Proposed members of the WHO global guidelines for the prevention of bloodstream infections and other infections associated with the use of intravascular catheters

Part 1 – peripheral catheters





Ghada Abdelwahed Ismail

Secretary of Supreme Infection Prevention and Control Committee
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MD
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Professor Ghada Abdelwahed Ismail is an expert in clinical microbiology, infection prevention and control (IPC) and epidemiology since 2008, IFBA certified biosafety officer since 2017. She holds a total quality management and patient safety diploma, with vast experience in teaching and curricula development, training, building capacity in IPC and health-care associated infections (HAI) and antimicrobial resistance (AMR) surveillance programs. She tailors IPC guidelines for university hospitals and participates in formulation of national IPC guidelines for Egypt and all its updates. She participated in the formulation of WHO minimum standards for IPC in limited resources countries and in updates of WHO booklets for injection safety, safe phlebotomy in collaboration with WHO, Egypt. She prepared the desk review on injection safety for Egypt and developed safety training program and safety guidelines for UHs in Egypt. She assessed IPC practices in universities with suggested improvement recommendation to ensure healthcare quality and safety. She moderates projects to improve diagnosis of neonatal sepsis, preparation of blood culture sampling and interpretation for intensive care units. She investigated outbreaks in university hospitals and moderated risk mitigation and containment. She declares no conflict of interest and will participate in the meeting in the category of technical expert.



Muna Abu Sin

Deputy Head Unit for healthcare-associated infections, surveillance of antimicrobial resistance and consumption

Robert Koch Institute, Department for Infectious Disease Epidemiology

MD, MSc

Berlin, Germany

Dr Muna Abu Sin is an epidemiologist and deputy head of the unit for healthcare associated infections, surveillance of antimicrobial resistance and consumption at the Robert Koch Institute based in Berlin, Germany. Her unit is a WHO collaborating centre for Antimicrobial Resistance, Consumption and Healthcare-Associated Infections and currently coordinating the WHO AMR Surveillance and Quality Assessment Collaborating Centres Network. She was trained and worked long-time as a medical doctor specialized in internal medicine and infection prevention and control at the hospital level and has over 10 years' experience in the field of healthcare-associated infections and outbreaks and surveillance of antimicrobial resistance and use at the national and international level. She has published on AMR and antimicrobial use (AMU) surveillance data and burden of healthcare-associated infections.



Paul Anantharajah Tambyah

Professor of Medicine

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MD

Singapore, Singapore

Professor Paul Ananth Tambyah is currently Professor of Medicine at the National University of Singapore and Senior Consultant Infectious Disease Physician at the National University Health System. He is also visiting consultant to the Singapore Armed Forces and the National Centre for Infectious Diseases. He is Infection control advisor to the National University Polyclinics, Khoo Teck Puat Hospital and Ng Teng Fong General Hospital. He is also president of the Asia Pacific Society of Clinical Microbiology and Infection and President of the International Society for Infectious Diseases. After completing medical school at the National University of Singapore, he went on to infectious diseases training at the University of Wisconsin under Dr Dennis Maki. His research interests are in device associated infections and emerging infectious diseases.



Anucha Apisarnthanarak

Professor in Infectious Diseases
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MD

Khlong Nueng, Thailand

Dr Anucha Apisarnthanarak is current the Professor and Chief of Infectious Diseases Division at Thammasat University Hospital. He also serves as an Adjunct Visiting Professor at Division of Infectious Diseases, Washington University School of Medicine, USA. Dr Apisarnthanarak's research focus included infection prevention in resource-limited setting, infection control to prevent multi-drug resistant microorganisms as well as outbreak investigations. He published more than 250 peer-review articles and more than 20 peer-review book chapters. He has been a key committee member of many national and international societies including Thai National Nosocomial Infection Group, Society of Healthcare Epidemiology of America, and Asia Pacific Society of Infection Control. Dr Apisarnthanarak also serves as editorial board for key infectious diseases and infection control journals including Clinical Infectious Diseases, Infection Control and Hospital Epidemiology and American Journal of Infection Control.



