and narrows the differential diagnoses more effectively than AI tools alone.

SESSION 6: APPLICATIONS BEYOND THE CLINIC

SOCM6-01

Prevalence and patterns of workplace violence in primary health care settings in Ekurhuleni, South Africa.

Dr Afolake Amodu, Prof Laurel Baldwin-Ragaven, Prof Nicola Christofides

Background: Workplace violence (WPV), is defined as; 'incidents where staff are abused, threatened or assaulted in circumstances related to their work.' Primary health care (PHC) workers render services both within and outside PHC facilities, such as home visits, and work directly within the communities. The aim of this study was to assess the prevalence and predictors of workplace violence among healthcare workers (HCWs) in PHC facilities in one sub-district of Ekurhuleni district.

Methods: All HCWs at PHC facilities were invited to participate if they had worked for at least12 months. Data was collected via REDCap using self-administered questionnaire partly adapted from ILO/ICN/WHO/PSI multi-country study on violence against health care workers. Descriptive and inferential analysis was conducted using multivariable logistic regression.

Results: Of the 723 health workers who completed the questionnaire, 34.8% reported at least one incident of psychological abuse, 6.8% physical abuse and there were 7 cases of sexual violence in the previous 12 months. A greater proportion of HCWs reported witnessing physical abuse (22.4%) and 34% reported witnessing psychological abuse. Patients and their families were most commonly the perpetrators of the WPV but colleagues and managers were also named. Professional status (doctors and nurses vs. others) and working overnight were significantly associated with both psychological and physical violence while being a full-time employee was associated with psychological violence. About half (52.2%) were aware of the reporting procedures for workplace violence.
Conclusion: Workplace violence is a concerning issue in primary health care facilities with doctors and nurses who work overnight being at greater risk. Nearly half were unaware of the reporting procedures. Work is required to develop a clear set of guidelines for managing WPV. Prevention activities need to be put in place.

SOCM6-02

Post-traumatic stress disorder in an antenatal population South Africa: prevalence and associated factors.

Dr Megan Fyffe, Dr Mojalefa Makgata, Prof Lesley Robertson

Introduction: The prevalence of Post-Traumatic Stress Disorder (PTSD) globally is uncertain and varies between countries. There is a paucity of information in low- and middle-income countries, including South Africa. Perinatal PTSD may have potentially devastating consequences for both mother and child with respect to functional impairment and its resultant effects on attachment and parenting ability.

Objectives: To determine the prevalence and associated factors of PTSD in an antenatal population attending a community health centre (CHC).

Methods: A cross-sectional study using investigator-administered questionnaires, (1) Socio-demographic and antenatal history questionnaires and (2) The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) was employed. The (PCL-5) is used for screening of PTSD and could assist in early identification of PTSD and inform timeous intervention.

Results: 100 pregnant women between 18 and 40 years of age participated in this study. PCL-5 scores ranged from 0-65, with 16% (n=16) screening positive for PTSD. The most common symptoms reported were intrusion and arousal/reactivity. There were no significant sociodemographic or maternal health differences between those with and without PTSD. However, alcohol use was significantly associated with having PTSD (p=0.026).

Conclusions: PTSD is common among antenatal women in Sedibeng district and may be associated with alcohol use in pregnancy. The study highlights the importance of screening pregnant women for PTSD to ensure early intervention and management.

SOCM6-03

Long-acting injectable antipsychotics vs oral antipsychotics: comparing utility and relapse rates in dual diagnosis outpatients.

Dr Mohlalefi Charles Letuka

Introduction: Dual diagnosis-the co-occurrence of a serious mental illness and a substance use disorder— poses a significant treatment challenge in South Africa, where substance use is prevalent and integrated services are limited. While long-acting injectable antipsychotics (LAIs) are known to improve clinical outcomes in psychotic disorders, their role in dual diagnosis populations remains under-explored.

Objectives: This retrospective cohort study compared clinical and substance relapse rates across three treatment groups: oral antipsychotics (OAs), LAIs, and combination therapy (CT: LAI + OA) in a South African dual diagnosis clinic,

Methods: This retrospective cohort study included 212 patients with a DSM-5 diagnosis of serious mental illness and comorbid substance use disorder who attended the Zamani Dual Diagnosis Clinic in Soweto between 2022-2023.
Data included demographics, diagnosis, treatment regimen, urine drug tests, symptom re-emergence, and psychiatric readmission.
Relapse was defined as clinical relapse (requiring readmission) or substance relapse (positive urine test). Analysis was conducted using STATA 15.

