



PMAC | PRINCE MAHIDOL
AWARD CONFERENCE **2018**

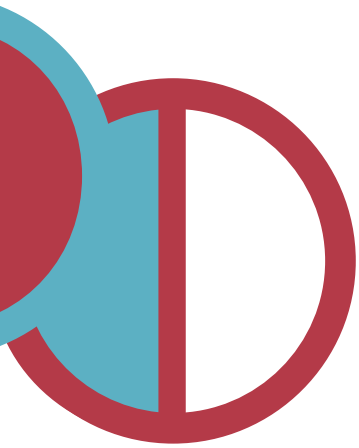
29 January - 3 February 2018, Bangkok, Thailand

Call for ABSTRACTS

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Making the World
Safe from the
Threats of Emerging
Infectious Diseases



BACKGROUND

The Prince Mahidol Award Conference (PMAC) is an annual international conference focusing on policy-related health issues. The Prince Mahidol Award Conference 2018 is co-hosted by the Prince Mahidol Award Foundation, the Thai Ministry of Public Health, Mahidol University, the World Health Organization, The World Bank, U.S. Agency for International Development, Japan International Cooperation Agency, The Rockefeller Foundation, with support from other key related partners. The Conference will be held in Bangkok, Thailand, from 29 January – 3 February 2018. The theme for PMAC 2018 is “Making the World Safe from the Threats of Emerging Infectious Diseases”.

We live in an era when the emergence of novel infectious disease agents is posing an increasing threat to global health and security. The threat from novel infectious diseases is accelerating at a pace and with an intensity unprecedented in human history, driven by increasing human populations, climate change and surging global travel. The possibility that a

single lethal microbe could suddenly emerge and sweep through every household, through every community without regard to national borders or social and economic standing is a shared fear across the globe. Just the fear can cost billions, as illustrated by recent Ebola and Zika virus panics in little-affected countries. But the reality of the threat is all too clear, proven by the decades of response to the HIV-AIDS pandemic. Yet the world is not prepared to either mitigate the impact of an emergent disease threat or prevent its emergence.

Zoonotic and AMR related diseases account for more than 95% of all emerging infectious diseases reported during the second half of the 20th century¹. In this century the emergence of SARS, pandemic influenza, MERS, and the spread of Ebola and Zika reflect the world's increasing vulnerability to novel zoonotic threats. The simultaneous emergence of pathogens resistant to antibiotic therapies raises the prospect of a “post antibiotic” world. While the drivers underlying the emergence

¹ K. E. Jones et al., Global trends in emerging infectious diseases. *Nature* 451, 990-993 (2008).

of zoonotic and antibiotic resistant diseases are complex, human behaviours and their impact on animal populations and the environment are understood to be central to the emergence of both disease threats. The role of increasing animal-human contact in the emergence of zoonotic diseases has been well documented and been increasingly the focus of One Health initiatives across the globe. The contribution made by the inappropriate use of antibiotics in animal husbandry to AMR is less well documented but in recent years has been increasingly understood to be a core driver behind the emergence and global spread of antibiotic resistant organisms, along

with inappropriate “prescriber-user” practices associated with antibiotic use in clinical care. Changing environmental and climatic conditions have also been closely linked to the emergence of novel infectious diseases. That infectious disease emergence is closely associated with practices and behaviours at the animal-human-environment interface speak to the importance of an expanded multi-sectoral alliance across the animal, human and environmental sectors to address the threats posed by both zoonosis and AMR. The Global Health Security Agenda and related One Health movement provide important frameworks for mobilizing international action.

The Rising

Threat of Zoonotic Diseases

Since the Influenza Pandemic of 1918 when between 50-100 million died (5-10% of the human population) we have been fully aware of how vulnerable our place on this planet is

Even in the absence of significant global mortality, epidemics and pandemics can cost tens of billions of dollars, reversing development gains and pushing communities and households into poverty. The SARS outbreak in 2003 cost the

economies of East Asia between \$30-50 billion and estimates of the global economic cost of an influenza pandemic range from \$374 billion, for a mild pandemic, to \$7.3 trillion, for a severe pandemic - with a 12.6% loss of gross domestic product.

Strategically, policies to address a potential pandemic threat are constrained by an unresolved debate over the use of adaptive

measures - that aim through the use of technological measures to reduce the impact of diseases after they have emerged vs mitigation measures - that focus on the underlying causes of disease emergence. The adaptive tools we traditionally rely on to protect us from the world of infectious diseases – vaccine and therapeutics – too often are shown ineffective against a novel threat; and, the timely development and deployment of new and effective biomedical countermeasures is undercut by the speed at which the threat spreads.

