

WHO Guideline Development Group for living clinical practice guidelines for COVID-19: therapeutics and clinical management

BIOGRAPHIES
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World Health
Organization



Overview

For the development of the WHO **Therapeutics and COVID-19: living guideline, Living guidance for clinical management of COVID-19** and **WHO Living guideline: drugs to prevent COVID-19**, a formal Guideline Development Group (GDG) comprising individuals with broad expertise spanning multiple specialties and all regions was convened. This group also includes patient panel members.

The technical unit collected and managed declarations of interests (DOIs). In addition to the distribution of DOI forms, during meetings, the WHO Secretariat described the DOI process and an opportunity was given to GDG members to declare any interests not provided in written form.

WHO wants to acknowledge all the experts that contributed to the Guideline Development Group (GDG) and thank them for their commitment and support to achieve the evidence-based recommendations for care of patients with COVID-19.



Neill Adhikari

Neill Adhikari is an intensivist at Sunnybrook Health Sciences Centre and appointed to the Interdepartmental Division of Critical Care Medicine and Institute for Health Policy, Management and Evaluation, University of Toronto. His research interests include critical care delivery in under-resourced settings and clinical trials. He is co-PI of trials of vitamin C for sepsis, and blood pressure targets for vasodilatory shock. He co-leads the Toronto-Addis Ababa Academic Collaboration in critical care medicine. Neill participated in the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids); and served as Clinical Chair in the *Living guidance for clinical management of COVID-19* (January 2021, November 2021, current). No conflict of interest.



Thomas Agoritsas

Thomas Agoritsas is a hospital-based internist and health research methodologist, working as Senior Physician, Division of General Internal Medicine, University Hospitals of Geneva. He is also Assistant Professor of Medicine at the University of Geneva, and part-time Assistant Professor at McMaster University, Canada. He has been intensively engaged in frontline clinical work in the COVID-19 outbreak in Switzerland, and chairs a taskforce of evidence appraisal and clinical guidance for COVID-19 at the University Hospitals of Geneva. His academic activities focus on evidence synthesis, appraisal, guideline methodology, dissemination, access and use at the point of care, to enhance evidence-based practice and shared decision-making. He is Chief Medical Officer of the MAGIC Evidence Ecosystem Foundation – a non-profit organization developing digitally structured guidelines, evidence summaries and decision aids for clinicians and patients (magigproject.org). He co-steers the BMJ Rapid Recommendations, an international collaboration with the *British Medical Journal* to accelerate evidence into practice through trustworthy recommendations. He is an active member of the GRADE Working Group (Grading of Recommendations Assessment, Development and Evaluation), and the Living Evidence Network Steering Group, which coordinates the efforts of over 200 members, including Cochrane and non-Cochrane researchers, policy-makers and guideline developers. Thomas serves as a member of the methods support team for WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, interleukin-6 receptor blockers (IL-6 RB), casirivimab and imdevimab, Janus kinase inhibitors (JAK inhibitors), sotrovimab, current). No conflict of interest.



Wagdy Amin

Director General, Chest Diseases Department, Executive Manager of National Tuberculosis Programme (NTP), Egypt, Ministry of Health & Population. Wagdy Amin is a member of the Scientific Committee of COVID-19 and of the Scientific Committee of TB Control (MOHP, Egypt). He is interested in early diagnosis, treatment and control of TB and other chest infections, especially TB, drug-resistant TB and other chest diseases. He has long clinical experience as a pulmonologist and trainer in many fields in chest diseases and shared in developing TB, asthma and COPD guidelines and preparedness plans for influenza control.

During his work he has served as Clinical/Laboratory Coordinator (2003–2006), Training Coordinator (2006–present), TB/HIV Coordinator (2006–present), and Pandemic Influenza Focal Point (2006–2011). As Director, he has undertaken a variety of scientific activities: TB control courses in Cairo, in collaboration with Japan International Cooperation Agency (JICA) and WHO for training more than 250 members working in TB control in Eastern Mediterranean Region countries; TB control training for IEMSA members in collaboration with the Cairo Anti-Smoking, Tuberculosis and Chest Diseases Association in Cairo 2014; and various training courses in the field of multidrug-resistant TB and hospital management; and research studies in the field of chest diseases and TB and other infectious diseases such as influenza and COVID-19. He is also passionate about driving anti-smoking campaigns. Wagdy participated in the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, IL-6 RB, casirivimab and imdevimab, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current) and the *Living guidance for clinical management of COVID-19* (January 2021, Advanced respiratory support March 2022, current). No conflict of interest.



John Adabie Appiah

John Adabie Appiah is Senior Specialist Paediatric Critical Care, and Head of the Paediatric Intensive Care Unit of the Komfo Anokye Teaching Hospital, Ghana. He is Adjunct Lecturer at the Department of Child Health of the Kwame Nkrumah University of Science and Technology and President of the Paediatric Society of Ghana. He cares for the critically ill and seriously injured and children with life-threatening conditions.

His special interests are in sepsis and quality improvement in the care of seriously ill children, resuscitation, ventilation and management of sepsis in resource-limited countries. He has been instrumental in the introduction and wider utilization of non-invasive ventilation (CPAP) in newborns and infants with respiratory distress in Ghana. Prior to joining WHO, John participated in the WHO *Clinical management COVID-19: living guideline* (May 2020, January 2021). No conflict of interest.



Yaseen Arabi

Dr Arabi obtained his internal medicine training and Chief Medical Resident experience at Wayne State University, Detroit, USA (1992–1995). He obtained pulmonary and critical care training at the University of Wisconsin, Madison, USA (1995–1998). He is currently Chairman of the Intensive Care Department, Medical Director, Respiratory Services; and Professor, King Saud Bin Abdulaziz University for Health Sciences, King Abdullah International Medical Research Center, Saudi Arabia. He is the Principal Investigator/Co-Investigator on several multicentre randomized controlled trials. He has been involved in MERS and COVID-19 research. He has contributed to more than 300 publications, including articles in leading medical journals, and is a Section Editor for Intensive Care Medicine and on the editorial board of several journals. He received multiple grants and awards including the Barry A Shapiro Memorial Award for Excellence in Critical Care Management, Society of Critical Care Medicine, USA (2011). He participated in the WHO *Clinical management COVID-19: living guideline* (January 2021, November 2021, Advanced respiratory support March 2022, current). Due to his role in REMAP-CAP, convening therapeutics prioritization, he does not participate in the WHO *Therapeutics and COVID-19: living guideline*. See Annex 1.



André Ricardo Araujo da Silva

Dr André Ricardo Araujo da Silva is Professor of Paediatrics at the Federal Fluminense University, Niterói, Brazil (UFF), where he leads the Teaching Laboratory of Prevention and Control of Healthcare-associated Infections and coordinates the Scientific Initiation Program of Medicine course. His primary academic focus is infectious disease in children, particularly antimicrobial stewardship, infections by multidrug-resistant bacteria, infections in critically ill children and COVID-19. He holds a postdoctoral degree in antimicrobial stewardship in children from Dr von Hauner Children's Hospital, Ludwig-Maximilians-Universität, Germany. During the COVID-19 pandemic he attended to more than 350 confirmed children with COVID-19 in Brazil and published a number of articles/pre-prints on COVID-19. André Ricardo participated in the WHO *Living guidance for clinical management of COVID-19* (advanced respiratory support) and the WHO *Therapeutics and COVID-19: living guideline* (management of critical COVID-19: ARDS, fluvoxamine and colchicine, current) and the WHO MISC Severe COVID-19 Working Group Network. No conflict of interest.



Diptesh Aryal

Dr Diptesh Aryal is an Intensivist and the ICU Coordinator at Nepal Medcity Hospital (Bhaisepati Lalitpur, Nepal). He gained his MD (Anesthesia) from Tribhuvan University, Institute of Medicine, and completed his Clinical Fellowship training in Critical Care Medicine at St Michael's Hospital, Canada. He was formerly associated with Tribhuvan University, Institute of Medicine. Diptesh participated in the WHO *Living guidance for clinical management of COVID-19* (advanced respiratory support) and the WHO *Therapeutics and COVID-19: living guideline* (fluvoxamine and colchicine, current). No conflict of interest.



Abdullah Balkhair

Abdullah Balkhair is Senior Consultant in Infectious Diseases and Head of the Infectious Diseases Unit and Infection Control Department, Sultan Qaboos University, Oman. He has 16 years' experience in the practice of infectious diseases in a referral teaching hospital (SQUH) and many years in academia. His area of interest is emerging and re-emerging infections and infections in the critically ill, and he has authored many publications in peer-reviewed journals and received several research grants. He is currently leading the COVID-19 Task Force Team at Sultan Qaboos University Hospital in Oman. He participated in the WHO *Clinical management COVID-19: living guideline* (May 2020). No conflict of interest.



Corrado Barbui

Corrado Barbui holds a postdoctoral degree in Psychiatry from the University of Verona, Italy, and was trained in epidemiology, clinical psychopharmacology and health services research at the Mario Negri Institute for Pharmacological Research, Milan, and the Institute of Psychiatry in London, where he joined the editorial team of the Cochrane Collaboration Depression Anxiety & Neurosis Group. Returning to Italy, he conducted research in evidence-based mental health and pharmacoepidemiology at the University of Verona. In 2002 he was appointed Lecturer in Psychiatry and, in 2013, became Director of the WHO Collaborating Centre for Research and Training in Mental Health and Service Evaluation of the University of Verona. Under the leadership of WHO, he was involved in the development of the mhGAP Programme as an expert methodologist. In 2015, he was appointed Full Professor of Psychiatry. In 2017, he founded Cochrane Global Mental Health, a Cochrane network that supports the production, dissemination and implementation of systematic reviews relevant to mental health in low- and middle-income countries. He participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020). No conflict of interest.