Results: The cohort was predominantly male (90.09%) and unemployed (83.02%), with a high prevalence of psychotic disorders (85.85%) and cannabis use (90.57%). Clinical relapse occurred in 20.75% of patients (p = 0.0069), with the LAI group showing the lowest clinical relapse rate (4.35%), compared to OAs (17.21%). Substance relapse was more common in the cohort (63.21%) and highest in the CT group (76.12%), and lowest in the OA group (54.10%) (p = 1.0058). Re-emergent symptoms were lowest in the LAI group (13.04%) (p = 0.0011).

Conclusion: LAIs did not significantly reduce substance relapse, however, they were associated with lower rates of clinical relapse and symptom re-emergence, reinforcing their role in stabilising psychiatric symptoms even amidst ongoing substance use. Only 10,9% of patients received LAI monotherapy, and 42,5% received any form of LAI, highlighting significant gaps between evidence and practice, and the underutilisation of LAIs in dual diagnosis.

SOCM6-04

Decomposition dynamics in shifting environmental conditions: subaerial to freshwater aquatic transitions and vice versa.

Miss Alexandra Lindsay, Dr Craig Keyes, Mr Lawrence Hill

Introduction: Decomposition studies are pivotal for forensic science, offering insights into postmortem events. While decomposition dynamics in static environments are well-documented, transitions between terrestrial and aquatic settings remain underexplored, particularly in diverse ecological regions like South Africa.

Method: This study investigated decomposition rates in juvenile piglets subjected to subaerial-to-freshwater aquatic and freshwater aquatic-to-subaerial transitions. Twelve piglets were used in total: five in each experimental group and two controls, each exposed exclusively to either subaerial or aquatic conditions. Decomposition progression was quantified using Adjusted Total Body Scores (ATBS) and Total Aquatic Decomposition Scores (TADS), which were standardized for cross-environment comparison. Accumulated Degree Days (ADD) were calculated to account for thermal input.

Results: Subaerial-to-aquatic transitions exhibited delayed decomposition initially, followed by rapid tissue breakdown post-submersion, often leading to near-complete skeletonization. In contrast, aquatic-to-subaerial transitions displayed rapid decomposition during submersion, followed by reduced activity and partial or complete mummification after environmental change. These shifts were reflected in scoring results but also revealed morphological changes not accounted for in current scoring systems.
Transitions between environments significantly alter decomposition rates, and patterns. Existing scoring systems proved limited in accounting for these shifts, particularly in cases of mummification.

Conclusion: This study highlights the need for a novel scoring framework tailored to fluctuating environments and calls for further research into decomposition morphology specific to environmental transitions.

SOCM6-05

Bone: formation by autoinduction ex vivo?

Dr Roland Manfred Klar

Introduction: The regeneration of bone via tissue regenerative therapies remains elusive as the translatability from pre-clinical animal based research can still not be properly converted into the clinical environment. However, with the emergence of organoid systems and ever more advanced bioreactor technologies, new possibilities in how to form new bone, within an ex vivo environment to be later transplanted within critical sized bony defects is slowly becoming a viable new option.

Objectives: The current project sought to explore a new type of ex vivo organoid bone formation model by utilizing the basic principles of bone formation by induction principles.

Methods: Utilizing coral-derived macroporous devices implanted in ex vivo and in vivo muscle pouches the extent of bone formation was analyzed, over a period of 60 days. The extent of new vasculogenesis and angiogenesis including key markers for early and late bone formation where assessed using quantitative real time polymerase chain reaction and immunohistomorphomertical assays.

Results: Results showed that the ex vivo model was capable of supporting tissue survival up to 60 days with compromised tissue ingrowth compared to its in vivo counterpart. Primary vascular networks formed at the tissue scaffold interface in the organoid system, evident by the Col4a1 and Vegf expression. Whilst limited bone formation was present in the in vivo system the ex vivo model showed a significant delay in the process mimicking the in vivo trends but with some distinctions.

