Advancing a One Health approach to support the challenge of infectious diseases in Brazil

Rio de Janeiro

28-29 March 2023
The Academy of Medical Sciences is the independent, expert voice of biomedical and health research in the UK. Our mission is to help create an open and progressive research sector to improve the health of people everywhere. The Academy’s elected Fellows are the United Kingdom’s leading medical scientists from the NHS, academia, industry, and the public service. We work with them to improve lives, strengthen research, support researchers, work globally, and build our resources.

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Introduction

The One Health High-Level Expert Panel defines ‘One Health’ as an integrative and systemic approach to health, grounded on the understanding that human health is closely linked to the healthiness of food, animals, and the environment and the healthy balance of their impact on the ecosystems they share, everywhere in the world.\(^1\) According to the World Health Organisation (WHO), while health, food, water, energy and the environment are wider topics with sector-specific concerns, a collaborative approach across the sectors contributes to protect health, address challenges relating to food safety, combatting antibiotic resistance; the control of zoonoses; and help preserve the integrity of ecosystems.\(^2\) Over the past three decades, the onset of outbreaks of zoonotic diseases has increased. It is estimated that globally, about 60% of emerging infectious diseases originated from animals, and of 30 new human pathogens detected in the last 30 years 75% have originated from animals.\(^3\) The recent increase in zoonotic diseases can, at least partially, be attributed to human activities that have contributed to the creation of an environment that favours the spillover of pathogens from animals to humans (including globalization, population growth and associated increase in consumption, unplanned urbanization, climate change, and loss of habitat through fires, pollution and deforestation).\(^3,4\) As the COVID-19 pandemic has demonstrated, public health systems need to be able to rapidly identify threats, react promptly, and share information rapidly and transparently.\(^3,5\) From the COVID-19 experience, it is crucial to identify what could be done better, to prevent future outbreaks or mitigate their impacts. A multi-sectoral One Health approach is critical for the control of diseases such as avian flu and tuberculosis and for the prevention of new emerging pathogens,\(^6\) especially zoonoses, which are diseases that can be transmitted from animals to humans.

While emerging zoonoses often capture the world’s attention, given their potential threat to high-income countries, many low-and-middle income countries carry the burden of zoonoses, especially endemic diseases such as Zika, chikungunya, and leptospirosis.\(^7,8\) Zoonoses impose a significant financial and societal cost for any affected country, but in the case of the COVID 19 pandemic, Latin America and the Caribbean were particularly severely affected, with a decrease of about 7% in their GDP, well above the global average of a decrease in GDP of about 3.3%.\(^3\)

Latin America is especially vulnerable to emerging and re-emerging endemic infectious diseases and those with epidemic and pandemic potential, due to healthcare infrastructure that has limited capacity and is highly variable within the region. Socio-economic inequities in Latin America also contribute to poorer population health.\(^9\)
Introduction

Vector borne diseases in particular are of major concern in the region. The impact of such infectious disease epidemics in the region has multisectoral and multinational implications including economic crises, political instability, food insecurities, increased migration, and interruptions in other public services like education, transport and public safety.\(^8\)

The importance of a One Health approach has now been recognised through a quadripartite alliance composed of the Food and Agriculture Organisation of the United Nations (FAO), the World Health Organisation (WHO), the World Organisation for Animal Health (OIE) and the UN Environment Programme (UNEP). Together they have developed the One Health Joint Plan of Action (2022-2026) aimed at strengthening capacity to address multidimensional health risks with more resilient health systems at global, regional, and national levels.\(^{10}\)

Beyond zoonoses, advancing a One Health approach can contribute to positive developments across other areas and sectors. Non-communicable diseases (NCDs), including heart disease, stroke, cancer, diabetes, and chronic lung disease, are collectively responsible for 74% of all deaths worldwide.\(^{11}\) With non-communicable diseases representing a major global health challenge, the interlinkages across sectors covered by a One Health approach could also benefit NCDs. For example, the impact of environmental changes linked to air pollution can exacerbate certain NCDs such as chronic respiratory diseases, whilst other environmental changes can affect food availability affecting diets and putting populations at risk of malnutrition. Therefore, the importance of a One Health approach goes beyond zoonoses and can facilitate wider benefits for human health.

While the impacts of climate change are being felt across the world, the world’s poorest and most vulnerable people will be disproportionately affected by climate change and its effects on health. For example, 70% of the world’s poor depend on natural resources for all or part of their livelihoods.\(^{12}\) Therefore, the lens of social equity and justice are also important components of a one health approach, to ensure that vulnerable communities most at risk are engaged and included in research meaningfully.

Brazil in particular is especially vulnerable to climate change impacts including reduced water availability, risk of coastal flooding and increased occurrence and severity of river floods, and health risks associated with heat stress including heat-related deaths in the elderly.\(^{13}\) As mentioned above, climate change is also linked to the recent increase in
zoonotic and vector-borne diseases, such as malaria, dengue fever, vesicular stomatitis or New World screwworm.\textsuperscript{14} The life cycle of the vectors of many zoonotic and vector-borne diseases is strongly influenced by climate conditions (including temperature, precipitation and humidity), which are predicted to allow increased temporal and geographical distribution of certain disease vectors, thereby increasing disease transmission.\textsuperscript{13,14} Beyond zoonotic diseases, climate change is also expected to worsen disease burden more broadly, including an increase in infectious diseases in general, and an increase in cardiovascular and respiratory diseases.\textsuperscript{13} In fact, a recent study found that of 375 human infectious diseases investigated in this study (ranging from waterborne viruses to plague), 58\% are expected to be exacerbated by climate change.\textsuperscript{15} It should be noted that climate change is also predicted to diminish certain diseases, however most diseases are predicted to be worsened.\textsuperscript{15} The One Health approach can play a pivotal part in improving health and more broadly facilitate positive developments to wellbeing, livelihoods, and the environment, by aligning separate efforts to work collaboratively. This involves bringing together key players across the sectors such as medical doctors, veterinarians, agricultural experts, social scientists, and public health experts. Bringing together expertise across the ecosystem, could also support with identifying and bridging key research gaps.