Frederique Jacquerioz Bausch

Dr Frederique Jacquerioz Bausch is a general medicine internist and specialist in tropical and travel medicine, currently working as a Senior Physician, Department of Primary Care, University Hospitals of Geneva, with a joint appointment at the Center for Emerging Viruses. Previously Clinical Professor at the Tropical Medicine Institute von Alexander Humboldt, Cayetano Heredia Hospital and University in Lima, Peru, and Clinical Assistant Professor at Tulane School of Public Health and Tropical Medicine in New Orleans, USA, she served as a WHO consultant to provide clinical technical support during the 2013–2016 Ebola outbreak in West Africa, contributing significantly to the development of clinical guidelines and training material for the management of viral haemorrhagic fevers. She currently oversees the COVID-19 outpatient testing centres at the University Hospitals of Geneva and serves on the Hospitals Taskforce for COVID-19 evidence appraisal and clinical institutional guidance. Her current research focuses on the predictive factors of COVID-19 infection and adverse outcomes in the outpatient population. Frederique participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, molnupiravir, remdesivir updates, current). No conflict of interest.



Darren Brown

Darren Brown is a clinical and academic Physiotherapist specializing in HIV, disability and rehabilitation. Darren leads the HIV rehabilitation service at Chelsea and Westminster Hospital NHS Foundation Trust in London, UK. He is also Vice-Chair of Rehabilitation in HIV Association, HIV/AIDS Coordinator of World Physiotherapy subgroup IPT-HOPE, and steering committee member of Canada International HIV Rehabilitation Research Collaborative. Darren's research interests focus on disability prevalence and rehabilitation effectiveness among adults living with HIV. Darren contracted COVID-19 in March 2020, and continues to live with Long COVID. He is a founding member of @LongCovidPhysio, an online peer support group for physiotherapists and support workers living with Long COVID. Darren participated in the WHO *Clinical management for COVID-19: living guideline* (on the session on rehabilitation, January 2021). No conflict of interest.



Erlina Burhan

Erlina Burhan is a pulmonologist with more than 16 years' experience in pulmonology and respiratory medicine in Indonesia, where she is spearheading the fight against TB. Dr Burhan undertook research in Namibia during her postgraduate studies at Heidelberg University, Germany. Since then, she has been Head of the Infection Division Department of Pulmonology and Respiratory Medicine, Faculty of Medicine, Universitas Indonesia. Other positions held include: Head of the Professional Organization Coalition against Tuberculosis; member of the Board of Directors for the International Union Against Tuberculosis and Lung Diseases; and Head of the TB Assembly of the Asia Pacific Society of Respiriology. During the COVID-19 pandemic, she has acted as Head of the COVID-19 Commando Team Persahabatan National Lung Hospital and contributed to COVID-19 guidelines, training health care workers, and advising on health policy in Indonesia. Erlina participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Carolyn S Calfee

Carolyn S Calfee is Professor of Medicine and Anesthesia at the University of California San Francisco (UCSF), where she attends in the intensive care units. Her primary academic focus is the pathogenesis and treatment of acute respiratory distress syndrome (ARDS). Current research projects include: molecular subphenotypes of ARDS and precision medicine in critical care; the role of environmental exposures, including smoking, air pollution and novel tobacco products, in susceptibility to lung injury; and novel treatments for ARDS. During the COVID-19 pandemic, she has been the UCSF clinical lead and steering committee member for the NIAID-funded Immunophenotyping Assessment in a COVID-19 Cohort (IMPACC) study and is one of the lead PIs for the I-SPY COVID Trial, a Phase-2 platform clinical trial of novel treatments for COVID-19 associated ARDS. Carolyn participated in the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, ivermectin, cacasirivimab and imdevimab, IL-6 RB, JAK inhibitors, nirmatrelvir, remdesivir updates, current) and the WHO *Clinical management for COVID-19: living guideline* (Advanced respiratory support March 2022). See Annex 1.



Bin Cao

Dr Bin Cao is Vice President of China-Japan Friendship Hospital, Director of Department of Pulmonary and Critical Care Medicine, China-Japan Friendship Hospital; Vice Director of the National Center for Respiratory Medicine; Vice President of the Institute of Respiratory Medicine, Chinese Academy of Medical Sciences; Member of the Chinese Academy of Medical Sciences, Yangtze River Distinguished Professor of Ministry of Education; Professor of Capital Medical University; Professor of Tsinghua University-Peking University Joint Center for Life Sciences. He is President-elect of the Chinese Thoracic Society; Associate Editor of *Clinical Respiratory Journal*; Editorial advisory board member of *EBioMedicine*; and committee member of the Antiviral Group (AVG) of the International Society of Influenza and Other Respiratory Virus Diseases (ISIRV).

As a senior expert in respiratory infections, his research mainly focuses on the current key issues concerning acute respiratory infections and emerging infectious diseases, including: epidemiology, clinical characteristics, and treatment of viral pneumonia; molecular and cellular basis of the pathogenesis of influenza and COVID-19; and diagnosis and treatment strategy and drug resistance of infections by drug-resistant pathogens. He has published more than 200 peer-reviewed articles and reviews, among which 8 representative papers are published in the *Lancet* or *NEJM*.

Dr Cao has been intensively engaged in frontline clinical work in Wuhan since the COVID-19 outbreak and drafting the first and second edition of COVID-19 diagnosis and treatment guideline of China. He is leading the antiviral clinical trials in China, including remdesivir (Yeming W, et al. *Lancet*, 2020) and lopinavir-ritonavir (Cao B et al., *NEJM*, 2020. PMID: 32187464). He acts as the leading investigator for 6-month consequences of COVID-19 in patients discharged from hospital: a cohort study (Huang C, et al., *Lancet*, 2021. PMID: 33428867). He has been honoured with the title of National Outstanding Individual in the Fight against COVID-19 in 2020, Distinguished Respiratory Academic Contribution Award in 2018, National Award for Science and Technology Progress (Grand Prize) in 2017, Yangtze River Distinguished Professor of Ministry of Education in 2015, and Wu JiePing-Paul Janssen Medical-Pharmaceutical Award in 2014. Cao participated in WHO *Clinical management for COVID-19: living guideline* (May 2020) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids). No conflict of interest.



Maurizio Cecconi

Maurizio Cecconi is an anaesthesiologist and intensive care specialist and Chair of the Department of Anaesthesia and Intensive Care Units at Humanitas Research Hospital, Milan, Italy. He is Professor of Anaesthesia and Intensive Care and Vice-President of the MEDTEC School at Humanitas University, Milan. Previous to his current appointments, he worked for 14 years as an NHS Consultant at St George's Hospital, London, UK. His research focus is on improving outcomes in perioperative care, as well data science and the physiology of shock, acute respiratory failure and sepsis. He is the President-elect of the European Society of Intensive Care Medicine and part of the Executive Committee of the Surviving Sepsis Campaign. Maurizio has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Binila Chacko

Dr Binila Chacko is an intensive care physician and currently heading the Division of Critical Care Medicine at Christian Medical College (CMC), Vellore, India. Binila is involved in patient care and has teaching responsibilities for medical students, postgraduate and advanced ICU trainees. She is the coordinator for the BASIC and CaRe programmes associated with the Chinese University of Hong Kong. Her special interests in critical care include toxicology, tropical diseases, antimicrobial stewardship, ARDS and ECMO. She has a passion for research and has been a PI and co-investigator for several research projects. She has several publications and book chapters to her credit. Binila participated in the WHO *Living guidance for clinical management of COVID-19* (advanced respiratory support, current). No conflict of interest.



Duncan Chanda

Dr Duncan Chanda is a Clinical Researcher and Infectious Diseases Clinician based at the University Teaching Hospital (UTH) in Lusaka. He is Director of Adult Infectious Diseases Centre (AIDE). The Infectious Diseases Centre is a lead institution in HIV/AIDS, TB, hepatitis and neglected tropical diseases. He has authored more than 25 publications in peer-reviewed journals and has undertaken and participated in a number of research projects in various roles over the last 18 years. In addition to managing the Centre he is also directs a TB research laboratory. He holds a postgraduate diploma and MSc from the London School of Hygiene and Tropical Medicine and possesses postgraduate training in virology and immunology from the University of Nagasaki, Japan, and Lausanne University, Switzerland. Dr Chanda is currently actively involved in COVID-19 related research, and in clinical management of COVID-19 patients; and capacity building and training in clinical case management and critical care for COVID-19 patients. He participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



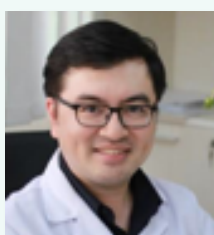
Bronwen Connolly

Bonwen Connolly is a critical care physiotherapist, and Senior Lecturer in Critical Care at Queen's University Belfast, UK. The recipient of three previous National Institute for Health Research (NIHR) fellowships (doctoral, postdoctoral, clinical trials), her research interests focus on acute respiratory and rehabilitation physiotherapy; the recovery, long-term outcome and survivorship of post-critical illness patients; and clinical trial methodology around complex rehabilitation interventions. Her current work includes development of a core outcome set for trials of physical rehabilitation in critical illness, and leading a multiprofessional team developing a randomized controlled trial investigating the effectiveness of mucoactive drugs in acute respiratory failure. She is involved with a number of major national and international research organizations, including the NIHR Critical Care Specialty Group, the UK Critical Care Research Group, and the International Forum for Acute Care Trialists. Bronwen participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020). No conflict of interest.