Conclusions: Overall the study proved that despite being separated from the comprehensive in vivo conditions, the ex vivo organoid bone model can establish its own vascular network with bone formation only failing because of certain in vivo conditions being absent. Meeting these conditions could establish new bone formation technology that could indefinitely form bone ex vivo providing new ways to finally heal large bone defects in humans.

POSTERS		
NO.	PRESENTER	PAPER TITLE
1	Dr Umar G. Adamu	Outcomes of bioadaptor versus drug-eluting stents in coronary artery disease: a systematic review and meta-analysis
2	Dr Umar G. Adamu	Single versus dual arterial access during TAVI: a systematic review and meta-analysis with trial sequential analysis
3	Dr Afolabi Ajadi	Simulation models for corporal aspiration and irrigation in ischaemic priapism: a systematic review
4	Dr Oluseyi Ajayi	Bacterial pathogens in late-onset sepsis: 8-year trends from a South African NICU.
5	Mrs Alonie Gracia Alombong	Isolation and investigation of plant extracellular vesicles in gel formulations for potential wound healing applications
6	Dr Amma Antwi	The prevalence of postoperative pain and its relationship with preoperative anxiety at a tertiary hospital
7	Mr Trevor Baloyi	Commissioning and implementation aspect of the Monaco TPS system at CMJAH
8	Dr Johanni Beukes	Do youth employment initiatives change health behaviours and living conditions of South African young adults?
9	Miss Courtney Boake	Role of tumour-derived exosomes in immune evasion in colorectal cancer
10	Dr Irini Bogiages	Outcomes of complicated acute appendicitis at a central academic hospital in Johannesburg, South Africa
11	Miss Micaela Bouter	Rostered versus actual overtime working hours of medical interns at Helen Joseph Hospital
12	Miss Mackayla Bridger	Evaluating mealworms (Tenebrio molitor) as a maceration method for forensic skeletal preparation
13	Mr Frederik Burger	A review of ICU utilisation and outcomes at a district-level hospital in Gauteng, South Africa
14	Dr Mohammed Farhaan Carrim	Perceived competency of final year medical students in managing acute medical emergencies
15	Miss Vutomi Chabalala	Evaluation of Warburgia salutaris as a potential antimicrobial agent for the treatment of oral infections
16	Dr Mbali Cossie	Radioactive iodine treatment of multifocal variant of papillary thyroid carcinoma with bone metastases at CHBAH
17	Dr Michelle Cremer	Acute myocardial infarction in a patient with anomalous left main coronary artery origin with a hypoplastic left anterior descending artery: a diagnostic and therapeutic challenge
18	Prof John Devar	Metabolomic and lipoprotein profiling of South African gall bladder cancer patients.
19	Dr Mrinmayee Dhar	Vaccine uptake during antenatal care among pregnant women in South Africa
20	Dr Mrinmayee Dhar	Value chain situational analysis of maternal immunisation in South Africa
21	Dr Mrinmayee Dhar	Vaccine knowledge among pregnant women receiving ANC in rural, urban and peri-urban clinics in SA
22	Prof Janan Dietrich	The AWARE study: evaluating early warning systems for climate-sensitive infectious diseases: a country case report
23	Mr Siyabonga Dubazana	Time and money costs of accessing pre-exposure prophylaxis for HIV prevention in rural KwaZulu Natal
24	Miss Sinegugu Dubazana	Multi-omic analyses of the tumour microenvironment of South African pancreatic ductal adenocarcinoma patients
25	Dr Sandra Fernandes	The clinical management of COVID-19 in psychiatric inpatients at a specialised psychiatric hospital
26	Miss Kailin Giltrow	Comparing maceration methods for the preparation of infant skeletal remains for forensic anthropological analysis
27	Dr Elizea Horne	Perspectives on maternal vaccination from pregnant women, partners, influencers, and community members in South Africa
28	Dr Jill Huang	Prevalence, microbiological cultures and impact of intra-abdominal sepsis in ICU trauma patients at CMJAH
29	Ms Akira Jones	Ethical integration of carebots in South Arica: a utilitarian, deontological, and ubuntu approach