References:
1 https://www.who.int/groups/one-health-high-level-expert-panel/meetings-and-working-groups
2 https://www.who.int/health-topics/one-health#tab=tab_1
5 https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(20)30044-4/fulltext
6 https://www.oie.int/en/what-we-do/global-initiatives/one-health/#ui-id-1
11 https://www.who.int/health-topics/noncommunicable-diseases#tab=tab_1
15 https://www.nature.com/articles/s41558-022-01426-1
Aims of the workshop

This programme aims to work with partner countries to consider how scientific evidence can help address identified global health challenges and build in-country policy and research capacity for tailored, local, impactful scientific policy. The main objectives of this workshop would be to convene researchers, policy makers and wider stakeholders together, to identify key research opportunities and barriers to enable the successful implementation of a One Health approach in the region. To achieve this, our aims might be as follows:

- Bring together evidence and research on developments in Brazil on a One Health approach.
- Comprehensively review previous and ongoing One Health initiatives and research innovations across the sectors, with a focus on infectious diseases and climate change, to understand where the gaps are and how a multi-sectoral approach could support in addressing these gaps.
- Provide a platform for different regions and sectors to share their experiences, challenges and successes to allow learning from one another.
- Based on the evidence, identify existing knowledge gaps and discuss the mechanisms to address these gaps in order to support improvements within and across settings.
- Identify solutions and key actions that can facilitate greater multi-sectoral collaboration that could enhance research and policy responses to infectious disease and climate change challenges.
- Agree on a list of research priorities and solutions to overcome the identified barriers and gaps which can be addressed on local, regional, and national levels.

To achieve this, the workshop will:

- Learn from existing initiatives, evidence, and successes from across the country and wider region and the UK on the implementation of One Health approaches.
- Identify country/region specific challenges, barriers, and gaps to enhancing One Health capabilities across research areas, that could be addressed through multi-sectoral collaboration.
- Consider how initiatives and research can prioritise community engagement through greater multi-sectoral collaboration.
- Identify key actions and research areas for multi-sectoral collaboration that can enhance One Health capabilities.
Steering committee

Co-chairs

Professor Marcello Barcinski, Professor, Federal University of Rio de Janeiro

Professor Alison Holmes FMedSci, Professor of Infectious Diseases and the Director NIHR Health Protection Research Unit, Imperial College London

Members

Dr Ottorino Cosivi – Center Director, Pan American Center for Foot-and-Mouth Disease and Veterinary Public Health; (PANAFTOSA) Pan American Health Organization

Professor Pedro F. da Costa Vasconcelos, Professor, Department of Pathology at Pará State University

Professor Claudio T. Daniel-Ribeiro, Full Professor, Oswaldo Cruz Foundation

Professor Chris Dye FMedSci, Professor of Epidemiology, University of Oxford

Professor Helena Lage Ferreira, Professor (Associate) University of Sao Paolo

Professor Celso F. Ramos Filho, Professor, Federal University of Rio De Janeiro

Professor Helena B. Nader, Professor and Head of the Institute of Pharmacology and Molecular Biology, Federal University of Sao Paulo
Speakers

Dr Liliane Almeida Carneiro, National Primate Center of the Evandro Chagas Institute (Centro Nacional de Primatas do Instituto Evandro Chagas, CENP/SVSA/MS), Brazil

Dr Tamara Leite Cortez, WHO Collaborating Centre for Training and Research in Urban Zoonoses Control, Brazil

Professor Paulo Ferrinho, Global Health and Tropical Medicine (GHTM) Institute of Hygiene and Tropical Medicine, Universidade Nova de Lisboa, Portugal

Professor Lívia Caricio Martins, Instituto Evandro Chagas, Brazil

Professor Aileen Marty FCAP, Florida International University (FIU), US

Dr Patricia Fernanda do Pinho, Amazonia Environmental Research Institute (Instituto de Pesquisa Ambiental da Amazônia, IPAM), Brazil

Professor André Luiz Rodrigues Roque, Fundação Oswaldo Cruz (FIOCRUZ), Brazil

Professor Fernando Rosado Spilki, Universidade Feevale, Brazil

Professor Giliane de Souza Trindade, Universidade Federal de Minas Gerais (UFMG), Brazil

Professor Janice Reis Ciacci Zanella, Brazilian Agricultural Research Corporation (Empresa Brasileira de Pesquisa Agropecuária, EMBRAPA), Brazil
## Agenda – Day One

<table>
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<th>Time</th>
<th>Session</th>
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<td>08:30-08:55</td>
<td>Registration &amp; Morning tea</td>
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<tr>
<td>08:55-09:05</td>
<td>Welcome and introductions</td>
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<td>Simon Denegri, Executive Director, Academy of Medical Sciences</td>
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<td>09:05-09:15</td>
<td>Aims, Objectives and Format of the Workshop</td>
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<td>Acads. Professor Marcello Barcinski and Professor Alison Holmes FMedSci</td>
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<tr>
<td>09:15-11:15</td>
<td>Session 1: Current understanding and landscape of One Health in Brazil</td>
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<td>Session chair: Professor Alison Holmes FMedSci</td>
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<td>This session will begin with presentations about the current developments in the One Health Landscape, through the lens of a specific focus area, with time for a Q&amp;A.</td>
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### Keynote scene setting talk (30 mins)

"Overview of the One Health landscape in Brazil, OHHLEP and ongoing activities"
*Professor Janice Zanella, OHHLEP representative/EMBRAPA*

### Panel keynote session (15 mins per speaker)

Panel members will build on the context setting keynote to provide an overview of existing initiatives and learnings across various angles under the One Health sectors. Speakers will introduce their respective organisations’ and reflect on recent work and opportunities and make reference to the operationalisation of a multi-sectoral approaches.