Graham Cooke

Graham Cooke is NIHR Research Professor of Infectious Diseases at Imperial College London. Although currently focused on COVID-19, his main work concentrates on precision medicine for management of infectious diseases, particularly for viral hepatitis and acute infection. From 2011–2019, he led the clinical workstream for the Medical Research Council (MRC) Stratified Medicine Consortium (STOPHCV). He was chief investigator on the STOPHCV-1 trial and currently has clinical studies running in the UK and Viet Nam, in collaboration with the MRC Clinical Trials Unit. He is active in promoting access to medicine and is Chair of the WHO Committee on the Selection and Use of Essential Medicines, responsible for updating and maintaining the WHO Essential Medicines List (EML). He led the Commission on Accelerating the Elimination of Viral Hepatitis and, in 2019, was appointed to the Expert Groups in HIV and hepatitis (the latter as convenor) for the Infected Blood Inquiry. Graham participated in the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids). No conflict of interest.



Vu Quoc Dat

Vu Quoc Dat is a lecturer at the Department of Infectious Diseases, Hanoi Medical University, Viet Nam and an intensivist at the National Hospital for Tropical Diseases, a tertiary referral hospital for infectious diseases in northern Viet Nam. He completed the Career Development Fellowship with the WHO Special Programme for Research and Training in Tropical Diseases and undertook his PhD training at the Oxford University Clinical Research Unit in Viet Nam. He has expertise in clinical management of severe or life-threatening infections, zoonotic diseases, and emerging and re-emerging infectious diseases in resource-constrained settings. His research interests focus on interventions to emerging health issues related to infectious diseases, particularly in critical care settings, and on the capacity of health care systems in response to sepsis and severe acute respiratory infection. He served as a member of the national technical working groups for the development of national guidelines for the management of infectious diseases. Dat participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Bin Du

Bin Du is Director and Professor, Medical ICU, Peking Union Medical College Hospital. He is President of the Chinese Association of Critical Care Physicians; and President of the Chinese College of Critical Care Medicine. He is Past President, Asia Pacific Association of Critical Care Medicine; and Past President, Chinese Society of Critical Care Medicine. Du participated in WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB). No conflict of interest.



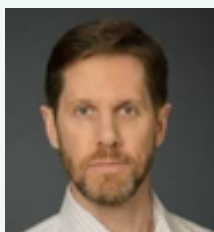
Vuyiseka Dubula

Vuyiseka Dubula is Director of the Africa Centre for HIV/AIDS Management (University of Stellenbosch). She is recognized in South Africa and globally for her leadership in social movements and NGOs for human rights of people living with HIV. She has a PhD in development studies from the University of Kwazulu-Natal, South Africa and is the founder of the Activist Centre for Education and Development, which facilitates skills and economic development for women living with HIV. She has served on various boards in South Africa, Canada and United States: Lancet National Commission for High-Quality Health Systems; National Ministerial Committee on Medicines Procurement; Office of Health Standards and Compliance; UNAIDS High-Level Commission on HIV Prevention; and the Stephen Lewis Foundation. Vuyiseka participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB). No conflict of interest.



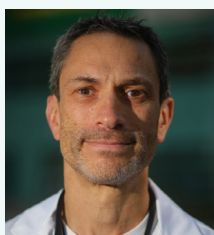
Jake Dunning

Jake Dunning is Head of Emerging Infections and Zoonoses at Public Health England (PHE). His clinical infectious diseases practice is at the Royal Free Hospital, London. His clinical and laboratory research interests include influenza, respiratory and enteric viral diseases, emerging and zoonotic infections, and contact and airborne high-consequence infectious diseases, including Ebola virus disease, avian influenza, MERS and monkeypox. He conducts research on the clinical characterization and mechanisms of disease, as well as clinical trials of experimental treatments, at PHE and the University of Oxford, Imperial College London and University College London. Since January 2020, he has been part of PHE's National Incident Management Team for COVID-19 and contributes to national and international guidance. He is an active researcher within the International Severe Acute Respiratory and Emerging Infection Consortium. Jake participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020) and WHO *Therapeutics and COVID-19: living guideline* (corticosteroids). No conflict of interest.



Rob Fowler

Rob Fowler is critical care physician and Professor of Medicine at the University of Toronto and Chief of the Trauma, Emergency and Critical Care Program at Sunnybrook Health Sciences Centre. He is the Director of the Dalla Lana School of Public Health's Institute of Health Policy, Management and Evaluation Clinical Epidemiology Graduate Training Program and the Chair of the Canadian Critical Care Trials Group. His clinical and academic focus includes access and outcomes of care for critically ill patients and infection-related critical illness. He has assisted or worked with the WHO during the SARS, pandemic, avian influenza and MERS outbreaks, and the Ebola outbreaks in Guinea, Liberia, Sierra Leone and the Democratic Republic of the Congo, and the COVID-19 pandemic. Rob participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020). No conflict of interest.



Stephen Freedman

Dr Freedman is Professor of Pediatrics and Emergency Medicine at the University of Calgary. He completed his residency at the Hospital for Sick Children in 2000 and a paediatric emergency medicine fellowship in 2003 at the Children's Memorial Hospital. He obtained an MSc in Clinical Investigation at Northwestern University. He is the Past-Chair of Pediatric Emergency Research Canada and the Alberta Children's Hospital Foundation Professor in Child Health and Wellness.

His research focus is on applying clinical research to improve outcomes in children seeking emergency department care. His focus is on the use of innovative, multidisciplinary approaches to solve complex problems. He has published over 190 peer-reviewed manuscripts and is the principal investigator on numerous multicentre clinical trials with funding support from CIHR and the NIH. Most recently he received CIHR funding to lead two multinational paediatric COVID-19 studies and NIH funding to evaluate an intervention for Shiga toxin producing *E. coli* infected children. Stephen participated in the WHO *Clinical management for COVID-19: living guideline* (November 2021) and in the WHO *Therapeutics and COVID-19: living guideline* (nirmatrelvir). No conflict of interest.



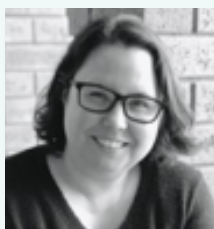
María Del Olmo Gabina

María Gabina, 41 years old, lives in La Solana, Castilla la Mancha, Spain. She has two children, Rodrigo and Alonso, and works as an insurance saleswoman. As well as laughing (lots) with friends, she likes walking and playing the clarinet in the town's municipal band. Eight-year-old Alonso was affected by MIS-C following COVID-19 infection in January 2021; he had an aneurysm in the left coronary artery and remains under medical review, but now leads a totally normal life (with medication – adiro and cloridrogrel). Maria has participated in the WHO *Clinical management for COVID-19: living guideline* (November 2021). No conflict of interest.



Monica Garrido

Monica Garrido participated in the GDG panel for WHO in the capacity of a patient panel member. In October 2020 her daughter, Alma Fernandez, suffered from COVID-19 and experienced symptoms related with MIS-C around 1 month after her infection. Dr Alfredo Tagarro, Infanta Sofia in San Sebastian de los Reyes Hospital, Madrid, was in charge of her treatment from the very beginning of the MIS-C symptoms. Currently (November 2021) Alma weighs 38 kg and her height is 141cm. She is in perfect health and enjoys life even though she remains under medical review. Monica has participated in the WHO *Clinical management for COVID-19: living guideline* (November 2021). No conflict of interest.



Heike Geduld

Heike Geduld is Associate Professor and Head of the Division of Emergency Medicine at Stellenbosch University in Cape Town, South Africa. She is President of the College of Emergency Medicine of South Africa and Immediate Past President of the African Federation for Emergency Medicine. Heike participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021, November 2021, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, casirivimab and imdevimab, ivermectin IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Patrick O Gee

Patrick O. Gee, Sr is a former peritoneal and haemodialysis patient and current kidney transplant recipient since April 2017. Patrick retired from the Virginia Department of Corrections as a Major/Chief of Security. Patrick has an MSc in Criminal Justice (Public Administration) from the University of Richmond, in Richmond, VA, and a PhD in Justice, Law and Criminology. Patrick is the founder and CEO of iAdvocate, Inc., non-profit faith-based health and wellness organization.

Patrick serves in a number of capacities including: Quality Insights Renal Network 5 Chair, PAC & Medical Review Board of Directors; Patient Family Centered-Care Partners Advisory Board; Member of ASN's Diabetes Kidney Disease Collaborative Task Force American Association of Kidney Patients BOD; Center for Dialysis Innovation Patient Advisory Board; Kidney Research Institute Patient Advisory Committee; and APOLLO Research Study Steering Committee APOL1's Community Advisory Committee member, representing the Cleveland Clinic.

Patrick participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab/imdevimab, IL-6 RB, molnupiravir, current). No conflict of interest.



Charles Gomersall

Department of Anaesthesia and Intensive Care, Chinese University of Hong Kong, Hong Kong SAR, China. His academic interests include respiratory protection against infectious diseases, weaning mechanical ventilation, ICU admission triage and large-scale critical care training. Charles participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020). No conflict of interest.