Hiba Azrag

Director of Infection Control Directorate

Directorate General of Quality, FMOH, Sudan

MBBS, MD

Khartoum, Sudan

Dr Hiba Azrag is currently the Director of Infection Control Directorate at Directorate General of Quality at the Federal Ministry Of Health (FMoH), Sudan and assigned by the FMoH's Under Secretary as Rapporteur of the National Infection Control Committee. She was the former national coordinator of healthcare-associated infection surveillance system, at Directorate General of Quality, FMoH and former national coordinator of rotavirus and invasive bacterial diseases surveillance system at Expanded Program on Immunization, FMOH, Sudan. Dr Azrag has been working for FMoH in Sudan for 11 years. She has 11 years of experience in Infection Prevention and Control and epidemiology field including experience in developing National Infection Prevention and Control guidelines development and updating committee in Sudan.

Dr. Azrag studied at Ahfad University for Women and graduated in 2004 with degree in Medicine and General Surgery. She is a holder of Clinical MD in community medicine from Sudan Medical Specialization Board, Infection Prevention and Control Professional Diploma from Arab Institute for Continuing Professional Development and fellowship from International Society of Quality in Healthcare (ISQua). She is certified in infection prevention and control by Certification Board of Infection Control and Epidemiology (CBIC).



Gao Bin

Consultant and Chief physician, Infectious Diseases Unit, Tianjin 4th Centre Hospital, Tianjin, China

Tianjin 4th Central Hospital

MD

Tianjin, China

Dr Bin Gao obtained his MD diploma in 2009 from Tianjin Medical University, Tianjin, China, with a specialization in infection prevention and control and antimicrobial resistance. He has held the post of consultant and chief physician at the Infectious Diseases Unit at Tianjin 4th Centre Hospital, Tianjin, China, since 2016, which is affiliated with Tianjin Medical University and Nankai University. From 2015-2016, he was director of the nosocomial infection control unit and chief physician of the infectious/liver diseases centre at Peking University International Hospital in Beijing. Previously, he was director and chief physician of the nosocomial infection control unit at Teda International Cardiovascular Disease Hospital in Tianjin from 2013-2014, and from 2006-2013 he served as director of the nosocomial control unit, chief physician of the liver diseases outpatient clinic and consultant in infectious diseases at Tianjin 2nd People's Hospital/Tianjin Infectious Diseases Hospital in Tianjin.

Dr Gao has a longstanding experience in communicable diseases. In the context of a Sino-France cooperation in 2005-2009, he expanded his work to infection prevention and control and the reasonable use of antimicrobials. As a core member and executive lead of the project, he helped to introduce a contemporary infection prevention and control system in China, which has significantly evolved since then. Notably, Dr Gao improved compliance with hand hygiene practices in an infectious diseases hospital by adapting WHO recommendations and achieved a reported sustainability of 90% in 2013. He then implemented infection prevention and control and other measures to combat antimicrobial resistance through an integrated patient-centred and evidence-based strategy in non-communicable disease hospitals in China, both at the local and national level, especially around the COVID-19 pandemic. Dr Gao also helped to lead and put in place the Chinese government emergency response in Wuhan in early 2020.

Dr Gao has followed a course organized by Johns Hopkins University on the conduct of systematic reviews and metaanalyses, followed by a course in guideline development organized by the Healthcare Infection Society (HIS) (UK). He has also conducted and guided meta-analyses in the management of infectious diseases since 2008 and is a member of the HIS guideline committee since 2019.



Denise Brandão de Assis

Technical Director of Division of Nosocomial Infections

Center for Epidemiologic Surveillance "Prof. Alexandre Vranjac", Center of Disease Control, São Paulo State Health Department

MD, PhD

São Paulo, Brazil

Dr Denise Brandão de Assis is an infectious diseases specialist with a MD in public health and epidemiology obtained in the Faculty of Public Health Faculty, University of São Paulo. She obtained her PhD at the same university with a research on evaluating the impact of intervention measures in an intensive care unit in the state of São Paulo.

She has an extensive list of publications in the field of outbreak investigation, infection prevention and control and healthcare-associated infections surveillance. She is currently the am the technical director of division of nosocomial infections, Center for Epidemiologic Surveillance "Prof. Alexandre Vranjac", Center of Disease Control, São Paulo State Health Department.