"Role of One Health in preparing for Pandemics"
*Professor Aileen Marty FCAP, Florida International University (FIU)*

"One Health in the Amazon Region of Brazil: present situation and perspectives"
*Dr Liliane Almeida Carneiro, National Primate Center of the Evandro Chagas Institute (CENP/SVSA/MS)*

### Tea break (10 mins)

Continued – Panel keynote session

"WHOCC Activities on One Health in Latin America"
*Dr Tamara Leite Cortez, WHO Collaborating Centre for Training and Research in Urban Zoonoses Control*

"Building blocks to develop One Health Systems"
*Professor Paulo Ferrinho, Instituto de Higiene e Medicina Tropical, Lisboa (virtual)*

### Q&A (20 mins)

11:15-11:20 Refreshment break (transitioning to breakout groups)
Agenda – Day One

**11:20-12:20**
(in breakout groups)

**Session 2: Breakout Group Discussion - Current understanding and landscape of One Health in Brazil**

During this session, in smaller groups, participants will share evidence and examples of One Health initiatives, successes and learnings in the context of infectious diseases. This will include identifying achievements and progress and identifying parallels between regions. The group will address a set of questions. Each group will have a nominated chair to lead the discussion.

The four breakouts will focus on one of the following areas:

**Breakout Group 1 – Policy:**
*Chaired by Professor Celso F. Ramos Filho*
This group will take a focus on current policy interventions needed to promote and operationalise a One Health approach to address the challenge of infectious diseases in Brazil. The group will consider how policy can support greater multi-sectoral collaboration.

**Breakout Group 2 – Research**
*Chaired by Professor Helena Lage Ferreira*
This group will explore the role of research in relation to multi-sectoral collaboration and addressing infectious disease challenges with a One Health approach in Brazil. Participants will reflect on previous successes and identify key research gaps that could be addressed through greater multi-sectoral collaboration.

**Breakout Group 3 – Data**
*Chaired by Professor Nuno Faria*
This group will focus on the role of data in operationalising a One Health approach to address the challenges associated with infectious diseases in Brazil, including how a multi-sectoral approach could aid with leveraging data across the sectors for a more coordinated approach and to address research gaps.

**Breakout Group 4 – Community Engagement**
*Chaired by Professor Jean Segata*
This group will focus on how community engagement can be integrated into a One Health approach and support with operationalisation to address the challenges related to infectious diseases in Brazil. Participants will also reflect on sectors that have prioritised community engagement with learnings that can be applied across the One Health spectrum.

Within the above focus areas, participants will be encouraged to address questions in relation the following systemic topic areas, particularly considering the impact on infectious diseases:
- Climate change and vulnerable populations
- Anti-microbial resistance
- Land use and conservation/agricultural change
- Emerging zoonosis & emerging and re-emerging diseases

**Introductory context setting exercise**
Each member of the group will be asked to spend two minutes, along with their national counterparts, introducing themselves and the current ‘state of play’ with regards to One Health research in their respective institution/regions/specialities. These high-level overviews should aim to summarise approaches taken and outcomes so far including methods used to link scientific evidence and policymaking, and touch upon any key barriers and challenges faced in the context of health and research systems.
### Agenda – Day One

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<thead>
<tr>
<th>11:20-12:20</th>
<th>Continued – Session 2: Breakout Group Discussion - Current understanding and landscape of One Health in Brazil</th>
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<tbody>
<tr>
<td><strong>Agenda</strong></td>
<td>The groups will address the following questions</td>
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<tr>
<td></td>
<td><strong>Group 1: Policy</strong></td>
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<td></td>
<td>• What is the current ‘state of play’ for One Health initiatives in your institution or region?</td>
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<td>• Where are the major research gaps or challenges in this area which need to be addressed</td>
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<td>• Can you provide any examples of ongoing cross-sectoral collaborations in your network/region?</td>
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<td>• What are the commonalities and/or important differences across your group members?</td>
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<td></td>
<td><strong>Group 3: Data</strong></td>
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<td>• What is the current ‘state of play’ for One Health [data] initiatives in your institution or region?</td>
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<td>• Where are the major data gaps or challenges in this area which need to be addressed</td>
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<td></td>
<td><strong>Group 4: Community Engagement</strong></td>
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<td></td>
<td>• What is the current ‘state of play’ for One Health initiatives in your institution or region?</td>
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<td></td>
<td>• Where are the major research gaps or challenges which need to be addressed to support better community engagement?</td>
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<td>• What are the commonalities and/or important differences across your group members?</td>
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<tr>
<td><strong>Session Outcome</strong></td>
<td>By the end of the session, participants should have shared examples of One Health initiatives in their respective institutions or regions, and parallels between institutions/regions.</td>
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<tr>
<td>12:20-13:20</td>
<td>Lunch</td>
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### Session 3: Breakout Group Discussion- Identifying challenges and barriers to overcome to support better cross-sectoral collaboration and One Health approaches.

Participants will return to the same breakout groups to address a new set of questions. This session will aim at identifying ways in which cross-sectoral collaboration can be facilitated for an effective One Health approach, with a particular focus on challenges related to infectious diseases.

The groups will address the following questions:

**Group 1: Policy**
- How could One Health approaches help to support policy interventions to address the key challenges related to infectious diseases in Brazil?
- In which key areas could research strengthen the evidence base to sustain and support the implementation of policy interventions for One Health activities to tackle infectious diseases?
- What are the key policy interventions that should be facilitated on a national/regional/local level to support the challenges identified during the workshop?
- What tools/mechanisms/strategies are required to overcome the barriers highlighted during the discussions, which could also support interventions?

**Group 2: Research**
- How could One Health approaches support ongoing research efforts to support greater multi-sectoral collaboration and address the key challenges around infectious diseases in Brazil?
- In which key areas could research strengthen the evidence base to sustain and support the implementation of One Health activities?
- What activities should be facilitated on a national/regional/local level to support the research challenges identified during the workshop?
- What tools/mechanisms/strategies are required to overcome the barriers highlighted during the discussions, which could also support interventions?

**Group 3: Data**
- How could One Health approaches help to support better multi-sectoral collaboration to address the key challenges related to infectious diseases in Brazil?
- In which key areas could data strengthen the evidence base to sustain and support the implementation of One Health activities?
- What key interventions should be facilitated on a national/regional/local level to support the challenges identified during the workshop?
- What tools/mechanisms/strategies are required to overcome the barriers highlighted during the discussions, which could also support interventions?