Matthias Götte

Matthias Götte is a Professor of Medical Microbiology and Immunology at the University of Alberta, Canada and previously at McGill University Department of Microbiology and Immunology. In 2011, Dr Götte was promoted to Professor, and received the Chercheur national award of the Fonds de la Recherche en Santé du Québec. In 2014, he took the position as Chair of the Medical Microbiology and Immunology Department at the University of Alberta. Research in his laboratory is focused on the study of viral replication, its inhibition and the problem of drug resistance. His interests evolved from studies on HIV and the hepatitis C virus to RNA viruses with high epidemic potential, including influenza, Ebola and SARS. Matthias participated in the WHO *Therapeutics and COVID-19: living guideline* (molnupiravir). See Annex 1.



Nerina Harley

Nerina Harley works as a senior intensivist in the Royal Melbourne Hospital and NorthWestern Mental Health. She has also been the Director of Epworth HealthCare for 22 years and Co-Chair of the Critical Care Network, Victorian Department of Health and Human services for 5 years. Nerina participated in the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, ivermectin, IL-6 RB, sotrovimab, molnupiravir, current). No conflict of interest.



Rumina Hasan

Rumina Hasan is Consultant Clinical Microbiologist and Professor in the Department of Pathology and Laboratory Medicine at the Aga Khan University, Karachi, Pakistan, and Honorary Professor in the Department of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, UK. Her areas of interest include TB and antimicrobial resistance. She has served as Vice-Chair of the Global Laboratory Initiative (2012–2014) and member of the New Diagnostic Working Group (2011–2014). She is currently the Chairperson of the WHO Eastern Mediterranean Regional Green Light Committee. She also serves on the WHO Strategic Technical Advisory Group on Antimicrobial Resistance. Rumina participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020). No conflict of interest.



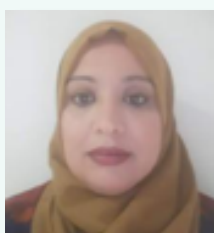
Madiha Hashmi

Madiha Hashmi is Professor and Head of Department Critical Care Medicine at Ziauddin University, Karachi, Pakistan. She is also a Visiting Faculty at Aga Khan University Karachi, Pakistan, Honorary Physician, Mahidol Oxford Research Unit (MORU), Bangkok, Thailand and secretary, Faculty of CCM at College of Physicians & Surgeons Pakistan (CPSP).

She is a member of the World Sepsis Day Steering Committee, Founding Member Asia Pacific Sepsis Alliance (APSA) and is founder and President of Sepsis Alliance Pakistan (SoAP). She was President of Pakistan Society of Critical Care Medicine from 2015–2019.

To promote research in critical care in Pakistan she founded a trust and is the CEO of South East Asian Research & Education in Criticalcare Health (SEARCH). She conducted the first comprehensive national survey of critical care services in hospitals accredited for training in Pakistan. Pakistan Registry of Intensive Care (PRICE) is operational across the country through a collaboration of SEARCH and NCIS-MORU and is now part of the broader CRITCARE Asia network (CCA). She is PI from Pakistan for REMAP-CAP and operationalized the WHO/ISARIC CCP during the COVID-19 pandemic in ICUs across the country. She is also a member of the Board of Directors of International Severe Acute Respiratory & emerging Infections Consortium (ISARIC).

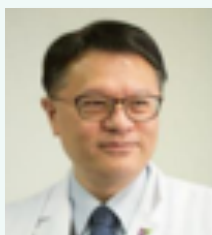
She participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB). No conflict of interest.



Manai Hela

Manai Hela is an emergency doctor at the Emergency Medical Service Tunis, Tunisia, with a number of years of solid practice experience. Since 2016, she has co-led the simulation unit within the Emergency Medical Service Tunis and teaches medical students and residents at the Faculty of Medicine, Tunis. She has been involved in several research projects and international workshops in the field of emergency medicine.

Hela participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021, November 2021, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, molnupiravir, remdesivir updates, current). No conflict of interest.



David S Hui

David S Hui is Chairman of the Department of Medicine and Therapeutics and Stanley Ho Professor of Respiratory Medicine and Director of the Stanley Ho Centre for Emerging Infectious Diseases, Chinese University of Hong Kong, Hong Kong SAR, China. Since 2004, he has frequently served as an advisor to WHO on the clinical management of emerging severe acute respiratory infections. David has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids). See Annex 1.



Beverley J Hunt

Beverley J Hunt is an international expert on thrombosis and haemostasis based at Guy's & St Thomas' NHS Foundation Trust, London. From the start of the COVID-19 pandemic, she has been at the vanguard of preventing and treating patients with COVID-19-related thromboembolism.

She has sat on multiple National Institute for Health and Care Excellence (NICE) Guidelines Development Groups for both the management of venous thromboembolism and thromboprophylaxis in hospitalized patients and in COVID-19 patients. She was a member of the International Society of Thrombosis & Haemostasis Guidance writing group for COVID-19 thromboembolism management. She is a member of the organizing committees of the anticoagulation and antiplatelet arms of the WHO approved platform study of critically ill COVID-19 patients (REMAP-CAP) and a member of a UK Research and Innovation advisory committee to advise the RECOVERY trial.

She has given over 50 international webinars on coagulopathy and thrombosis management in COVID-19 infection. She gave evidence to the UK House of Lords Science and Technology committee hearing on managing COVID-19.

She is founder and Medical Director of Thrombosis UK and Chair of the Steering Group of World Thrombosis Day. Both are not for profit, aiming to increase awareness and improve care of thrombosis.

Beverly participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, current). No conflict of interest.



Michael Jacobs

Michael Jacobs is Clinical Director of Infection at the Royal Free Hospital in London. He trained at Oxford and London universities before completing a PhD in Virology. He is interested in all aspects of clinical infectious diseases with a special interest in serious viral infections and medical countermeasures. He is director of the UK High Level Isolation Unit and is a member of the UK Advisory Committee on Dangerous Pathogens. He worked at the centre of the UK response to the West Africa Ebola outbreak, and now serves on several national and international COVID-19 advisory committees. He was NHS England Programme Director for High Consequence Infectious Diseases. He was knighted in 2016 for services to the prevention and treatment of infectious diseases. Michael participated as Clinical Chair in the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, remdesivir updates). Michael will not participate in the molnupiravir guideline due to his conflict of interest. See annex 1.



Fabian Alberto Jaimes-Barragan

Fabian Alberto Jaimes-Barragan is a Professor of Medicine at the Department of Internal Medicine, Antioquia University, Medellín, Colombia. He is also Research Director at the Fundación Hospitalaria San Vicente, Medellín, since 2017 and Editor-in-Chief for IATREIA. His research interests focus on the epidemiology of sepsis in Colombia and Latin American, early identification of sepsis in the emergency department, adaptation and validation of sepsis and organ dysfunction scores, development of new interventions to improve sepsis identification and outcomes and methodological aspects of the development of predictive instruments. Fabian participated in the WHO *Therapeutics and COVID-19: living guideline* (sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Fyezah Jehan

Dr Jehan is an Associate Professor and Head of Paediatrics Infectious Diseases at the Aga Khan University, Pakistan. Her work in the COVID-19 pandemic is focused on guideline and policy development for vaccine use and management of COVID-19 in children and adults in Pakistan. She is an advisor to the WHO for matters related to maternal newborn, child and adolescent health and nutrition (STAGE-MNCAH-member) and an active clinician and a researcher in global MNCH. Her most recent work with UNICEF Pakistan and the Ministry of National Health Services has resulted in the curriculum development and national training of paediatricians, for the management of COVID-19 in children in Pakistan. She has conducted several systematic reviews, sat on guideline review committees, and served as a GDG member for WHO. She has participated in the WHO *Therapeutics and COVID-19: living guideline* (molnupiravir, current). No conflict of interest.



Sushil Kumar Kabra

Sushil Kumar Kabra is Professor of Paediatrics at the All India Institute of Medical Sciences, New Delhi, India, where he is responsible for clinical services, teaching, training and research at the Department of Paediatrics (Paediatric Pulmonology and Intensive Care). His research interests include: acute respiratory infections in children, paediatric tuberculosis and cystic fibrosis. He has contributed to numerous publications and is Editor-in-Chief of the *Indian Journal of Pediatrics*. Sushil has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Seema Kanda

Patient Partner, Niagara Region of Ontario, Canada, completed a dental assisting programme at Niagara College, Ontario, and BA at McMaster University. Her vocation to care, combined with her father's serious heart condition, made Seema realize the importance of patient understanding and participation in the medical decision-making process. She was one of the first in her workplace to contract COVID-19, which triggered rapid changes to work practices. Seema and her immediate family all suffered to various degrees with COVID-19. Her brother required mechanical ventilation for 6 weeks and was one of a few, locally, to survive. He continues to recover at home, receiving various therapies. Seema is now using her personal experience of COVID-19 to become an active patient partner in the decision-making process regarding treatment options. Seema believes through sharing patient experiences and making constructive suggestions patient care protocols can be improved and is taking the opportunity to contribute as a voice for COVID-19 patients. Seema participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, current). No conflict of interest.