30	Dr Trésor Kabamba	Wound complications post-vulvar surgery in HIV positive women treated at a teaching hospital in Johannesburg
31	Dr Kamau Kinandu	Acute cellular rejection in adult liver transplant recipients in Johannesburg, South Africa
32	Dr Keletso Jennifer Kobela	From hyperthyroidism to hidden malignancy: incidental papillary thyroid carcinoma in Graves' disease at Baragwanath Hospital
33	Miss Tzipora Krawitz	Outcomes of TNT in locally advanced rectal cancers at WDGMC
34	Dr Clement Nyuyki Kufe	Prevalence of preoperative anaemia and associations in urban tertiary health facilities, Johannesburg – database-based study
35	Dr Jason Le Roux	Contributing factors to decision delivery interval and impact on fetal outcome at a central hospital
36	Dr Michelle Lowe	Tracking Pneumocystis jirovecii pneumonia in South Africa: diagnostic insights from national data
37	Dr Ongombe Lunda	A review of maternal deaths before and during COVID-19 pandemic: a four-year comparative study
38	Miss Ncumisa Madolo	Investigating the oncogenic role of the transcription factor TBX3 in glioblastoma
39	Ms Mulalo Mashamba	Factors influencing influenza vaccine uptake among adults in Johannesburg, South Africa: a qualitative study
40	Mrs Mazvita Shereen Matsa	Evaluating patient costs for young adults accessing pre-exposure prophylaxis at mobile clinics in Cape Town
41	Dr Mbali Matyeshana	Audit of the patterns of prostate metastases in patients for PSMA PET/CT imaging at CMJAH
42	Miss Jessica Mbali Mazibuko	Exploring patterns of PrEP use and HIV risk perception among PrEP users in South Africa
43	Mr William McMahon	T-cell responses to ancestral SARS-CoV-2 and Omicron in unvaccinated hospitalised adults with and without HIV
44	Mrs Ruth Mogokotleng	Antimicrobial resistance and genomic insights in to Enterococcus species from poultry farms in South Africa
45	Dr Shaaista Mohungoo Khan	Evaluation of point-of-care HbA1c against a laboratory method in a South African tertiary-level diabetes clinic
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47	Ms Constance Mongwenyana-Makhutle	Reaching women living with HIV between the ages of 30-49 years old missing from care.
48	Mr Justin Moodley	Association of VEGF-A polymorphisms with albuminuria in black South Africans living with type 2 diabetes
49	Miss Priya Moodley	Pathogenic variants in African individuals with OCA2, negative or heterozygous for the 2.7 kb deletion.
50	Mr Yureshen Moodley and Mr Ariel Pincus	Tumour site and survival in colon and rectal cancer: insights from a longitudinal cohort, Johannesburg.
51	Dr Aneesa Moolla	A qualitative analysis of healthcare provider preferences for working under the National Health Insurance bill
52	Dr Aneesa Moolla	Treatment experiences of patients with HIV and non-communicable diseases at tertiary hospitals in Johannesburg
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55	Mrs Tshifhiwa Mukheli	Assessing knowledge and practices in diabetic foot ulcer prevention among patients with diabetes mellitus
56	Dr Nandi Mwase	Artificial intelligence readiness in health science education and research
57	Dr Monde Mzoto	Impact of the mask mandate on the microbiology of complicated sinusitis during the COVID-19 pandemic
58	Dr Vivash Naidoo	Computational modelling of tunicamycin c interaction with protein targets: from inverse docking with molecular dynamic simulation
59	Miss Mpfuno Ndlovu	Assessing antimicrobial therapy outcomes in adults with confirmed bacterial infections from low-income settings, Johannesburg 2025
60	Ms Raabiah Noorbhai	Barriers to paediatric pain assessment and management in sub-Saharan Africa: a scoping review