Similarly, our ability to mitigate the emergence of new threats is undermined by a lack of

knowledge about the viral ecology and the drivers, including human behaviors, which propel the emergence of a new threat. It is at these moments we realize just how few our adaptive and mitigation options are – and how vulnerable the global community is. After each episode the world admonishes itself for being ill prepared to deal with a global threat – but after decades of largely reacting adaptively to each event, with only a tangential focus on mitigation, we are only marginally better able to deal with the next one.

A “Post Antibiotic World”

The development and commercialization of antimicrobials stands as a defining achievement of 20th century medical practice. Antimicrobials heralded an era of expanded life expectancy, paved the way for advanced medical and surgical treatments, improved animal health and welfare, and made possible curative therapy for once fatal infections. Decades of superfluous and inattentive use of antimicrobials across the human and animal health sectors now threaten these advancements. The pace of reported treatment failures and antimicrobial

resistance (AMR) in common pathogens is increasing, with multi-drug resistant pathogens creating the prospect of a ‘post antibiotic’ world. In the absence of interventions, AMR-associated human mortality is projected to soar from a current rate of 700 000 to over 10 million annually by 2050—as readily treatable infections become life threatening, and routine procedures are rendered unsafe.² Asia is expected to account for half of this projected global mortality. The impact of AMR on morbidity and mortality is matched by a substantial

² O’Neill, J. Review on Antimicrobial Resistance. Tackling a Global Health Crisis: Initial Steps. 2015

³ Global Action Plan on Antimicrobial Resistance, http://www.who.int/drugresistance/global_action_plan/en/

⁴ <http://www.un.org/pga/71/2016/09/21/press-release-hl-meeting-on-antimicrobial-resistance/>

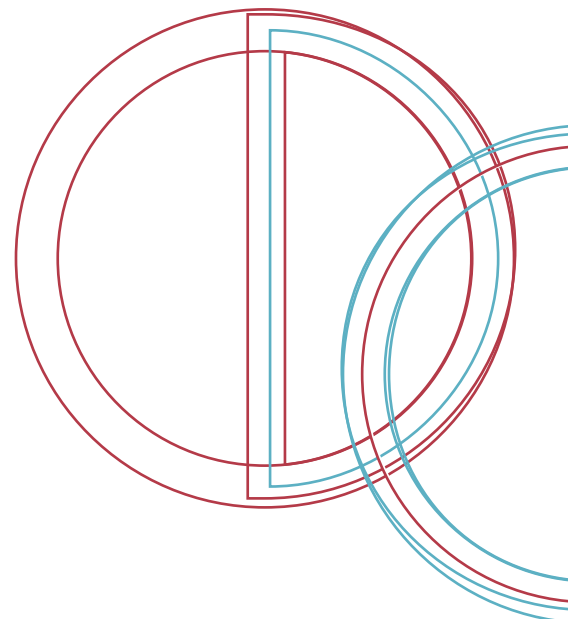
economic burden, with resistance linked to aggregate losses anticipated to exceed USD 100 trillion by 2050.

Antimicrobial resistance is exacerbated by the unregulated use of antimicrobials across both the human health and animal health sectors. A particular concern is the shared use of same classes of antibiotics in humans and in animals, potentially exacerbating the selection pressures on pathogen populations in animals and humans that encourage the development of resistance and exchange of resistance genes. By example, in the United States the livestock production industry accounts for 80% of the total use of antibiotics used for treatment of human infections

Antimicrobial resistance is one of the three flagship topics for the tripartite (FAO, OIE and WHO) collaboration. At the Sixty-eight World Health Assembly in May 2015, the World Health Assembly endorsed the Global Action Plan (GAP)³ on AMR and requested to strengthen the tripartite collaboration between FAO, OIE and WHO for combating antimicrobial resistance in the spirit of the “One Health” approach. The Global Action Plan, which ensured a One Health approach and consistency

with Codex Alimentarius and OIE inter-governmental standards and guidelines, aims to ensure continuity of successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them. Guided by this global action plan, the Member States, the Secretariat, and their international and national partners aim to: (1) improve awareness and understanding of antimicrobial resistance; (2) strengthen knowledge through surveillance and research; (3) reduce the incidence of infection; (4) optimize the use of antimicrobial agents; and (5) develop the economic case for sustainable investment that takes account of the needs of all countries, and increase investment in new medicines, diagnostic tools, vaccines and other interventions.

A high level meeting on anti-microbial resistance was held in September 2016 at the United Nations General Assembly, generating a statement of global commitment to address AMR through a multi-disciplinary approach.⁴



PMAC 2018

Will Be Action Focused

Protecting the world from the threat of zoonotic diseases and ensuring effective stewardship of antibiotics requires a common and well-coordinated multi-sectoral effort. While there has been significant progress in building multi-sectoral One Health action against zoonotic diseases, AMR efforts remain highly siloed with an unequal focus on the respective contributions made by the inappropriate use of antibiotics in clinical care and animal production, as well as limited opportunities for bringing human and animal health sectors together to forge a common strategy. There is an urgent need to bring a comprehensive One Health risk mitigation approach to address zoonotic and AMR related diseases that addresses the direct consequences of animal-human interactions and contributory pressures related to environmental and climate changes.