Leticia Kawano-Dourado

Leticia Kawano-Dourado is a respiratory medicine physician and clinical researcher at the Research Institute, Hospital do Coração (HCor), São Paulo, Brazil. She is also an associate researcher of the Pulmonary Division (LIM09) at the University of São Paulo. Her research focuses on non-invasive support for acute respiratory failure, interstitial lung diseases and, more recently, COVID-19. She is a member of the COALITION COVID-19 Brazil, a collaborative research partnership among large hospitals in Brazil, supported by the Ministry of Health, created to accelerate the field of COVID-19 research. The COALITION COVID-19 Brazil is conducting several randomized controlled trials on COVID-19 drug repurposing: hydroxychloroquine and azithromycin (NCT04322123); dexamethasone (NCT04327401); anticoagulation – (NCT04394377); tocilizumab (NCT04403685) and also investigating the long-term consequences of COVID-19 on quality of life, functionality and depression/anxiety (NCT04376658). Leticia participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab), and most recently as Clinical Chair for sotrovimab, convalescent plasma and molnupiravir. Leticia did not participate in the JAK inhibitor deliberations due to her conflict of interest. See Annex 1.



Yae-Jean Kim

Yae-Jean Kim is a paediatric infectious diseases specialist and Professor of the Department of Pediatrics, Sungkyunkwan University School of Medicine, Samsung Medical Center, Seoul, Republic of Korea. She is a board member of the Korean Society of Infectious Diseases, the Korean Society of Pediatric Infectious Diseases, and the Asia Pacific Society for Immunodeficiencies. She is also the co-lead for the Asian Network for Surveillance of Resistant Pathogens (ANSORP) Pediatric Group. Her area of special interest is respiratory viral infection and infection in high-risk patients. She is the co-author of a chapter on coronaviruses in Feigin and Cherry's *Textbook of Pediatric Infectious Diseases* (8th edition, 2018). Since 2015, having experienced the MERS outbreak in the Republic of Korea, she has been a frequent advisor on coronavirus infection to WHO and international societies. Yae-Jean has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, current). No conflict of interest.



Niranjan Kissoon

BC Children's Hospital and UBC Global Child Health, Department of Paediatrics and Emergency Medicine, University of British Columbia (UBC), Vancouver, Canada. Niranjan Kissoon is Past President of the World Federation of Pediatric Intensive and Critical Care Societies; and Professor, Pediatric and Surgery at UBC. He is Vice-Chair of the Global Alliance for Sepsis, Co-Chair World Sepsis Day, and Vice-Chair of the International Pediatric Sepsis Initiative and the Pediatric Surviving Sepsis Campaign Guideline Committee. Niranjan has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021, November 2021, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Arthur Kwizera

Arthur Kwizera is Senior Lecturer in Anaesthesia and Intensive Care at Makerere University College of Health Sciences and a staff intensivist at the Mulago National Referral Hospital ICU, Uganda. After completing his specialist anaesthesia and intensive care training in Uganda, he received further training from the University of British Columbia in Canada and an interventional pulmonology fellowship in Venice, Italy. He is part of international collaborations looking at acute care in resource-limited settings with particular emphasis on respiratory failure sepsis management and anaesthesia/intensive care education. He is a member of the Surviving Sepsis Campaign Guidelines Taskforce. His research work is centred on epidemiology, pathophysiology and management of acute organ dysfunction and corresponding life support interventions in low-resource settings. He is a Cambridge THRiVE PhD fellow with a focus on acute lung disease, especially acute respiratory failure and acute respiratory distress syndrome, and on novel, low-cost strategies to manage acute respiratory failure in the low-resource African acute care settings. Arthur has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021, Advanced respiratory support March 2022) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, molnupiravir, nirmatrelvir, current). No conflict of interest.



Jon Henrik Laake

Jon Henrik Laake is a specialist in cardiothoracic anaesthesiology and intensive care medicine and Senior Consultant at the Division of Critical Care and Emergencies, Rikshospitalet Medical Centre, Oslo University Hospital, Oslo, Norway. He is Deputy Chair of the Norwegian Society of Anaesthesiology and Chair of the Acute Respiratory Failure Taskforce of the Scandinavian Society of Anaesthesiology and Intensive Care Medicine. He has held several positions in Scandinavian and European anaesthesia and intensive care societies. He has led or participated in several guideline panels, including Scandinavian guidelines for the management of acute respiratory distress. His research focus is acute respiratory failure and sepsis, and general critical care medicine. Jon participated in the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids). No conflict of interest.



Francois Lamontagne

Dr Francois Lamontagne is a critical care specialist – clinician-scientist at the Université de Sherbrooke, Canada, where he founded the Unité de recherche clinique et épidémiologique (URCE), a methods centre in support of investigator-initiated clinical research conducted at the Centre de recherche du CHUS. Dr Lamontagne has received peer-reviewed funds from the Canadian Institutes of Health Research and the Fonds de Recherche du Québec – Santé (FRQS). He specializes in clinical trials of resuscitation interventions such as the 65 trial (minimization of vasopressor use – PMID 32049269) and the ongoing LOVIT trial (intravenous vitamin C – PMID 31915072; NCT03680274). Having contributed clinically and academically to the response to Ebola outbreaks in West Africa and the Democratic Republic of Congo, he developed an expertise in global health and outbreak preparedness research, which he applies to the current COVID-19 pandemic (PMID 32215641). He is a member of the International Steering Committee of the REMAP-CAP trial, a large adaptive platform trial designed to study emerging pandemics, co-Scientific Director of the CIHR-funded Canadian Sepsis Network, and co-Director of the Réseau québécois COVID-19 et pandémies, recently funded by the FRQS. Francois participated as the Methods Chair in the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, sotrovimab). Francois serves as part of the International Steering Committee of REMAP-CAP and did not participate in the deliberations of the antivirals. He also served as Methods Chair for the February 2021 Living Guideline GDG Panel on Drugs to Prevent COVID-19. See Annex 1.



Yee-Sin Leo

Professor Yee-Sin Leo is the Executive Director of the National Centre for Infectious Diseases, Singapore. As an adult infectious disease specialist, Professor Leo has led her team through multiple outbreaks in Singapore. These include Nipah in 1999, SARS in 2003, the pandemic influenza in 2009, Zika in 2016 and multiple surges of dengue. She successfully managed Singapore's first imported case of monkeypox in May 2019. Her current priority is now in the fight against COVID-19. Professor Leo has published more than 200 scientific papers. Her experience and expertise in outbreak management is frequently called upon as advisor and conference speaker at national, regional and international level. Apart from her clinical and administrative duties, she is also heavily involved in research and teaching. Her research interests include dengue, influenza, emerging infections, HIV and COVID-19. She has won many awards among which is the most prestigious Public Service Star, in recognition of her outstanding battle against SARS. Other awards include the Excellence Star Award 2005, Red Ribbon Award 2014 and National Healthcare Group Distinguished Senior Clinician Award 2016. Yee Sin participated in the WHO *Clinical management for COVID-19: living guideline* (November 2021, Advanced respiratory support March 2022) and in the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Thiago Lisboa

Thiago Lisboa is a critical care researcher at the Coração Hospital (São Paulo, Brazil) and has been an Intensivist at the Porto Alegre Hospital for 20 years. He is an active member of the Brazil's Intensive Care Network's Scientific Committee since 2013 and a Professor at the Grand de Sol University (Porto Alegre, Rio Grand de Sol, Brazil) and at the La Salle University (Canoas, Rio Grand de Sol, Brazil). Thiago participated in the WHO *Therapeutics and COVID-19: living guideline* (sotrovimab, molnupiravir, nirmatrelvir, current) and in the WHO *Clinical management: living guideline* (Advanced respiratory support March 2022). No conflict of interest.



Pisake Lumbiganon

Pisake Lumbiganon is Professor of Obstetrics and Gynecology, Convenor of Cochrane Thailand, and Director of the WHO Collaborating Centre on Research Synthesis in Reproductive Health based at the Faculty of Medicine, Khon Kaen University, Thailand. He is currently President Elect of the Asia & Oceania Federation of Obstetrics and Gynaecology. He has published more than 150 papers, including many Cochrane reviews in various international journals. Formerly, Dean of the Faculty of Medicine at Khon Kaen University 2009–2013 and President of the Royal Thai College of Obstetricians and Gynaecologists from 2016–2018. In 2019 he received an honourable fellowship from the Royal College of Obstetricians and Gynaecologists. His main areas of interest include maternal and perinatal health, evidence-based practices, systematic review and meta-analysis. He participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020). No conflict of interest.



Flavia Machado

Flavia Machado is Head of the Intensive Care Section of Anesthesiology, Pain and Intensive Care Department at the Federal University of São Paulo, Brazil. Dr Machado is the CEO of the Latin America Sepsis Institute (LASI), an organization devoted to the quality improvement process, multicentre studies in the field of sepsis, and awareness campaigns. She is a member of the Executive Board of the Global Sepsis Alliance. She has contributed to the 2012 and 2016 Surviving Sepsis Campaign International Guidelines, and is now Head of the Hemodynamic Group on the 2020 Board. She is a member of the Executive Committee and Chair of the Scientific Committee of the Brazilian Research in Intensive Care Network (BRICNET). She is founder member of the Latin America Intensive Care Network (LIVEN) and of the International Sepsis Forum (ISF) Council since 2014. Flavia participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids). No conflict of interest.