61	Dr Olusegun Ogunbanjo	Septic arthritis following acute non-perforated appendicitis: a rare case report and review of the literature
62	Dr Vernice Peterson	Impact of proximal aortic stiffness on forward wave pressure in coronary artery disease
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64	Dr Koketso Pule	Impact of COVID-19 pandemic on perinatal outcomes – an ecological study at CHBAH 2019- 2022
65	Dr Letlhogonolo Ramaswe	Spectrum of posterior fossa cysts in South African paediatric patients: tertiary neurosurgical centre epidemiological analysis
66	Dr Malerato Ramela	A profile of deaths in children at Diepkloof FPS mortuary from 01/01/2019 to 31/12/2020
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68	Dr Ruan Rheeders	Variability between anaesthetists and artificial intelligence in identification of anatomical structures for ultrasound-guided regional anaesthesia.
69	Dr Alison Rothman	Family planning knowledge and practices amongst physicians in academic centres in Johannesburg, South Africa
70	Miss Alexis Schwulst	Nanoparticle infused wafers for the improved oral delivery of sensitive biologics.
71	Mr Katlego Setshedi	Planning and technical delivery parameters in volumetric modulated arc therapy for nasopharyngeal carcinoma.
72	Dr Lauren Stuart	Telemedicine in context: comparing referral pathways for blood pressure management in Soweto, South Africa
73	Dr Pablo Sumaraj	A cross-sectional study of patients with prosthetic mitral valves at a tertiary centre in Johannesburg
74	Dr Rahmiz Thomas	Shift in breast cancer stage from anatomical staging classification to the clinical prognostic staging system
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76	Dr Philemon Ubanako	In silico and in vitro analysis of imiquimod as a potential tankyrase inhibitor in cancers
77	Dr Tshegofatso Ubisi	Outcomes and complications of traumatic bladder injuries: retrospective review of a level 1 trauma centre
78	Dr Tshegofatso Ubisi	Routine laparotomy in cases of omental evisceration: retrospective review of a level 1 trauma unit.
79	Dr Tshegofatso Ubisi	Clinical outcomes following bowel eversion in penetrating abdominal trauma
80	Dr Anastasia Ebele Ugwuanyi	Healthcare students' experiences of participating in narrative medicine groups in South Africa and Finland
81	Dr Alex Van Blydenstein	Histologic findings in adults hospitalised with hypoxaemic pneumonia during the COVID-19 pandemic in South Africa
82	Dr Carien van der Meer WITHDRAWN	An audit of the Fracture Liaison Service at Helen Joseph Tertiary Hospital, Johannesburg, South Africa.
83	Miss Sarah van der Spuy	Acute pain management in trauma: a prospective cross-sectional observational study in the Gauteng province
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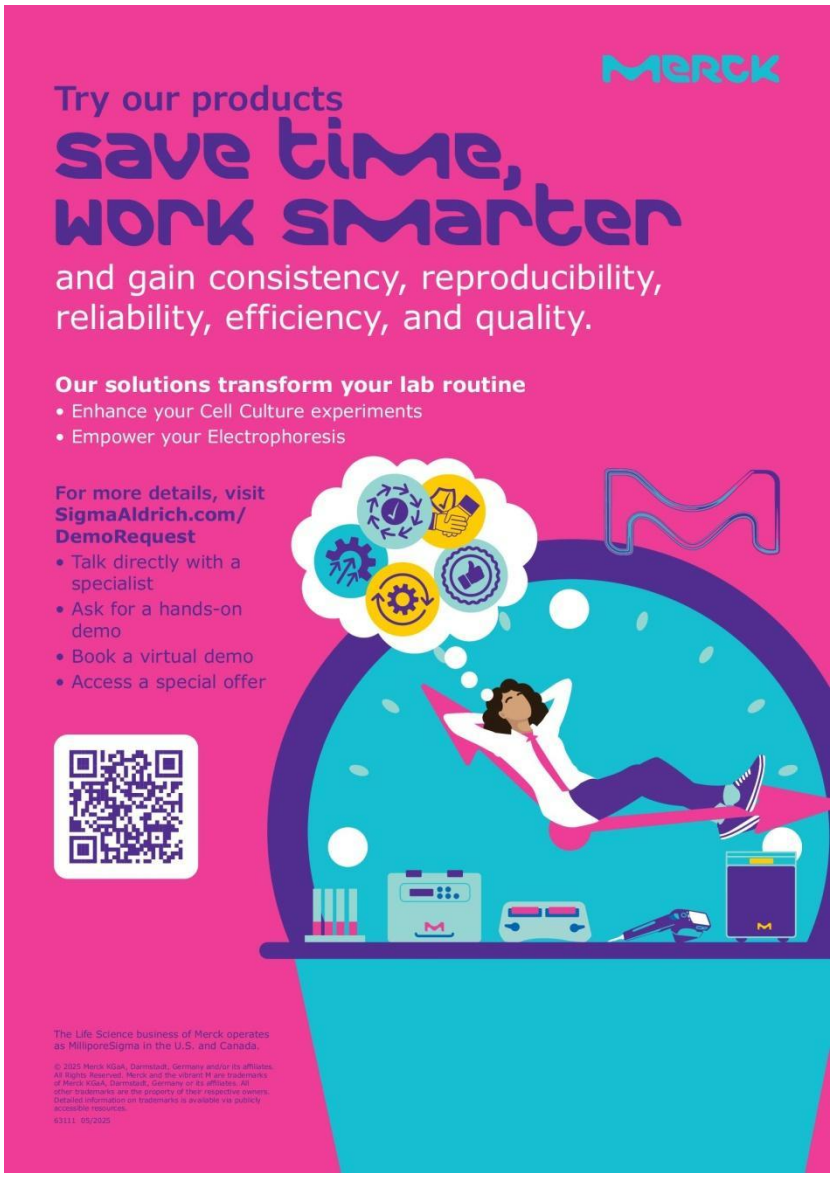