Niccolò Buetti



Médecin Adjoint Agrégé
Infection Control Program, Geneva University Hospitals
MD, MSc, PhD
Geneva, Switzerland

Dr Niccolò Buetti studied medicine at the University of Zurich (Switzerland) and is board certified in internal medicine and infectious diseases with focus on Infection Control and Prevention. He worked as a consultant at the Bern University Hospital and was deputy-head of research and development of the Swiss National Center for Infection Control (2017-2018). In 2019, he obtained a master's degree in clinical epidemiology from the Sorbonne University of Paris, France. He worked at the IAME laboratory (Paris) from 2018 to 2020, he obtained a PhD degree in clinical epidemiology at the University of Paris in 2021.

He is currently working at Infection Control Program and WHO Collaborating Centre, University of Geneva Hospitals. In 2020 he received the young investigator award from the ESCMID. Dr Buetti's research interests lie primarily in the epidemiology of hospital-acquired bloodstream infections as well as in the development of preventive measures and management strategies for intravascular catheter-related infections. Since 2021 he has the lead of the national intravascular catheter infection surveillance program. He was the lead/first author of the Society of Healthcare Epidemiology of America (SHEA) and society and Infectious Diseases Society of America (IDSA) recommendation "Strategies to prevent central-line—associated bloodstream infections in acute-care hospitals".



André Bulabula

Antimicrobial resistance and infection prevention and control focal point

Africa Centers of Disease Control

MD, MScClinEpi, PgDipIPC, MIT-DSML, PhD

Adis Ababa, Ethiopia

Dr André N.H. Bulabula is a D.R.Congolese Medical Doctor (MD, Catholic University of Bukavu), with Specialist training in Infection Prevention and Control (Stellenbosch University and University of Essex), and Clinical Epidemiology (Stellenbosch University), he earned a Doctor of Philosophy (PhD) in Public Health from the same university, focusing on IPC and Epidemiology.

Dr André N.H. Bulabula contributed to the strengthening of infection prevention and control programmes in several African countries, working with the Infection Control Africa Network (ICAN), WHO AFRO, ICAP at Columbia University, Africa CDC and several universities in the region and beyond. He is a regular invited speaker to international conferences and webinars, a senior researcher and lecturer in the field of IPC and Public health in general. He has more than 25 publications in high impact peer-reviewed journals (Nature, Lancet, CID, etc.) including research works on bloodstream infections.



Abigail Carlson

Physician, International Infection Control Program
Centers for Disease Control and Prevention
MD, MPH
Atlanta, United States

Dr Abigail Carlson is a physician with the International Infection Control Program in the Division of Healthcare Quality Promotion at the Centers for Disease Control and Prevention. She serves as a technical advisor and implementation lead for the program's work in Vietnam and Thailand. Dr. Carlson joined the CDC in September 2020 as part of CDC's Project Firstline, an infection control education and training initiative for frontline healthcare workers. Prior to this, she was an assistant professor of medicine at Washington University in St. Louis (Missouri, USA), serving as a clinical infectious diseases physician, medical antimicrobial stewardship director, and associate healthcare epidemiologist at the Veterans Affairs St. Louis Health Care System.



Marilyn Cruickshank

Professor of Nursing
University of Technology Sydney
RN, BA, PhD
Ashfield, Australia

Professor Marilyn Cruickshank is a registered nurse with over 10 years' experience in the development and implementation of national safety and quality programs. Professor Cruickshank holds a PhD (2008) in nursing from the University of Technology Sydney and is currently the Professor of Nursing -Research with the Sydney Children's Hospitals Network.

Professor Cruickshank is internationally recognised as an expert in research and policy development with a strong track record in infections control and antimicrobial resistance. She was the inaugural Chair of Antimicrobial Resistance Standing Committee (AMRSC) 2012-14; member of the Australian Health Principal Protection Committee (2012-14); Chair, Australian Multi-Resistant Gram Negative Taskforce 2015-16. Member of the Confederation of National Nursing and Midwifery Organisations (CONNMO) 2017–19; Expert Advisor, Australian Scientific and Technical Advisory Group on AMR 2014-19; Council member of Asia Pacific Society for Infection Control (APSIC) 2019-21; inaugural Chair of the Australian Paediatric Nurse Scientists (AusPaNS) 2018-; Past President of Australasian College of Infection Prevention and Control (ACIPC) (President 2017-19); Board Director and Executive member of International Federation of Infection Control 2019-23.