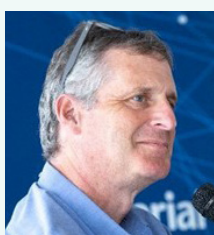
Imelda Chipso Mahaka

Imelda Chipso Mahaka is Country Director for the Pangaea Zimbabwe AIDS Trust in Harare, Zimbabwe, providing programmatic and operational oversight to the organization. She has been involved in policy advocacy, community engagement and implementation around HIV prevention and treatment optimization including scale-up of treatment and access to diagnostics and monitoring. Imelda has extensive experience in HIV/AIDS and behavioural research on sexual and reproductive health, working particularly with adolescents. She sits on a number of study trials committees representing communities. She is a member of the Viral Load, DSD and PrEP Technical Working Groups, coordinated by the Ministry of Health and Child Care, Zimbabwe, and served as secretariat to the Laboratory Partnership Forum for a number of years. Imelda has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, molnupiravir). No conflict of interest.



Claire McLintock

Dr Claire McLintock ONZM, FRACP, FRCPA, MBChB (Edin) is a haematologist at Auckland City Hospital, Auckland New Zealand. She has a special interest in thrombosis and haemostasis, and haematological and medical problems in pregnancy. She is a co-author of the American Society of Hematology's guidelines on management of VTE in pregnancy and on the diagnosis of von Willebrand's Disease. She has served in many roles which include President International Society of Thrombosis and Haemostasis (2018–2020), and remains on the Executive Committee as Immediate Past-President, President of the Society of Obstetric Medicine of Australia and New Zealand (2008–2010). She is recognized as an expert in haematological and medical complications in pregnancy and is an invited speaker at many in-person and virtual conferences around the world, lecturing on topics ranging from VTE prevention diagnosis, and treatment in pregnancy, bleeding disorders in women and pregnancy, management of haematological disorders in pregnancy including COVID-19, and also pregnancy-specific complications such as pre-eclampsia, post-partum haemorrhage, thrombocytopenia. Claire participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, session on anticoagulation). No conflict of interest.



Marc Mendelson

Having trained at St Mary's Hospital, London, University of Cambridge and Rockefeller University, New York, Dr Marc Mendelson is Professor of Infectious Diseases and Head of the Division of Infectious Diseases and HIV Medicine at Groote Schuur Hospital, University of Cape Town. His focus is on national and international policy to mitigate antimicrobial resistance. He led the clinical working group of the South African Ministerial Advisory Committee on COVID-19 and worked as a frontline clinician in COVID-19 high care units. Marc participated in the WHO *Therapeutics and COVID-19: living guideline* (fluvoxamine and colchicine, current). No conflict of interest.



Giovanni Battista Migliori

Professor Giovanni Battista Migliori is specialist in Respiratory Medicine and Medical Statistics, has more than 30 years' global experience in technical assistance, research and training (50% of the global human TB workforces were trained by his "Sondalo" course). Director of the WHO Collaborating Centre for TB and Lung Diseases at Maugeri Research Institute, Tradate, Italy, he is Honorary Professor at Queen Mary University (London) and Visiting Professor at the University of Monterrey (Mexico) and Insubria (Italy). He has published more than 650 peer-review papers in different languages (h-index > 80) on TB, respiratory diseases and COVID-19. Former Secretary-General of the European Respiratory Society (ERS), he is currently Chief Editor of the *International Journal of Tuberculosis and Lung Disease* and Section Editor for TB of the *European Respiratory Journal* and Chair of the GTN (*Global Tuberculosis Network*). He participated in the WHO *Therapeutics and COVID-19: living guideline* (fluvoxamine and colchicine, current). No conflict of interest.



Greta Mino

Greta Mino is an infectious diseases paediatrician and researcher and practising physician at Alcivar Hospital in Guayaquil, Ecuador. For 21 years, Dr Mino held the position of Head of the Infectious Diseases Department at Dr Francisco de Icaza Bustamante Children's Hospital. She is Past President of the Latin American Paediatric Infectious Disease Society. She served as national HIV programme consultant and HIV PMTCT programme coordinator for Ecuador's Ministry of Health. Additionally, she has advised the Pan-American Health Organization on influenza A(H1N1), and on the treatment of infectious diseases, surveillance of antibiotic resistance and control for HCAI, diarrhoeal disease and cholera. For the past 3 years, she has worked on the follow-up of patients with congenital Zika syndrome. Since 2020, she has taken part in the COVID-19 MIS-C response, launched by the Ecuadorian Ministry of Health and became an acting member of the WHO MIS-C group. Greta has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB). No conflict of interest.



Srinivas Murthy

Srinivas Murthy is Associate Professor at the University of British Columbia in Vancouver, Canada. He is a paediatric infectious diseases and paediatric critical care physician and clinical epidemiologist. He has served as an advisor to WHO, Public Health Agency of Canada, and other public health agencies around the world since 2014. He holds research grant support from the Canadian Institutes of Health Research, the Wellcome Trust and the Bill & Melinda Gates Foundation, and his academic and clinical focus is on severe and emerging respiratory infections. Srinivas participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021, November 2021, Advanced respiratory support March 2022) serving as Clinical Chair. No conflict of interest.



Emmanuel Nsutebu

Emmanuel Nsutebu is Chair of the African Sepsis Alliance and investigator for the African Research Collaboration on Sepsis. He is a consultant infectious diseases physician and Chief of Infectious Diseases at Sheikh Shakhboub Medical City, Abu Dhabi. He previously worked at the Royal Liverpool Hospital as Associate Medical Director for Deterioration and Sepsis and as a clinical advisor for the National Health Service England (sepsis and deterioration). He is a member of the Global Sepsis Alliance Board and Executive Committee. He is a member of the Abu Dhabi Government Health Service Infectious Disease and Infection Control Council; and the SEHA Critical Care Council. Both councils have led the health service response to the COVID-19 pandemic in Abu Dhabi. He is passionate about strengthening health services in low- and middle-income countries to care for severely ill patients such as patients with sepsis and emerging infections such as COVID-19. He has a special interest in sepsis, quality improvement, patient safety and clinical leadership. Emmanuel has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, molnupiravir, nirmatrelvir, current). No conflict of interest.



Natalia Pshenichnaya

Natalia Pshenichnaya has held various posts in infectious diseases, including: Head of the Infectious Diseases and Epidemiology Department at Rostov State Medical University; project officer on climate change and health in the WHO Russian Federation country office; and Head of the International Department of the National Medical Research Center of Phthisiopulmonology and Infectious Diseases in Moscow. Currently she is Deputy Director of clinical and analysis work at the Central Research Institute of Epidemiology, Rospotrebnadzor, Moscow. She has served on various WHO guideline development and advisory groups: clinical management of patients with Crimean-Congo Haemorrhagic Fever (2016–2019); clinical management of influenza (2019); and in 2020, the clinical advisory group on COVID-19 and WHO Clinical Network Knowledge Exchange on COVID-19. She was a member of: WHO-China joint technical mission to China to support the response operation for the COVID-19 outbreak 16–24 February 2020; Russian military-medical humanitarian mission on COVID-19 to Bergamo, Italy 22 March – 10 April 2020; WHO consultant for IPC and clinical management on COVID-19 in Tajikistan (August–September 2020). She is co-author of the Russian Federation national guidelines for the management of COVID-19. Natalia has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Nida Qadir

Nida Qadir is an Assistant Professor of Medicine in the Division of Pulmonary and Critical Care Medicine at the David Geffen School of Medicine, UCLA, USA. As the co-director of the division's Disaster and Pandemic Response Team, she spearheaded the creation of clinical guidelines for the management of COVID-19 patients at UCLA Health, and led the development of the institution's critical care surge plan. Her professional interests include critical care outcomes-based research, ICU recovery, and simulation in medical education. Her current research focuses on acute respiratory distress syndrome, shock and post-intensive care syndrome. She serves on the critical care editorial board for CHEST, the journal of the American College of Chest Physicians, and has served as faculty for numerous regional and international critical care simulation courses. Nida has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB). No conflict of interest.



Shalini Sri Ranganathan

Shalini Sri Ranganathan is a specialist in pharmacology and paediatrics at the University of Colombo, Sri Lanka. Professor Sri Ranganathan has over 20 years' experience in both pharmacology and paediatrics. Since 2007, she has regularly served as a member on the WHO Expert Committee on Selection and Use of Essential Medicines. She has won numerous medals and awards during her professional career for academic excellence and research. Her main interests are essential medicines for children, antimicrobial utilization, access to medicines, pharmacovigilance, paediatric dosage forms and rational use of medicines. She is a member of editorial boards of journals in Sri Lanka including the *Ceylon Medical Journal* and *Ceylon Journal of Medical Sciences*. She has authored over 80 publications. Shalini has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Bram Rochweg

Bram Rochweg is a practicing consultant intensivist and an Associate Professor in the Department of Medicine at McMaster University, Hamilton, Canada, with a joint appointment in the Department of Health Research Methods, Evidence and Impact. Bram is also a GRADE clinical practice guideline (CPG) methodologist and has participated as the Methods Chair in the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, ivermectin, IL-6 RB, molnupiravir, remdesivir updates, current). No conflict of interest.



Pablo Rojo

Pablo Rojo is a Paediatric Infectious Diseases Specialist at Hospital Universitario 12 de Octubre, Madrid, Spain. He is also Associate Professor of Complutense University, Madrid, Spain. He obtained his MD and PhD from Complutense University. He is a board member of the European Society of Paediatric Infectious Diseases (ESPID) and author and co-author of over 110 peer-reviewed scientific articles and book chapters. His main research activities are related to paediatric HIV, *S. aureus* and congenital CMV infection. He is associated with studies of the Spanish cohort of children infected with SARS-CoV-2 (EPICO), the DIAMONDS consortia and the BATS initiative and has participated in several COVID-19 trials on treatments and vaccines. He participated in the WHO working group on the definition of the multisystemic inflammatory syndrome in children (MIS-C) and in the WHO *Clinical management for COVID-19: living guideline* (November 2021). No conflict of interest.