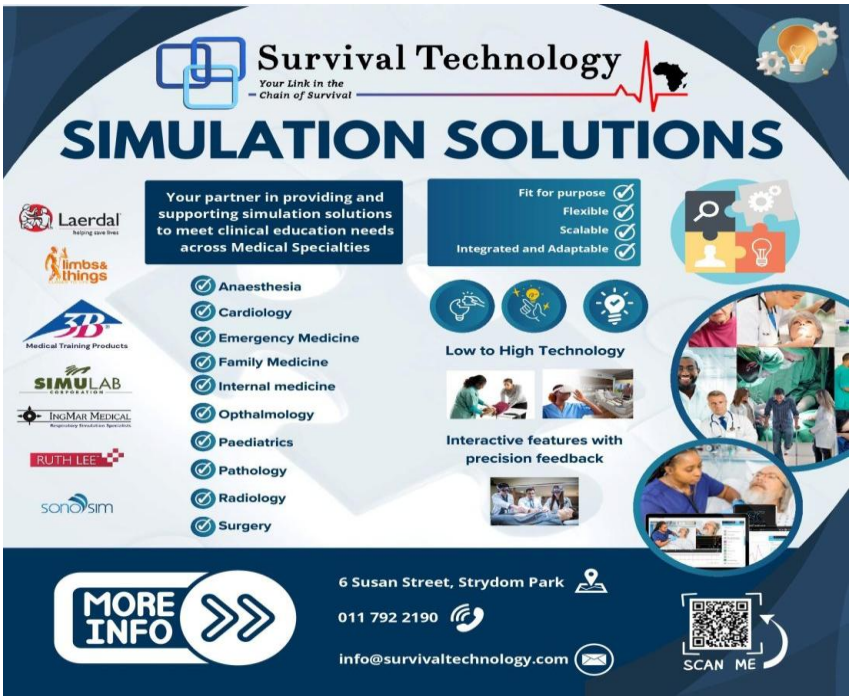

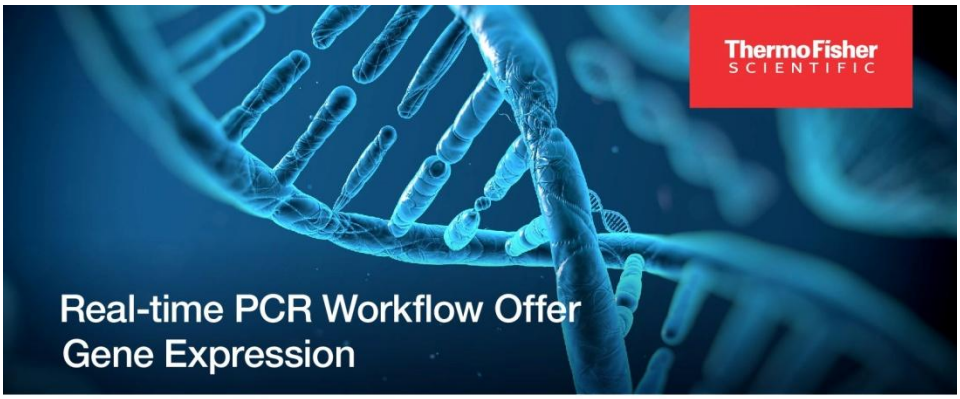

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