Anita Desai

Professor and Head, Department of Neurovirology

National Institute of Mental Health and Neurosciences

PhD

Bangalore, India

Dr Anita Desai obtained her PhD in Neurovirology in 1994 and was heading the Department of Neurovirology at NIMHANS until her superannuation in February 2023. Her areas of research focused on clinical and molecular virology. Early in her career, she received two awards from the Wellcome Trust, London enabling her to initiate studies on molecular diagnosis, pathogenesis, immunology and epidemiology of viruses such as Japanese encephalitis virus (JEV), Rabies, HIV, Influenza, Chikungunya, Dengue and more recently SARS-CoV-2.

More recently, in a project on AES surveillance in India, her group developed and validated an algorithm that enhanced etiological identification from 16% to 48%. The findings had a significant impact on policy and treatment in the 3 states and the national testing algorithm for AES changed by ICMR and NVBDCP.

As in-charge of the national programs on HIV at NIMHANS, I have worked with the NACO-CDC core group of experts to implement quality system essentials in the testing centres across the country. During the COVID-19 pandemic, besides SARS-CoV-2 testing, she has been in the forefront with mentoring of laboratories, evaluation of kits, serving as one of the 11 mentoring sites in the country for the National Clinical Registry for COVID-19 (ICMR) and establishing genomic surveillance for SARS-CoV-2 leading to inclusion of NIMHANS as one of the 10 institutes involved in whole genome sequencing under DBT (INSACOG) for recognizing variants.

She has served WHO as a temporary international professional as well as a consultant to strengthen laboratory systems in South East Asian countries, assisted countries to develop the national laboratory policy and strategic and operational plans and has coordinated and contributed to manuals.



Aleksander Deptula

Head of the Department of Propaedeutics of Medicine and Infection Prevention

Nicolaus Copernicus University

MD, PhD

Bydgoszcz, Poland

Dr Aleksander Deptula has obtained his medical degree at the Faculty of Medicine of the Medical Academy in Bydgoszcz. He completed his specialization in the field of medical microbiology at the Department of Clinical Microbiology at the University Hospital No. 1. im. Dr. Antoni Jurasz in Bydgoszcz.

Since 2010,he has been involved in the work of the National Program for the Protection of Antibiotics, under which he coordinates research on nosocomial infections and co-authored the recommendations in the field of infection diagnosis and therapy.

Dr Deptula represents Poland in the Advisory Board of the European Committee on Infection Control (EUCIC) in the European Society of Clinical Microbiology and Infectious Diseases (ESCMID). He has extensive list of publications in the field of infection prevention and control, healthcare-associated infections and antimicrobial resistance.



Susan Hopkins

Chief Medical Advisor

UK Health Security Agency (Director General, Senior Civil Service)

BA, MB BCh BAO, MRCPI, MSc, FRCPI, FRCP, FRCPath, FFPH

London, United Kingdom

Professor Susan Hopkins is the Chief Medical Advisor at the UK Health Security Agency (UKHSA). In this capacity she leads the Clinical and Public Health Group whose objective is to provide professional health security, clinical and public health leadership for the UK through the provision of advice, guidance, evidence, and assurance across infectious diseases and other health threats. Prior to joining UKHSA, Susan was Deputy Director of the National Infection Service at Public Health England (PHE). Susan worked as National Incident Director and subsequently National Strategic Response Director for COVID-19 in PHE from 2020-2022 and was seconded to NHS Test and Trace as Chief Medical Advisor, supporting and advising on testing, tracing, and surveillance functions. She is Professor of Infectious Diseases and Health Security at University College London (UCL) and continues to work clinically as a consultant in Infectious Diseases and Microbiology at the Royal Free London NHS Foundation Trust. She is a Fellow of the Royal College of Physicians Ireland, the Royal College of Physicians London, the Royal College of Pathologists, and the National Faculty of Public Health.

Susan has an internationally recognised quality of research outputs, including over 250 high impact publications and over £30 million of active grant funding. She has research spanning the area of healthcare-associated infection, blood stream infection and catheter associated device infection. She has collaborated on the EU wide point prevalence infection on healthcare-associated infections. She has developed national guidelines on infection prevention and control.