PMAC 2018 will provide an important setting for fostering policy and strategic action by engaging multi-sectoral experts in zoonosis and AMR, as well as climate change and related environmental fields from across the public and private sectors, international organizations, foundations, academics and non-governmental organizations, as well as critical players in Global Health Security Agenda (GHSA). Importantly, a PMAC sponsored "Making the World Safe from the Threats of Emerging Infectious Diseases" would build on PMAC 13's highly successful conference on One Health and lead to real change.

PMAC 2018

Will Build On Past PMAC Themes

Since 2007, the Prince Mahidol Award Conference has been organized as an annual international conference focusing on policy-related public health issues of global significance – including, Universal Health Coverage, Health Equity, Meeting the Needs of Vulnerable Populations, and addressing the threats posed by infectious diseases. Each of these meeting has brought together leading public health leaders and stakeholders from around the world to propose concrete solutions and recommendations. PMAC 2018 will explicitly look to build on the successes of past PMACs and to identify opportunities to further contribute to the systems and capacities required to address the comprehensive health needs of the world's populations.



OBJECTIVES

1. To accelerate progress in the adoption of multi-sectoral approaches for addressing zoonotic diseases and antimicrobial resistance
2. To advocate for evidence-based priority setting and policy decisions for zoonotic diseases and antimicrobial resistance
3. To share knowledge and experience in addressing the challenges posed by zoonotic diseases and antimicrobial resistance
4. To promote a greater understanding of the range and nature of the “drivers” underlying the emergence of new disease threats and options for their mitigation
5. To highlight emerging demographic, climatic and travel trends to better understand how disease emergence will evolve over the course of this century
6. To underscore the collateral socio-economic and development benefits associated with a One Health Agenda



ABSTRACTS

The abstract should contain **no more than 300 words** that illustrate original research, or experience from the field on the subjects which have never been presented at any international conference.

All submissions should fall under three main sub-themes as follows:

SUB-THEMES

Sub-Theme 1:

Tracking Progress Towards Success

Sub-Theme 2:

Harnessing the Power of Public-Private-Community Partnerships for “Preventing, Detecting, and Responding” to Address Zoonotic Diseases and Antimicrobial Resistance

Sub-Theme 3:

Understanding the Drivers Underlying Emergence of Zoonotic Diseases and Antimicrobial Resistance and the Broad Benefits from Promoting Healthy Animals and Healthy People



Sub-Theme 1

Tracking Progress Towards Success

This sub-theme is focused on presenting evidence for how ongoing efforts across the globe to address zoonotic and AMR related threats are contributing to more effective policies, practices and capacities for “prevention, detection and response” to EIDs. Given the inherent multi-sectoral aspects of disease emergence this is an opportunity to learn from recent experience with efforts such as the Global Health Security Agenda, International Health Regulations and the One Health movement about challenges and solutions for building effective partnerships for addressing zoonosis and AMR.

Issues to be discussed under this sub-theme are:

1.

Evidence for optimal policies, regulations and systems for addressing EIDs

What we have learned from country, regional and global level experiences in addressing EIDs

- Case studies illustrating successes and failures
- Organizational options for building sustainable national-level partnerships across multi-ministerial groups, including Health, Agriculture, Environment and Education
 - *What are the policy requirements*
 - *What are the human resource requirements*
 - *What are the organization requirements*
 - *What are resource requirements*
- How are these experiences translated to the sub-national level
 - *What are the equivalent requirements for provincial/county level operations*



2.

Evidence for optimal global and regional level structures for addressing EIDs

What are the lessons learned on building global and regional level partnerships to address EIDs

- How effective have global and regional partnerships been in building multi-sectoral alliances to enable country level actions
 - *What are the policy requirements*
 - *What are the human resource requirements*
 - *What are the organization requirements*
 - *What are resource requirements*

What is the evidence for proactive, flexible structures that enhance capacities and preparedness across the prevention-detection-response continuum?

- What do we learn from the WB Pandemic Emergency Financing Facility; calls for pandemic vaccine development banks; consortia for conservation of antimicrobials?

What can we learn from parallel efforts, such as those addressing global climate change and carbon emissions?

3.