**Group 4: Community Engagement**
- How could One Health approaches help to support better multi-sectoral collaboration to address the key challenges related to infectious diseases in Brazil?
- In which key areas could greater community engagement strengthen the evidence base to sustain and support the implementation of One Health activities?
- What key interventions should be facilitated on a national/regional/local level to support the challenges identified during the workshop?
- What tools/mechanisms/strategies are required to overcome the barriers highlighted during the discussions, which could also support interventions?
Agenda – Day One

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<tr>
<th>Time</th>
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<tr>
<td><strong>13:25-14:40</strong> <em>(in breakout groups)</em></td>
<td><strong>Continued - Session 3: Breakout Group Discussion- Identifying challenges and barriers to overcome to support better cross-sectoral collaboration and One Health approaches.</strong></td>
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<tr>
<td><strong>14:45-15:15</strong></td>
<td><strong>Refreshment Break</strong></td>
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| **15:15-15:30** | **Daily Wrap up summary**  
Professor Alison Holmes FMedSci and Acads. Professor Marcello Barcinski |
| **15:30-16:45** | **Session 4: Presentation Development**                                             |
| **17:30-20:00** | **Drinks Reception and Dinner**  
Drinks: Prodigy Santos Dumont Hotel  
Dinner: Restaurante Vamo |
## Agenda – Day Two

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>08:00-08:30</td>
<td><strong>Morning tea</strong></td>
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<tr>
<td>08:30-08:35</td>
<td><strong>Welcome</strong></td>
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<tr>
<td>08:35-10:15</td>
<td><strong>Session 5: Panel session: Examples of Research, successes and collaboration in Brazil</strong>&lt;br&gt;Session chair: Professor Marcello Barcinski&lt;br&gt;Panel session highlighting key successes and research efforts ongoing across Brazil and the neighbouring region.&lt;br&gt;(10 mins per speaker)</td>
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<tr>
<td>10:15-10:30</td>
<td><strong>Refreshment break</strong></td>
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<tr>
<td>10:30-11:30</td>
<td><strong>Session 6: Breakout Group Presentations</strong>&lt;br&gt;Session chair: Professor Alison Holmes FMedSci&lt;br&gt;During this session, each group will present their key discussion points, commonalities, successes, and learnings and agreed priorities. After each presentation, groups will have 5 minutes to add any clarifications or raise additional points.</td>
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### Speakers:

- **Group 1: Policy** (10 mins + 5 mins discussion)
- **Group 2: Research** (10 mins + 5 mins discussion)
- **Group 3: Data** (10 mins + 5 mins discussion)
- **Group 4: Community Engagement** (10 mins + 5 mins discussion)
## Agenda – Day Two

### 11:30-12:30  
**Session 7 - Plenary discussion session: Identifying research and policy next steps to facilitate greater multi-sectoral collaboration and enhance One Health approaches in Brazil**

*Session co-chairs: Professor Alison Holmes FMedSci and Acads. Professor Marcello Barcinski*

During this session, participants will bring together the findings of the workshop and look to identify key next steps to facilitate greater multi-sectoral collaboration across Brazil. Participants will discuss emerging research, policy and community-based priorities which could support the implementation on One Health approaches to address the challenge of infectious diseases and related issues in the country/region.

This will include agreeing upon opportunities, and 5-7 next steps and priorities to accelerate multi-sectoral collaboration in One Health research and initiatives to address infectious disease challenges, to support evidence-based policy and research in Brazil.

**Guiding Questions**

- What actions, priorities or themes identified in the workshop can support with the implementation of the One Health approaches in the shorter term (3-12 months)?
- What actions, priorities or themes identified can support with the implementation of the One Health approaches in the longer term (1-3 years)?
- Can existing global initiatives (e.g., the Joint Action Plan) be aligned with existing country strategies in One Health, and how can it be integrated with other established frameworks? Are there specific actions which can be taken forwards from this meeting to support this?
- How could the organisations represented and others acting in this space take forwards the themes, priorities and next steps identified at the workshop?

**Session Outcome**

At the end of this session, we aim to have formulated a list of actions, priorities, or themes that all participants can take back to their respective organisations to build on.

### 12:30-12:35  
**Conclusions from across the two days and workshop outputs**

*Professor Marcello Barcinski and Professor Alison Holmes FMedSci*

### 12:35  
**Lunch**
Co-chair biographies

Professor Marcello Barcinski

Biography

My research initiation, while still an undergraduate student, took place at the Human Cytogenetics Unit (UCH) under the guidance of Prof. José Carlos Cabral de Almeida. The UCH consisted of the Cytogenetics Laboratory located in the building of the Faculty of Medicine in Praia Vermelha (before the move to Fundão) and the Clinical Cytogenetics Unit, which operated in the 3rd Chair of Internal Medicine at Hospital Moncorvo Filho. Cytogenetic analysis is based on the quantitative and qualitative evaluation of chromosomes and the correlation with changes in chromosome number or morphology with different clinical syndromes. The cell of choice for this analysis is the peripheral blood lymphocyte in mitosis, stimulated by phytohemagglutinin. In the present case, human lymphocytes.

At the time, cellular immunology was in its infancy. In collaboration with the late Prof. Gilberto Oliveira Castro, I began to study the physiology of lymphocytes stimulated by phytohemagglutinin and discovered that the initiation of mitosis occurs after cells establish gap junctions with each other. These and other findings led me to deepen my knowledge of cellular immunology. I did this via an internship at the National Institutes of Health (NIH) in Bethesda, Ma. In the USA. Upon returning to Brazil, with the unrestricted support of several colleagues and the board, we created the Immunogenetics Laboratory that evolved into the current Immunobiology Program of the Institute of Biophysics at UFRJ.