Saniya Sabzwari

Saniya Sabzwari is an Associate Professor in the Department of Family Medicine at the Aga Khan University, Karachi, Pakistan. She is a Fellow of the American Academy of Family Physicians. Her area of special interest is geriatrics. She established the first outpatient geriatric service in Pakistan, and developed geriatric undergraduate and postgraduate training programmes at the Aga Khan University in 2008. Her research focuses on community geriatrics, on which she has published several papers. She is also part of the Geriatric Special Interest Group for the World Organization of Family Doctors. Saniya has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, nirmatrelvir, remdesivir updates, current). See Annex 1.



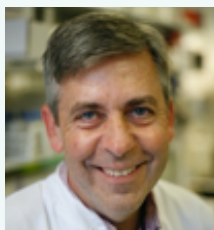
Rohit Sarin

Rohit Sarin is Principal Consultant of the National Institute of Tuberculosis and Respiratory Diseases, and Technical Advisor for the National Tuberculosis Elimination Program, for the Government of India. He is a fellow of the National College of Chest Physicians; executive member of the Tuberculosis Association of India; and member of the Delhi Tuberculosis Association, Association of Bronchology, and Indian Medical Association. Widely published at national and international level, he has received several awards, including, the national Dr PV Benjamin Memorial Oration Award given by the TB Association of Telangana, Hyderabad, 2019; the international Karel Styblo Public Health Prize, 2017; and the Dr PK Sen Gold Medal – the highest award given by the TB Association of India, 2012. He has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, current). No conflict of interest.



Manu Shankar-Hari

Manu Shankar-Hari's research programme aims to enable precision immunomodulation in critically ill patients adults with sepsis and acute respiratory distress syndrome (ARDS). Manu's core hypothesis is that treatable traits and modifiable biological networks could be determined with integration of clinical phenotype data with deep immune cell phenotyping. Manu has participated in the WHO *Clinical management for COVID-19: living guideline* (November 2021) and the WHO *Therapeutics and COVID-19: living guideline* (ivermectin, casirivimab and imdevimab, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Mike Sharland

Mike Sharland is a leading expert in antimicrobial prescribing, resistance and health care associated infection in children. He is the lead clinical advisor for the neonatal and paediatric programme of the Global Antibiotic Research and Development Partnership and Vice-Chair and AMR lead of the Penta Foundation, a global Paediatric Infectious Diseases research network. He chaired the Department of Health's National Expert Advisory Committee of Antimicrobial Prescribing, Resistance and Healthcare Associated Infection for 8 years. He has been an advisor to the WHO for many years. He is a member of the Expert Committee on the Selection and Use of Essential Medicines and Chair of the Antibiotic Working Group of the EML/EMLC, assisting with the development of the Access/Watch/Reserve (AWaRE) grouping of antibiotics and WHO global targets on use. Professor Sharland's principal research interest is optimizing the use of antimicrobials in children. At St George's University London he leads a major programme of research, including global cohort studies and clinical trials to improve the evidence base for antimicrobial prescribing. Mike has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin). No conflict of interest.



Yinzhong Shen

Yinzhong Shen is Chief Physician, Associate Professor of Shanghai Public Health Clinical Center, Fudan University, and a member of the Standing Committee for Tropical and Parasitic Diseases branch of the Chinese Medical Association. With experience of working at WHO headquarters in 2014 and 2016, he was invited by the WHO Western Pacific Region to share China's experience of COVID-19 clinical management with Pacific Island countries. His work focuses on clinical management and research in the field of infectious diseases. Shen has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (corticosteroids, remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Reed Siemieniuk

Reed Siemieniuk is a methodologist and a physician in the Department of Health Research Methods, Evidence and Impact, McMaster University and the co-founder and steering committee member of the BMJ Rapid Recommendations. Reed has participated as Methods Chair in the WHO *Therapeutics and COVID-19: living guideline* (lopinavir). In his current role as lead of the living network meta-analysis that informs this WHO guideline, Reed no longer serves as Chair.



Maria Asuncion Silvestre

Maria Asuncion Silvestre is a neonatologist and founder of the non-profit, Kalusugan ng Mag-ina Inc (“health of mother and child”) in 2010, dedicated to the health of the mother-child dyad, emphasizing non-separation. With WHO Philippines, she collaborated on implementation of the Essential Intrapartum and Newborn Care (Unang Yakap – first embrace) Initiative in 2008. She is a member of the Independent Review Group for Early Essential Newborn Care of the WHO Western Pacific Region. She participated in WHO guidelines on optimal feeding of low birth weight, 2006; acceptable medical reasons for the supplementation annex to the revised Mother and Baby-Friendly Health Initiative, 2007; and counselling of women to improve breastfeeding outcomes, 2019. With the Asia-Pacific Center for Evidence-Based Healthcare, she co-authored *Painless evidence-based medicine*, 2008 and 2017. Maria has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020). No conflict of interest.



Sally Singh

Sally Singh is Professor of Pulmonary and Cardiac Rehabilitation at the University of Leicester. She is also Head of Pulmonary and Cardiac Rehabilitation at the University Hospitals of Leicester NHS Trust and Director of the Centre for Exercise and Rehabilitation Science, a multidisciplinary group of researchers conducting a range of research projects in the field of exercise and rehabilitation. She is a member of the COPD Biomarker Qualification Consortium submitting a proposal to the FDA for approval of an exercise test developed in Leicester as an approved trial outcome for COPD. She is the clinical lead for pulmonary rehabilitation as part of the National Asthma and COPD Audit Programme (NACAP) and is the lead clinician for the Pulmonary Rehabilitation Service Accreditation Scheme run by the RCP. Currently she co-chairs an ATS group “Defining modern pulmonary rehabilitation” and the British Thoracic Society Guidelines Group on pulmonary rehabilitation. She is PI for an NIHR Global Research Group exploring culturally appropriate rehabilitation in low- and middle-income countries. Sally participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021, session on rehabilitation). No conflict of interest.



João Paulo Souza

João Paulo Souza is Professor of Public Health at the Department of Social Medicine, Ribeirão Preto Medical School, University of São Paulo, Brazil. With a clinical background in obstetrics and gynaecology and intensive care, Professor Souza worked for several years at WHO headquarters on global maternal and perinatal health issues. His current work focuses on the interface of health and social development, particularly on strategies for achieving an ecologically and socially sustainable healthier future. Joao has participated in the WHO *Clinical management for COVID-19: living guideline* (May 2020, January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin). He no longer serves as GDG members since joining WHO as consultant. No conflict of interest.



Miriam Songa Stegemann

Dr. Miriam Songa Stegemann is a specialist in Internal Medicine and Infectious Diseases and received the Diploma in Tropical Medicine and Hygiene (Gorgas, Lima, Peru). She works as a Senior Attending Physician and Scientist at the Department for Infectious Diseases and Respiratory Medicine, Charité Universitätsmedizin, Berlin, Germany. She is head of the antimicrobial stewardship programme at Charité. She is involved in international projects focusing on antimicrobial resistance in low- and middle-income countries. Recently, she was selected for funding through the Berlin Institute of Health (BIH) Clinical Fellows Programme.

Since the beginning of the outbreak of COVID-19 she became a clinical expert in the management of COVID-19 patients. She conducts projects, which are inspired by her clinical engagement and generate added value for her individual medical activities as a senior physician as well as for national and international networks with a focus on pandemic preparedness. Miriam has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, molnupiravir, remdesivir updates, current). No conflict of interest.



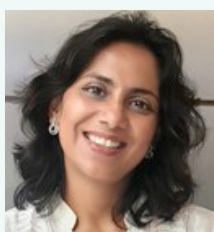
Ronald Swanstrom

Ronald Swanstrom is a Distinguished Professor of Biochemistry at the Department of Biochemistry & Biophysics of the University of North Carolina – Microbiology and Immunology, a Diversity Committee member and the Director of the UNC Center for AIDS Research. In 2020, he received the Hyman L Battle Distinguished Cancer Research Award. Ronald participated in the WHO *Therapeutics and COVID-19: living guideline* (sotrovimab, molnupiravir, nirmatrelvir, remdesivir updates, current). See Annex 1.



Louise Thwaites

Dr Louise Thwaites is a clinical researcher and member of the Emerging Infections Group at the Oxford University Clinical Research Unit, Viet Nam. She is an Associate Professor in the Centre for Tropical Medicine and Global Health at the University of Oxford. Her research focuses on the care of critically ill patients in resource-restricted settings, and she has spent much of her career engaged in research into tetanus. Louise participated in the WHO *Living guidance for clinical management of COVID-19* (advanced respiratory support). No conflict of interest.



Swagata Tripathy

Dr Swagata Tripathy is Additional Professor at All India Institute of Medical Sciences, Bhubaneswar, India where she leads the Central Intensive care Unit (including the COVID-19 Critical Care Task Force) and is coordinator for critical care training and academics. In addition to her clinical responsibilities, she is a steering committee member of the Indian Registry of Intensive care (IRIS) and a key collaborator in the Wellcome funded Critical Care Asia Africa Consortium. She is an Associate Editor for *Critical Care Communications*, the official newsletter for the Indian Society of Critical Care Medicine, and a founder member of the Neurocritical Care Society India. Passionate about providing holistic, patient-centred care to economically deprived patients, her research focuses on gaining a better understanding of existing quality of care – specifically patient-centred outcomes for critically ill patients. Swagata participated in the WHO *Living guidance for clinical management of COVID-19* (advanced respiratory support). See Annex 1.