She declares that she received research grants on healthcare-associated infection, bloodstream infections and infection prevention and control in the amount of £ 4.8 million over five years from the National Institute for Health and Care Research, United Kingdom (UKNIHR), interest currently active. The BSI Guidelines Secretariat assessed her declaration of interest and agreed that the type of interest does not constitute a conflict of interest. She will participate in the category of technical expert.



Shevin Jacob

Reader in sepsis research
Liverpool School of Tropical Medicine, Liverpool
BS, BA, MPH, MD
Kampala, Uganda

Dr Shevin Jacob is an infectious diseases physician who obtained his Doctorate of Medicine at Oregon Health and Sciences University (1999-2004) and a Master's in Public Health from the Harvard T.H. Chan School of Public Health (2002-2003). He underwent post-graduate training in internal medicine at the University of Virginia (2004-2007) and infectious diseases at the University of Washington (UW) (2008-2012), after which he remained as a faculty member within the UW Department of Medicine until 2017. In 2017, he shifted his academic home to the Liverpool School of Tropical Medicine in the UK where he is currently Reader in Sepsis Research.

He declares that he is a member of the Board of Directors and Executive Committee for the Global Sepsis Alliance and the co-Founder, Secretary General and an Executive Committee Member for the African Sepsis Alliance. He declares that his research unit at the Liverpool School of Tropical Medicine received a grant award of approximately £2.5 million from the National Institute for Health Research (NIHR). The current interest ended in September 2022. The BSI Guidelines Secretariat assessed his declaration of interest and agreed that the type of interest does not constitute a conflict of interest. He will participate in the category of technical expert.



Kushlani Jayatilleke

Consultant Microbiologist

Sri Jayewardenepura General Hospital, Nugegoda, Sri Lanka

MBBS, MD

Colombo, Sri Lanka

Dr Kushlani Jayatilleke has had post graduate training in Sri Lanka from 1996 to 2003 and then as a Specialist Registrar in Medical Microbiology in Lancashire Teaching Hospitals NHS Trust, UK and as a Locum for service Specialist Registrar in Microbiology at the Leeds Teaching Hospitals NHS Trust, UK in Medical Microbiology which included Infection prevention and control (IPC). Dr Jayatilleke obtained the Post Graduate Diploma and MD in Medical Microbiology which included IPC. Then practiced in Sri Lanka as the consultant microbiologist in different stations where I was the focal point in IPC. She is working as an expert advising the ministry of health related to IPC in Sri Lanka and have been working as a member of the GDG in IPC unit in WHO, Geneva since 2016. Dr Kushlani has several publications and many presentations done on IPC related topics.

She declares that she is employed as the consultant microbiologist where infection prevention and control (IPC) activities of the hospital is her responsibility as the head of the IPC unit. On this capacity, she has prepared and implemented guidelines for prevention of line associated bloodstream infections and currently receives approximately Rs 400,000 (Sri Lankan Ruppees). The BSI Guidelines Secretariat assessed her declaration of interest and agreed that the type of interest does not constitute a conflict of interest. She will participate in the category of technical expert.



Fernanda Lessa

Team Lead of International Healthcare-associated infections and Antimicrobial resistance prevention at the Division of Healthcare Quality Promotion

Centers for Disease Control and Prevention

MD, MPH

Atlanta, United States

Dr Lessa is the lead of the prevention team with the International Infection Control Program in the Division of Healthcare Quality Promotion at CDC. Dr Lessa has over 15 years' experience in hospital epidemiology and IPC. She started her career as a hospital epidemiologist in Brazil and then moved to the United States to join the CDC as an Epidemic Intelligence Service Officer in 2006. At CDC, she has led several important initiatives and programmes, including revisions of health care-associated infections definitions for neonatal intensive care unit patients, population-based surveillance systems for Clostridioides difficile and methicillin-resistant Staphylococcus aureus and the Global Pneumonia Program. Dr Lessa has experience of working in Latin America, Africa and Asia. She has published over 60 peer-reviewed papers and has authored several book chapters on infectious diseases epidemiology. During the COVID-19 pandemic, she was CDC liaison with the WHO on the IPC pillar of the WHO COVID-19 response, and, in collaboration with WHO, developed several global guidance documents on the prevention of COVID-19 in health care settings. Dr Lessa received her medical degree in Brazil and has a Master's in Public Health from the University of California at Berkeley, School of Public Health.