Professor Alison Holmes

Biography

Alison Holmes OBE FMedSci is a Professor of Infectious Diseases and Director of the NIHR Health Protection Research Unit in Healthcare Associated Infections and AMR and the Centre for Antimicrobial Optimisation (CAMO) at Imperial College London, and she is the David Price Evans Chair of Infectious Diseases and Global Health at the University of Liverpool. She is the past President of the International Society for Infectious Diseases. She is an NIHR Senior Investigator and is an infectious diseases physician by background, with an extensive clinical track record in infectious diseases management, including a clinical fellowship in Boston early in her career. In 2021 she was awarded an OBE for services to medicine and infectious diseases. She has served in multiple national roles, including serving as the Department of Health’s national expert clinical adviser, as a Governmental Expert Advisory Committee member on AMR and Healthcare Associated Infection for nine years, and as a national expert witness for Parliamentary Health and Science and Technology Committees, in addition to serving on a variety of research funding panels and scientific advisory boards. She leads a large international, multidisciplinary infectious disease research programme, including collaborative programmes funded by NIHR, ESRC, UKRI and the Wellcome Trust on the improved management and prevention of infections globally, particularly focusing on the optimising of antimicrobial use through better use of data, infection prevention, the integration of social sciences, the development and application of innovative approaches and technologies for improved diagnostics, precision medicine and clinical outcomes.
Steering committee

Dr Ottorino Cosivi

Pan American Center for Foot-and-Mouth Disease and Veterinary Public Health; (PANAFTOSA) Pan American Health Organization, Brazil

Biography

Dr Ottorino Cosivi is the Director of the Pan American Center for Foot-and-Mouth Disease and Veterinary Public Health (PANAFTOSA/VPH) of the Pan American Health Organization (PAHO). Based in Rio de Janeiro, Brazil, PANAFTOSA/VPH provides technical cooperation to the countries of the Americas in 3 areas: (a) zoonotic diseases, and snakes and arthropods envenoming, (b) food safety, foodborne diseases, and antimicrobial resistance in the food supply chain of products of animal origin, and (c) Foot-and-Mouth Disease (FMD). PANAFTOSA/VPH hosts the World Organisation for Animal Health (WOAH) Reference Laboratory on FMD (a BSL4, WOAH standard facility) and the WOAH Collaborating Centre on Veterinary Public Health.

Dr Cosivi started his career in 1993 at WHO, Geneva, as a Veterinary Public Health Officer working on zoonotic bacterial diseases. In 2000, he assumed the leadership of the WHO bioterrorism preparedness program. In 2008, he was Acting Director of the WHO’s Mediterranean Centre for Health Risk Reduction, Tunis, before moving to PAHO in 2009. Dr Cosivi qualified in Veterinary Medicine at Parma University, Italy, and has a postgraduate degree in Tropical Veterinary Medicine from Edinburgh University. Before joining WHO, he worked with NGOs, academic institutions, the pharmaceutical industry and as a field practitioner.

Professor Pedro F. da Costa Vasconcelos

Professor, Department of Pathology at Pará State University, Brazil

Biography

Graduation in Medicine in 1982 - Federal University of Pará, Belém, Brazil
Doctorate in Medicine and Health in 1999 - Federal University of Bahia, Salvador, Brazil
Post-doc in Molecular virology in 2003 - University of Texas Medical Branch, Galveston, TX, USA
Medical Virologist at Evandro Chagas Institute (IEC), 1983-2019, Belém, Brazil
Chief of Department of Arbovirology and Hemorrhagic Fevers at IEC, 1999-2014
Director of the IEC, 2014-2019
Professor of Pathology at Pará State University, 2008-to present, Belém
Fellow of the CNPq (Brazilian Council for Scientific and Technologic Development)
International Fellow of the American Society of Tropical Medicine and Hygiene
Titular of the Brazilian Academy of Sciences (ABC)
More than 330 peer-reviewed scientific articles
Biography

Professor Cláudio Tadeu Daniel-Ribeiro (MD, DSc, DrHC malaria@fiocruz.br) is the Head of the Laboratory for Malaria Research and of the Centre for Malaria Research and Training at the Instituto Oswaldo Cruz (Fiocruz). Professor Cláudio Tadeu Daniel-Ribeiro is a full Researcher and Professor at Fiocruz, the Brazilian National Research Council (CNPq) and the Faperj; Academician of the National Academies of Medicine of Brazil and France.

Biography

Chris Dye trained as a biologist and ecologist (BA York), but postgraduate research on mosquitoes (DPhil Oxford) led to a career in epidemiology and public health. Based at Imperial College and the London School of Hygiene and Tropical Medicine from 1982-96, he did research on bloodsucking insects as vectors of leishmaniasis, malaria and river blindness in Africa, Asia and South America, and on the role of domestic and wild animals as reservoirs of human infection and disease. In 1996, he joined the World Health Organization, where he developed ways for analysing the vast quantities of routine surveillance data ('big data') collected by government health departments worldwide — extracting signal from noise to devise better methods for understanding and controlling tuberculosis, malaria, and Ebola, SARS and Zika viruses. As WHO Director of Strategy 2014-18, he served as science advisor to the Director General, oversaw the production and dissemination of health information by WHO press and libraries, and coordinated WHO’s work on health and the Sustainable Development Goals. From 2006-09, he was also Gresham Professor of Physic (and other biological sciences) in the City of London, 35th in a lineage of professors that have given public lectures since 1597. He is a Professor of Epidemiology at Oxford University and a Fellow of The UK Royal Society and the Academy of Medical Sciences.
**Steering committee**

**Professor Helena B. Nader**

Professor and Head of the Institute of Pharmacology and Molecular Biology, Federal University of Sao Paulo, Brazil

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**Biography**

Helena B. Nader is a Professor and Head of the Institute of Pharmacology and Molecular Biology at the Federal University of Sao Paulo (UNIFESP). She obtained her PhD at Unifesp and post-doctoral training as a Fogarty (NIH) fellow at the University of Southern California. Since 1985, she has been a 1A (highest level) research fellow of the National Research Council for Scientific and Technological Development (CNPq).

Her research field is molecular and cell biology of glycoconjugates. She has advised over 100 master of science and PhD students and more than 20 post-doctoral researchers. She has received several national and international awards and honours. At her university, she was the first woman to become Pro-Rector of Undergraduate as well as Pro-Rector of Research and Graduate programmes. She has been a role model for many women in Brazilian universities, helping to promote women’s empowerment and breaking societal barriers.