Sebastián Ugarte Ubiergo

Sebastián Ugarte Ubiergo is a Medical Doctor, Internist, Specialist in Critical Care Medicine who currently serves as ICU Director, INDISA Clinic, Universidad Andrés Bello, Santiago, Chile. His other positions include Director of the Postgraduate Program in Intensive Care Medicine, Faculty of Medicine, Andrés Bello University UNAB, Director Department Epidemic Response, Chilean Society of Critical Care and Emergency Medicine, Member of the expert advisory team of the Pan American Health Organization for the development of COVID-19 and influenza guidelines. He also served as Past President of the Comisión de Medicina Intensiva, Comisión Nacional de Certificación de Especialidades, council member WFSICM, Past President Federación Panamericana e Ibérica de Sociedades de Medicina Crítica y Terapia Intensiva, Chilean Society of Critical Care and Emergency Medicine, Past President, Chilean Society of Intensive Medicine, Director Chilean Network of Intensive Medicine. He has been the recipient of many grants, honours and awards and has published widely in many national and international journals. Sebastián participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB). No conflict of interest.



Tim Uyeki

Tim Uyeki is the Chief Medical Officer for the Influenza Division, U.S. Centers for Disease Control and Prevention (CDC) and has worked on the clinical aspects, epidemiology, prevention, and control of seasonal, zoonotic and pandemic influenza since 1998. He has worked on the clinical aspects of COVID-19 since the first U.S. case-patient was identified in January 2020, and on the epidemiology and clinical management of SARS, MERS and Ebola virus disease for CDC and WHO. Tim participated in the WHO *Therapeutics and COVID-19: living guideline* (molnupiravir, nirmatrelvir, remdesivir updates, current). No conflict of interest.



Sridhar Venkatapuram

Sridhar Venkatapuram is an academic-practitioner of global health ethics and justice. He is an Associate Professor at King's College London, and Director of Global Health Education and Training at the King's Global Health Institute. He brings together the natural and social sciences related to health with philosophy, particularly political philosophy, to address issues related health rights, equity and good governance for health at the local, national, and global levels. He has worked with organizations including Human Rights Watch, Doctors of the World, the Population Council, Open Societies Institute, Wellcome Trust, Health Foundation, UK Parliament Office of Science & Technology, and the WHO. His PhD – an argument for every human being's moral right to health – was the basis of his first book, *Health justice: an argument from the capability approach* (Polity Press). He is co-editor of *Vulnerable: the law, policy and ethics of COVID-19* (University of Ottawa Press). Sridhar has participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, sotrovimab, molnupiravir, nirmatrelvir, remdesivir update, current). No conflict of interest.



Ananda Wijewickrama

Ananda graduated in 1991 from the Faculty of Medicine, University of Colombo. He obtained his MD (Sri Lanka) from the Post Graduate Institute of Medicine, University of Colombo in 1998, and his MRCP (UK) from the Royal College of Physicians, London, in 2000. Currently he is a Consultant Physician at the National Institute of Infectious Diseases (formerly IDH), Colombo, and, since 2003, an external lecture/examiner in the Faculty of Medicines and a member of the National Medicines Regulatory Authority of Sri Lanka. He has postgraduate training in infectious diseases including dengue, SARS, avian flu and other emerging infections and HIV. His research interests include clinical management of dengue, HIV and chicken pox. He is a member of the editorial board of the Guidelines for the Management of Dengue Fever and DHF in adults in Sri Lanka. He has several publications in peer-reviewed journals and has delivered many guest lectures both in local and foreign medical forums on dengue. He won the ProMED award for emerging infectious diseases in ICID 2016. Ananda also served as the President of the Ceylon College of Physicians for 2020. Ananda participated in the WHO *Clinical management for COVID-19: living guideline* (January 2021) and the WHO *Therapeutics and COVID-19: living guideline* (remdesivir, hydroxychloroquine, lopinavir, ivermectin, casirivimab and imdevimab, IL-6 RB, JAK inhibitors, molnupiravir, current). No conflict of interest.

Annex 1: Conflicts declared in Declaration of Interests forms

Names	Conflicts declared
Yaseen Arabi	<p>I am the Chairman of the antiviral domain of REMAP-CAP and a member of the International Steering Committee.</p> <p>I am the PI for the helmet trial (ClinicalTrials.gov Identifier: NCT04477668).</p> <p>I am co-investigator on the COVI-prone trial (ClinicalTrials.gov Identifier: NCT04350723).</p> <p>I am a member of the ESCIM guidelines for NIV in ARDS.</p> <p>Decision: Dr Arabi is not a panellist for the <i>Therapeutics and COVID-19: living guideline</i> and will not be a panellist for the NIV recommendations.</p>
Carolyn Calfee	<p>1b. I have served as a consultant or advisor to a variety of companies about therapeutics for ARDS (not specifically related to COVID-19 but disclosing out of an abundance of caution): Bayer, Roche-Genentech, Quark, Prometic, CSL Behring, Vasomune, Gen1e Life Sciences. Funds were paid to me. Current consultancies: Vasomune, Gen1e Life Sciences.</p> <p>2a. I have had research support to my institution from several companies for observational studies related to ARDS (disclosing out of an abundance of caution): GSK (funding ended 2017); Bayer (funding ended 2019); Roche-Genentech (funding to 2022). I am not including funding from governmental sources or non-profits here. Funds were paid to my institution. Roche-GNE research contract to identify treatable traits in ARDS is active.</p> <p>Decision: no action needed.</p>
Matthias Gotte	<p>I received research funding and license fees from Gilead Sciences Inc. License fees refer to assays that we have developed in my laboratory.</p> <p>Research funding was provided to my laboratory. The one-time license fee of US\$ 50 000 was paid to the University of Alberta and I received ~US\$ 15 000. Research funding is ongoing, no more license fees.</p> <p>Decision: Dr Gotte will not be a panellist in recommendations concerning remdesivir.</p>
David S Hui	<p>An open label RCT comparing 5 vs 10 days of remdesivir for patients with severe and moderate COVID-19 (Gilead).</p> <p>Amount of income or value of interest: HK\$ 1.2 million to the Department of Medicine and Therapeutics. No personal income involved.</p> <p>Study was completed on 29 May 2020.</p> <p>Decision: Dr Hui was not a panellist for recommendation on remdesivir.</p>
Michael Jacobs	<p>Funding for phase 1b/2a trial of molnupiravir in UK national trial platform (AGILE) for which I am currently co-investigator (Ridgeback Therapeutics). Amount of income or value of interest: significant (£500 000).</p> <p>Decision: Sir Michael Jacobs was not a panellist for recommendations about molnupiravir.</p>
Leticia Kawano-Dourado	<p>I took part on an advisory board (Lilly) on June 2021 with Brazilian rheumatologists treating rheumatoid arthritis on baricitinib's effects on COVID-19: where we had a presentation of the RCT data.</p> <p>It is worth mentioning that one of my lines of research before COVID-19 is rheumatoid-arthritis-associated interstitial lung disease, and that is the main reason why I have a relationship with rheumatoid arthritis drug companies. Amount of income or value of interest: 900 euros.</p> <p>Decision: Dr Kawano-Dourado was not a panellist for recommendations about baricitinib.</p>
Francois Lamontagne	<p>I am a clinician scientist, and, in this role, I have supervised the conduct of clinical trials evaluating interventions for COVID-19 at my institution. Those trials did NOT evaluate molnupiravir, JAK inhibitors, sotrovimab, fluvoxamine and PF 73213332, but one trial (ATTACC) evaluated anticoagulants. The trial was funded by the CIHR (public, peer-reviewed funding) and the funds (about US\$ 20 000-40 000) that were paid to my institution were used to cover a fraction of the salary of the local research team. I have never received any salary/honorarium/reimbursement for this or any other research work.</p> <p>Recruitment in the anticoagulation domain ceased but the platform trial continues for other interventions.</p> <p>I have not been invited to present about the present work, I have been invited in the past to talk about guidelines in general including those created by WHO.</p> <p>Decision: Dr Lamontagne was not a panellist for recommendations about convalescent plasma and will not participate in anticoagulation recommendations.</p>
Saniya Sabzwari	<p>Consultancy on primary care model for health care service delivery based on a family practice approach for WHO in 2018. Amount of income or value of interest: US\$ 480.</p> <p>Decision: no action needed.</p>

Manu Shankar-Hari	I would like to highlight that I am an investigator in the REMAP-CAP trial. Decision: Dr Shankar Hari did not participate as a panellist in the tocilizumab guideline.
Ron Swanstrom	Research support for NIH, USA. Grant to my employer UNC Chapel Hill. Amount of income or value of interest: approximately US\$ 100 000/year to support research. In my lab we study anti-SARS-CoV-2 inhibitors and broad acting antivirals including NHC/molnupiravir. Decision: no action taken as research limited to basic science aspects of the medicine; not clinical trials. Funding source is not a manufacturer.
Swagata Tripathy	In charge of the COVID-19 ICU at AIIMS Bhubaneswar, I am PI for a non-funded research project investigating the role of epidural morphine to reduce respiratory drive in COVID-19 patients on NIV. Decision: no action needed.