Kalisvar Marimuthu

Senior Consultant in Infectious diseases and internal medicine

Tan Tock Seng Hospital and National Centre for Infectious Diseases, Singapore

MRCP, FAMS, MSc (Epi)

Singapore, Singapore

Dr Kalisvar Marimuthu is a senior consultant in Infectious Diseases and infection prevention and control at the National Centre for Infectious Diseases (NCID) and Tan Tock Seng Hospital, Singapore. He also leads the health-care associated infections surveillance unit at the NCID. He is an adjunct assistant professor of Medicine at the National University of Singapore. He is a member of Singapore's National Infection Prevention and Control Committee (NIPC). His research interests include transmission dynamics of emerging pathogens and MDROs, antimicrobial resistance, and applied genomics in Infection Prevention and Control.



Marc Mendelson

Head of Division of Infectious Diseases and HIV Medicine
University of Cape Town
BSc, MBBS, MRCP, PhD, DTM&H, FRCP
Cape Town, South Africa

Professor Marc Mendelson BSc MBBS PhD(cantab) FRCP DTM&H FRSSAf is full Professor of Infectious Diseases, and Head of the Division of Infectious Diseases and HIV Medicine at University of Cape Town, South Africa. Professor Mendelson's work on infection, antimicrobial stewardship and infection prevention and control spans over a decade, across clinical, research, and policy areas. He is a working clinician, undertaking daily rounds to steward antibiotics and enforce institutional level prevention from device-associated infections. He is the founding co-chair of the South African Antibiotic Stewardship Programme and has chaired the Ministerial Advisory Committee on Antimicrobial Resistance (AMR) since 2014. He led the development of South Africa's national action plan for AMR through its national strategic framework and directs one of the country's two antimicrobial stewardship training centres. He has provided technical assistance to many WHO panels on AMR and guideline development groups relating to infectious diseases (including COVID-19, Azithromycin for preventing childhood mortality, and Monkeypox) and works with a number of international organisations to mitigate AMR. Recent AMR and Infection Prevention and Control publications related to the prevention of bloodstream infections (BSI) include those defining Staphylococcus aureus BSI in South Africa, and patient involvement in Infection Prevention and Control to reduce healthcare-associated infection.

Leonard Mermel



Professor of medicine
Brown University
DO, ScM, AM (Hon), FACP, FIDSA, FSHEA
Providence, United States

Leonard A. Mermel, DO, ScM, AM (Hon), FACP, FIDSA, FSHEA is Professor of Medicine, Warren Alpert Medical School of Brown University, Adjunct Clinical Professor, University of Rhode Island College of Pharmacy and Medical Director of the Department of Epidemiology and Infection Control for the Lifespan Hospital System. Dr. Mermel was a Technical Expert Panel Member of the Center for Medicare and Medicaid Services Patient Safety Monitoring System. He was 2005 President of the Society for Healthcare Epidemiology of America (SHEA) and 2014 SHEA Mentor Scholar Award recipient honouring individuals who are recognized for their dedication and excellence in mentoring trainees in infection prevention and control. He was 2016 recipient of The Milton W. Hamolsky Outstanding Physician Award from the Rhode Island Hospital Medical Staff Association for a physician who has made exceptional contributions to medicine, medical education and research; who has demonstrated leadership; and who has been an exemplary role model. He was the 2021 SHEA Senior Scholarship Award recipient recognizing the work of an investigator/practitioner in infection prevention/healthcare epidemiology in practice for 15 years or more based on the breadth and quality of the nominee's contributions to infection prevention/healthcare epidemiology. He is the 2021 Rhode Island ACP Milton Hamolsky Lifetime Achievement Award recognizing academic, clinical, research, and/or administrative excellence of a physician who epitomizes the attributes of the award's namesake, Dr. Milton Hamolsky.