Her contributions go beyond research, having contributed with initiatives aiming at diminishing the gap in scientific development between the different regions of Brazil and improving national levels of high school education. She is the Sciencesir of IANAS (Inter-American Network of Academies of Sciences) and vice-president of the Brazilian Academy of Sciences (ABC). She is member of the ABC, The World Academy of Sciences (TWAS), and the Latin America Academy of Sciences (ACAL).
AMS representatives

Simon Denegri

Executive Director, The Academy of Medical Sciences, UK

Biography

I joined the Academy in October 2019. Dealing with a global pandemic was not at the top of my list of challenges I expected to deal with in my first year as Executive Director. But I am deeply proud of how the team has responded and the contribution the Academy has made to science and public understanding. Prior to joining the Academy I was the NIHR National Director for Patients, Carers and the Public and Chair of INVOLVE and, before that, Chief Executive at the Association of Medical Research Charities (AMRC). I am passionate about public involvement, engagement and participation in research. I have many interests outside work but an ideal weekend for me would involve time with my wife, Nicky, and my three sons, a cinema trip, a visit to a historic site or museum, rocking out on my guitar and watching Crystal Palace FC win at home. It rarely happens.

Dr Rachel Macdonald

Head of Programmes, The Academy of Medical Sciences, UK
AMS representatives

Alex Hulme
Head of International, The Academy of Medical Sciences, UK

Fern Brookes
International Policy Manager, The Academy of Medical Sciences, UK
AMS representatives

Emily Zerling
Senior International Programme Officer, The Academy of Medical Sciences, UK

Aisha Mazhar
Policy Officer, The Academy of Medical Sciences, UK
ABC representatives

Vitor Vieira de Oliveira Souza

Program Officer, Academia Brasileira de Ciências (ABC), Brazil

Marcos Cortesão Barnsley Scheuenstuhl

Executive Director, International Affairs, Academia Brasileira de Ciências (ABC), Brazil
ABC representatives

Patricia Bozza

Vice-President for the Rio de Janeiro Region, Brazilian Academy of Sciences (ABC), Brazil
Full Researcher, Department of Physiology and Pharmacodynamics, Oswaldo Cruz Foundation (FIOCRUZ), Brazil
ANM representatives

Professor Marcello Barcinski

Professor, Federal University of Rio de Janeiro, Academia Nacional de Medicina (ANM), Brazil
Speakers biographies

Dr Liliane Almeida Carneiro

National Primate Center of the Evandro Chagas Institute (Centro Nacional de Primatas do Instituto Evandro Chagas, CENP/SVSA/MS), Brazil

Biography

Dr Liliane Carneiro is a veterinarian with a Master's Degree in Pathology of Infectious and Parasitic Diseases from the Center of Tropical Medicine of UFPA. She studied at the School of Veterinary Medicine and Animal Science of the University of São Paulo (FMVZ/USP), where she earned a PhD in Sciences. She has been working as a health researcher for 17 years at the Evandro Chagas Institute. She served as Director of the National Primate Center for four years. She currently works in biomedical research using primates as research models. Her dedication and passion for veterinary medicine serve as inspiration for her research with non-human primates, and she has experience in the areas of animal welfare, infectious diseases, animal experimentation and One Health. In 2020, Liliane accepted the Uniprofessional Residency of primate medicine applied to public health, and in the same year she received the award for Veterinarian of the Year granted by the Regional Council of Veterinary Medicine of the State of Paraná (CRMV/PA), for the relevant services provided to veterinary medicine.

Dr Tamara Leite Cortez

WHO Collaborating Centre for Training and Research in Urban Zoonoses Control, Brazil

Biography

Dr Tamara Leite Cortez is a veterinarian with residency and master's degree in Veterinary Public Health. She specializes in Environmental Health and Epidemiology applied to the Unified Health System - SUS. She works with zoonosis surveillance and vector-borne disease in the approach of unique health. Since 2008, she has been working in the Zoonosis Surveillance Division of the Municipal Health Surveillance Coordination of the Municipality of São Paulo, responding as a focal point for the designation as Collaborating Center.
Speakers biographies

Professor Paulo Ferrinho

Global Health and Tropical Medicine (GHTM) Institute of Hygiene and Tropical Medicine, Universidade Nova de Lisboa, Portugal

Biography

Professor Paulo Ferrinho is Full Professor of Global Public Health at the Institute of Hygiene and Tropical Medicine (Universidade NOVA, Lisbon, Portugal), its immediate past Director and, currently, the Director of the Department of Global Public Health. His areas of expertise include public health, One Health, epidemiology, human resources for health (human resources planning and health workers training), maternal and child health, travel medicine, and capacity development of academic institutions. Professor Ferrinho has been involved in collaborative international work in Europe, Africa (all Lusophone countries and Eritrea, South Africa, and Zambia) South America (Brazil) and Asia (Thailand and East Timor).

Professor Lívia Caricio Martins

Instituto Evandro Chagas, Brazil

Biography

Professor Lívia Caricio Martins graduated in Biochemical Pharmacy from the Federal University of Pará (2002) and holds master's degree in Biological Sciences from the Federal University of Pará (2004) and Ph.D. in Biology of Infectious and Parasitic Agents from the Federal University of Pará (2009). Between 2004 and 2010, she was a consultant for UNESCO and PAHO, with projects developed at the Instituto Evandro Chagas. Since 2011, she has held the position of Researcher in Public Health on the staff of the Section of Arbovirology and Hemorrhagic Fevers (SAARB) of the Instituto Evandro Chagas (IEC), from May 2017 to August 2020, she served as head of the Section of Arbovirology and Hemorrhagic Fevers (Ordinance nº 24, of May 17, 2017), and currently serves as director of the Evandro Chagas Institute. She works as a permanent professor in the Graduate Programs in Parasite Biology in the Amazon (PPG-BPA) at the State University of Pará (UEPA) and IEC, in the Graduate Program in Virology (PPGV) and Epidemiology and Health Surveillance (PPGEVS) of the IEC. She is Director of the PAHO Collaborating Center for Emerging and Reemerging Arboviruses and Other Emerging Zoonotic Viruses. She has experience in the area of Microbiology, with emphasis on Biology and Physiology of Microorganisms, working mainly on the following topics: Arboviruses, viral characterization, serology and experimental studies in animals.
Speakers biographies

**Professor Aileen Marty FCAP**

Florida International University (FIU), US

**Biography**

Professor Aileen Marty is a Distinguished University Professor and practicing physician and a physician-scientist with more than 45 years of national and international clinical and research experience. Her research began in 1976 with work on vision studies in the lemon shark (Negaprion brevirostris) and spans to sizeable clinical research studies involving helminthic infections and drug interactions (e.g., Onchocerciasis and Ivermectin studies), clinic-pathological studies on the health impact of vaccines (Venezuela Encephalitis virus) on humans and rodents, epidemiological and laboratory studies on disease (leprosy in non-human primates), and heavy contributions to studies on the pathogenesis of Ebola virus on non-human primates, disease surveillance, and the public health impact of disease including legal, medical, and sociological factors. She has practiced clinical medicine, mainly tropical medicine, in many nations of the Americas, Africa, and Asia. She was a member of the Blue Ribbon Panel that created the Military Tropical Medicine Course. She has served on multiple national, regional, and international boards and worked with WHO, UN, and the White House. She has a broad grasp of medical issues from both a practitioner and a policymaker. She has been involved in the response to the COVID-19 pandemic. She is sought after by the media to discuss and explain medicine and science developments and provides expert and thoughtful information and concepts for strategic planning.

**Dr Patricia Fernanda do Pinho**

Amazonia Environmental Research Institute (Instituto de Pesquisa Ambiental da Amazônia, IPAM), Brazil

**Biography**

Dr Patricia Fernanda do Pinho is interested in understanding the ways people’s lives are affected by the impacts of climate change and how they respond to these challenges through adaptation. I investigate under what ways some people (people of color, indigenous people, women, children, elderly, and across geographies) are more vulnerable, addressing inequalities and loss and damage (residual risks) through justice. I also have experience in researching the relationship on ecosystem services, human wellbeing and livelihoods sustainability with special focus on Amazonia. I’m passionate about the critical role of Amazonia Ecosystem (s) in delivering services for local livelihoods, regional economy, and climate resilience in Brazil, South America, and the world. On governance, I aim to understand what underpins people’s and policymakers’ decisions about ecosystem services, climate changes, and anticipated risks reduction on socio-ecological systems and human wellbeing. I use the lens of the intersectionality of structural poverty and inequalities (economic, gender, ethnics) that marginalize people, hinder adaptation capacity, and increase systemic climate change risks. I ’m a lead author for the Intergovernmental Panel for Climate Change (IPCC) on WGII for AR6 and Special Report on 1.5°C warmer world implications to sustainable development.
Speakers biographies

Professor André Luiz Rodrigues Roque

Fundação Oswaldo Cruz (FIOCRUZ), Brazil

Biography

Professor André Luiz Rodrigues Roque holds a bachelor's degree in Veterinary Medicine from the Federal Rural University of Rio de Janeiro (2002), a Master's degree (2005) and a Doctorate (2009) in Parasitic Biology from the Oswaldo Cruz Foundation. He is a Technologist in Public Health and Substitute Head of the Laboratory of Biology of Trypanopeptides (IOC/FIOCRUZ). He was an awardholder of the Carlos Chagas Filho Foundation’s (FAPERJ’s) ‘Jovem Cientista do Nosso Estado’ (Young Scientist of Our State) programme from 2013 to 2022 and is currently a ‘Cientista de Nosso Estado’ (Scientist of Our State) of the same programme (2022-2025). In addition, he holds a Research Productivity grant from the National Council for Scientific and Technological Development (CNPq) since 2018. He is currently coordinator of the Graduate Program in Parasitic Biology (CAPES 7), where he acts as a permanent advisor. He serves as Academic Editor of Plos One, Frontiers in Parasitology and a Special Issue at Frontiers in Cellular and Infection Microbiology and reviewer of more than 30 different scientific journals. His expertise is the field of parasitology, in particular in the study of wildlife reservoirs of zoonotic agents. His main areas of work include: Trypanosomatida-host interactions; wild mammals, management of small wild mammals, Trypanosoma cruzi, Leishmania sp. and characterization of Trypanosomatida.

Professor Fernando Rosado Spilki

Universidade Feevale, Brazil

Biography

Professor Fernando Rosado Spilki is a Doctor of Veterinary Medicine (Federal University of Rio Grande do Sul, 2001) and additionally holds a Master degree in Animal Virology (Federal University of Rio Grande do Sul, 2004), and a PhD in Genetics and Molecular Biology (Unicamp, Brazil, 2006). He currently is a Full Professor at Feevale University, Brazil, and acts as coordinator of the Corona-ômica.BR/MCTI Network for surveillance of genomic diversity of emerging viruses in Brazil. He previously was President of the Brazilian Society for Virology. Professor Spilki’s research interests are veterinary and human virology; contamination of water, soil and foods by enteric viruses; and innovative protocols for removal and destruction of viral agents in water and sewage.
Speakers biographies

Professor Giliane de Souza Trindade

Universidade Federal de Minas Gerais (UFMG), Brazil

Biography

Professor Giliane Trindade is a virologist, Professor at the Federal University of Minas Gerais, leader of the ECOVIR research group and has been dedicated to research in eco-epidemiology of emerging viruses, especially emerging zoonoses in Brazil that include Bovine Vaccinia, poxviruses in general, arboviruses and the circulation of SARS Cov 2 in interface areas between wild and urban environments.