Dr. Mermel has co-authored US guidelines dealing with prevention and management of intravascular catheter infections and he has co-authored over 400 articles, textbook chapters, and abstracts dealing with infection control and infectious diseases. He is in the 2018 and 2019 Highly Cited Researchers List by Web of Science and Clarivate Analytics. In 2021, he was listed as a "World Expert" in the top 0.1% of scholars writing about Bacteraemia over the prior 10 years according to Expertscape. Dr. Mermel and Dr. David Classen developed the idea for the Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals which is now a standard guidance used in the United States and the basis for some of the National Patient Safety Goals. He is Co-Course Director of the Annual Fellows Course in Hospital Epidemiology and Infection Control. He has lectured at the National Institutes of Health, Institute of Medicine, NASA Johnson Space Center, and internationally on infectious disease issues. His research interest is the prevention of healthcare-associated infections.



Abdullah Mohamed Asiri

Infectious diseases and Infection Prevention and Control specialist and assistant Deputy for Preventive Health

Ministry of Health of the Kingdom of Saudi Arabia

MD

Riyadh, Saudi Arabia

Dr Abdullah Mohamed Asiri is an Infectious diseases and Infection Prevention and Control specialist and assistant Deputy for Preventive Health at the Ministry of Health of the Kingdom of Saudi Arabia. Dr Asiri secured his Bachelor of Medicine, Bachelor of Surgery undergraduate degree in 1994 at the College of Medicine, King Abha, affiliated with Saud University. He began his medical career as a resident in the department of medicine at King Faisal Specialist Hospital and Research Center in Riyadh and stayed there until 1999 before he moved to its Jeddah branch. Asiri worked in Jeddah as an assistant consultant for one year.

From 2003 to 2006, Asiri worked as an internist and adult infectious diseases consultant and hospital epidemiologist at King Abdulaziz National Guard Hospital in the Eastern Province. During that period, he also undertook a fellowship in adult infectious diseases from Dalhousie University in Halifax, Canada.

Asiri was transferred to the southern part of the Kingdom in 2006 to work at the region's military hospital before he joined the King Fahd Medical City in Riyadh. In 2011, Asiri was appointed the director of the infection prevention and control administration at the Ministry of Health. He also became an adviser to the deputy minister of public health. Asiri's fields of professional concentration include infectious diseases, infection control, public health, and epidemiology.

Dr. Abdullah M. Asiri recently joined the Scientific Advisory Group for the Origins of Novel Pathogens, an advisory body to the World Health Organization. Asiri, who has been the assistant deputy minister for preventive health since 2013, is a member of the IHR Emergency Committee concerning Middle East respiratory syndrome coronavirus.



Sally Roberts

Clinical Microbiologist and Infectious Diseases Physician

Te Whatu Ora, Te Toka Tuma Auckland, New Zealand

BSc, MBChB, FRACP, FRCPA, CIC

Auckland, New Zealand

Dr Sally Roberts has been working for more than 20 years for Te Toka Tumai Auckland (formally known as Auckland District Health Board). Auckland City Hospital is New Zealand's largest public hospital and clinical research facility and it is committed to excellence in patient care, research, training and community service. I am currently Clinical Head of Microbiology and the Medical Lead for Infection Prevention and Control.

She has participated in national guideline writing groups for multiple antimicrobial resistant pathogens, respiratory viruses, antimicrobial resistance, and pandemic preparedness. In her role with the HQSC, I have led several national initiatives to reduce healthcare-associated infections. One area we are currently focusing on is healthcare-associated Staphylococcus aureus bacteraemia. She is collaborative and enjoys working with multi-disciplinary teams. She takes a pragmatic view to decision making with regards to guidelines as the end result needs to support the delivery of good clinical care.



Jean-François Timsit

Director of the Medical intensive care unit, Médecine intensive-Réanimation des maladies infectieuses