Professor Janice Reis Ciacci Zanella

Brazilian Agricultural Research Corporation (Empresa Brasileira de Pesquisa Agropecuária, EMBRAPA), Brazil

Biography

Professor Janice Reis Ciacci Zanella is a veterinarian graduated from the Veterinary School of the Federal University of Minas Gerais, with a Master and Ph.D. in Molecular Virology from the University of Nebraska, USA. She is a researcher at EMBRAPA Swine and Poultry Research Center. in the area of Animal Virology. She participates in the One Health High Level Expert Panel (OHHLEP) of WHO, FAO, WAHO (OIE), and the United Nations Environment Program (UNEP), of the Technical Committee for Swine Health Programs of the MAPA and WAHO AdHocs committees such as Classical Swine Fever and African Swine Fever. She participates in the OFFLU technical group on Swine Influenza as a representative of Brazil. From 2008-2010 she served as a visiting researcher at NADC / ARS / USDA.
Group 1 - Policy

GROUP 1 CHAIR
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Universidade Federal do Rio de Janeiro, Brazil

Fern Brookes
The Academy of Medical Sciences, UK

Prof Pedro F. da Costa Vasconcelos
Universidade do Estado do Pará, Brazil

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Universidade Federal de São Paulo, Brazil

Dr Miriam Tendler
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Wildlife Conservation Society, Mesoamerica & Western Caribbean, Brazil

Dr Marco Antonio Natal Vigilato
Pan American Center for Foot and Mouth Disease and Veterinary Public Health (PAHO/WHO), Brazil

Dr Guilherme Henrique Figueiredo Marques
Pan American Center for Foot and Mouth Disease and Veterinary Public Health (PAHO/WHO), Brazil

Prof Aileen Marty FCAP
Florida International University (FIU), US

Professor Pablo Manrique-Saide
Universidad Autonoma de Yucatan, Mexico

Dr Tamara Leite Cortez
WHO Collaborating Centre for Training and Research in Urban Zoonoses Control, Brazil

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Professor Cláudia Turra Pimpão
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Deputy Consul General, FCDO, Brazil
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**GROUP 2 CHAIR**
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Universidade de São Paulo (USP), Brazil

**Aisha Mazhar**  
The Academy of Medical Sciences, UK

**Prof Claudio T. Daniel-Ribeiro**  
Instituto Oswaldo Cruz, Brazil

**Prof Lívia Caricio Martins**  
Instituto Evandro Chagas, Brazil

**Prof André Luiz Rodrigues Roque**  
Fundação Oswaldo Cruz (FIOCRUZ), Brazil

**Prof Matthew Baylis**  
University of Liverpool, UK

**Dr Liliane Almeida Carneiro**  
Centro Nacional de Primatas do Instituto Evandro Chagas, CENP/SVSA/MS, Brazil

**Dr Davis Sansolo**  
Universidade Estadual Paulista (UNESP), Brazil

**Dr Rejane Schaefer**  
Brazilian Agricultural Research Corporation (EMBRAPA, Concórdia, Santa Catarina), Brazil

**Prof Giliane de Souza Trindade**  
Universidade Federal de Minas Gerais (UFMG), Brazil

**Dr Hannah Boycott**  
Medical Research Council (MRC UKRI), UK

**Dr Sylvia Fischer**  
Universidad de Buenos Aires and CONICET, Argentina
Group 3 - Data

GROUP 3 CHAIR
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Imperial College London, UK

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The Academy of Medical Sciences, UK

Prof Eduardo Gotuzzo
Universidad Peruana Cayetano Heredia, Peru

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University of Minnesota, US

Prof Fernando Rosado Spilki
Universidade Feevale, Brazil

Dr Alan Eriksson
Universidade Federal de Mato Grosso (UFMT), Brazil

Dr Cesar Rossas Mota Filho
Universidade Federal de Minas Gerais (UFMG), Brazil

Dr Melina Bonato
ICC, Brazil

Dr Diego Montecino
Wildlife Conservation Society, Health Program, Bronx, US

Prof Marcia Chame
Fundação Oswaldo Cruz (FIOCRUZ), Brazil

Prof Sandra Cortes
Pontifícia Universidad Católica de Chile, Chile

Dr Lívia Sacchetto
Faculdade de Medicina de São José do Rio Preto (FAMERP), Brazil
Group 4 – Community Engagement

**GROUP 4 CHAIR**
Prof Jean Segata  
Universidade Federal do Rio Grande do Sul (UFRGS), Brazil

Emily Zerling  
The Academy of Medical Sciences, UK

Prof Patricia Rocco  
Universidade Federal do Rio de Janeiro, Brazil

Prof Janice Reis Ciacci Zanella  
Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA), Brazil

Dr Cesar Augusto Cabezas-Sanchez  
National Institute of Health, Peru

Dr Renato A. M. Silvano  
Universidade Federal do Rio Grande do Sul (UFRGS), Brazil

Dr Maria Consuelo Miranda Montoya  
Consultant in Clinical Research, Colombia

Professor Lucia Andrade  
Universidade de São Paulo, Brazil

Marcelo Segalerba Bourdette  
Ministry of Health, Brazil

Dr Andrea Chaves  
University of Costa Rica, Costa Rica

Andrea Hurtado Epstein  
Health Care Without Harm, Latin America Team, Mexico

Prof Rodrigo Távora Mira  
Pontifícia Universidade Católica do Paraná (PUCPR) and Conselho Regional de Medicina Veterinária do Paraná (CRMV-PK), Brazil

Dr Ottorino Cosivi  
Pan American Health Organization (PAHO), Brazil
Workshop venue

Key details – Opening Reception
Date: Monday 27 March, 18:30-20:00
Location: Academia Nacional de Medicina, Av. Gen. Justo, 365 - Centro, Rio de Janeiro - RJ, 20021-130, Brazil

Key details – Workshop
Date: Tuesday 28 March (08:30-20:00) to Wednesday 29 March 2023 (08:00-12:35)
Location: Academia Nacional de Medicina, Av. Gen. Justo, 365 - Centro, Rio de Janeiro - RJ, 20021-130, Brazil

Wifi
Password: anmwnifi123

Zoom
Zoom link: https://acknetworks.zoom.us/my/anmadm
ID: 406 023 3332

Contact Information
If you require further clarification or have any queries, please contact Fern Brookes fern.brookes@acmedsci.ac.uk +447507746367