Assistance Publique Hôpitaux de Paris – Bichat

MD, PhD

Paris, France

Professor Jean-François Timsit has significantly contributed to the field of infectious diseases in critically ill patients. His research covers a wide range of topics, including sepsis and antimicrobial therapy, catheter-related infections, ventilator-associated pneumonia, quality of care improvement, prognostic models, and competing risks. Prof. Timsit has demonstrated that subcutaneous tunnelling can reduce, by two-thirds, the incidence of internal-jugularcatheter-related infections and that skin antisepsis with chlorhexidine-alcohol reduced the incidence of catheterrelated infections by six-fold and that of catheter-related bloodstream infections by five-fold compared with 5% povidone-iodine alcohol. In addition, Prof. Timsit discovered, concerning the EMPIRICUS trial, that more intensive treatment does not necessarily lead to a better outcome in ICU patients. Indeed, the day-28 fungal-infection-free survival in non-neutropenic and candida-colonized ICU patients with ICU-acquired sepsis was not improved by with Furthermore, Timsit empirical treatment micafungin. Prof. also investigated pharmacokinetics/pharmacodynamics of many antimicrobial drugs and has contributed to international recommendations for therapeutic drug monitoring in ICU patients.

Prof. Timsit graduated from the University of Paris-Cité with a thesis in epidemiology and healthcare evaluation and has supervised 28 master's and 10 PhD theses in the past 15 years. He is currently a professor of intensive care medicine at Paris-Cité University and the Head of the Medical and Infectious Diseases ICU at Bichat Hospital. He is a leader in critical care teaching in the Parisian area and the group leader of the Infectious Diseases in Critical Care section in the research unit Inserm U1137 (IAME) at Paris-Cité University.

Prof. Timsit heads the chair of the Critical Care section of the ECCMID (ESGCIP) and serves as an editor and deputy editor for several international journals. He has authored more than 600 indexed papers (Web of Science H index of 73) published in international peer-reviewed journals. He is also the president of the OUTCOME REA research network.

He declares consulting, including service as a technical or other advisor and financial support for being on a giving speeches for BD®, participation to advisory board in France and one lecture in 2022, in the amount of U\$2,000.00. The BSI Guidelines Secretariat assessed his declaration of interest and agreed that the type of interest does not constitute a conflict of interest. He will participate in the category of technical expert.



Walter Zingg

Head of the Infection Prevention and Control programme at the Zurich University
Hospital
Clinic for Infectious Diseases and Hospital Epidemiology, Zurich University Hospital,
Zurich, Switzerland, Charité
PD, MD
Zurich, Switzerland

Walter Zingg, PD Dr, has graduated at the University of Zurich and specialized in infectious diseases and paediatrics. He worked in paediatrics, infectious diseases and infection prevention and control in Zurich, Geneva and London. Today, he is the head of the infection prevention and control program at the University Hospital Zurich. His research interest is in surveillance and the prevention of healthcare-associated infections, the control of antimicrobial resistance, and in implementation science. He coordinates REVERSE, a Horizon 2020-project on fighting antimicrobial resistance in Europe. His publication list includes more than 160 publications in peer-reviewed journals with 3400 citations. He is a scientific expert for the World Health Organization and the European Centre for Disease Prevention and Control, and he coordinates the annual national point prevalence surveys in Switzerland. Dr Zingg is on the board of European study group for nosocomial infections (ESGNI), Swissnoso and the president of the Swiss society for hospital hygiene.

He declares previous consulting services to $3M^{\circ}$ related to a webinar on the proper use of peripheral venous catheters in the amount of \in 5,000.00. The BSI Guidelines Secretariat assessed his declaration of interest and agreed that the type of interest does not constitute a conflict of interest. He will participate in the category of technical expert.

Guideline Development Group Observers for "WHO Health Emergencies Programme COVID-19 infection prevention and control Guidance Development Group



Madonna Matar

Associate Professor at the Faculty of Medicine Holy Spirit University of Kaslik Notre Dame de Secours University Hospital, Byblos, Lebanon MD, MPH Beirut, Lebanon

Senior Infectious Diseases expert with twenty years of solid medical experience and a positive patient satisfaction record. Subspecialty in infections in immunocompromised cancer patients. Infection Control experience with strategic implementation of different guidelines at the institution and experience in education of peers and infection control officers. Promote Antimicrobial Stewardship Programs and lead the implementation initiative at the institution. Research interests in antimicrobial resistance, antimicrobial stewardship, brucellosis, fungal infections, infection control measures, vaccination and public health initiative. Collaborate with the Ministry of Public Health to tackle infectious diseases outbreaks and most recently the Covid-19 pandemic and the cholera outbreak. Special interest in various educational programs for medical doctors and nurses.