Evidence of novel, upstream approaches to earlier detection and trends monitoring, including but not limited to:

- *digital diseases detection,*
- *crowdsourcing big data,*
- *predictive analytics on disease distribution*



Sub-Theme 2

Harnessing the Power of Public-Private-Community (PPC) Partnerships for “Preventing, Detecting, and Responding” to Zoonosis and AMR

This sub-theme is focused on examining the evidence for building effective partnerships that bring together community, private sector and public sector resources for sustainably addressing the threats posed by zoonosis and AMR. As with the previous sub-theme, the inherently multi-sectoral nature of zoonosis and AMR requires active engagement across multiple stakeholders. In addition to the Public sector, Private sector actors who may be directly engaged in activities that inadvertently contribute to “drivers” for EIDs will need to be actively involved in any efforts to better mitigate the consequences of their activities. Similarly, communities are key stakeholders, both as consumers and potential contributors to some of the drivers that underlie disease emergence (e.g. inappropriate use of antibiotics in rearing of livestock and aquaculture)

Issues to be discussed under this sub-theme are:



1.

Evidence for strong PPC partnerships that have contributed to “prevention, detection and response” to Zoonosis and AMR

What are the lessons from PPC partnerships in addressing EIDs

- Country, regional or global examples of how PPC partnerships have been able to harness across each of the constituencies to address EIDs in ways that greatly enhanced the overall impact
 - *What were the incentives for partnerships*
 - *What were the roles and responsibilities*
 - *What were the metrics for valuing the partnerships*
 - *What were the operational factors for sustainability*

2.

Evidence of successful outreach and community empowerment

What are examples of how risk communications have successfully affected community and/or individual level practices and behaviors on a scale significant enough to reduce the risk from zoolitic threats and/or AMR

3.

Evidence for how consumer advocacy can contribute to change policies and practices

4.

Evidence of economic benefits from PPC



Sub-Theme 3

Understanding the Selection Pressures Underlying Emergence of Zoonotic Diseases and Antimicrobial Resistance and the Broad Benefits Realized When They are Effectively Minimized

This sub-theme is focused on both:

A.

Exploring the contributions made by climate change, population growth, global travel, habitat change, expanding settlements, resource extraction, increased livestock and crop production and other underlying drivers that contribute to the emergence of new zoonotic and anti-microbial disease threats, and

B.

Examining the broad benefits that are accrued from promoting practices across multiple sectors that aim at reducing these drivers and the risk of zoonotic diseases and antimicrobial resistance.

There has been a general recognition that the adoption of a core set of best practices that are designed to directly target the drivers associated with zoonosis and AMR are likely to simultaneously contribute to positive outcomes across a range of “other” domains and the achievement of the United Nations Sustainable Development Goals, such as food security, household wealth and economic growth, as well as healthier environments and sustainable communities.



A.

Issues to be discussed under this sub-theme will allow a presentation of the evidence to for the drivers of EID emergence:

1.

Evidence for Climate Change in Increasing Infectious Disease threats and models projecting future impact

How does climate change contribute to spread of infectious disease threats

- *Topics to be considered could include: impact on vector ecology, animal migration, altered range and distribution of reservoir host species;*
- *variance in freshwater availability, sanitation, and waterborne disease*

2.

Evidence for demographic and population change on increasing Infectious Disease threats, including how settlement patterns (peri-urbanisation), population movement (increased air travel, trade etc), habitat change (impact on animal bio-diversity) contribute to disease emergence and spread

3.

Evidence for how increased economic activity impacts on increased Infectious Disease risk, including how expanded incursions of extractive industry operations and agricultural intensification into wildlife domains increase risk for “spillover” and spread of novel diseases

- *Options for “risk” can be mitigated at the site of industry operations or in planning/selecting where industry operations occur*

4.

Evidence for how increased livestock production and marketing in geographic “hot spots” for disease emergence may increase risk of pathogen “spillover” and “spread”

How projected increases in livestock production in Africa and shifting production contexts in Asia over the 21st century will impact on the risk of disease emergence, including zoonosis and AMR

- *Models for likely changes in terrestrial and aquatic animal production and marketing patterns over the coming century*
- *Models for potential increased environmental impact that could elevate risk*
- *Options for minimizing risks associated with increased livestock production and marketing*

B.

Issues to be discussed under this sub-theme also will allow a presentation of the evidence to broad collateral benefits accrued from targeting the drivers of EID emergence:

5.

Evidence that adoption of practices to reduce zoonotic and AMR risks associated with livestock production would also contribute to more efficient and more profitable operations.

How do improved biosecurity and husbandry practices that strengthen control of pathogenic zoonotic viruses improve the overall health of livestock and the environment

- *Reduced animal diseases*
- *Improved animal health can lead to increased livestock productivity and reduced input costs for production*
- *Enhanced productivity and yield per animal production unit*

How does proper management of antibiotics in livestock production and aquaculture improve economic returns

- *Improved hygienic conditions, nutrition, and vaccination in animal husbandry associated with reduced use of antibiotics and corresponding returns on investment*
- *What can be learned from the experience of countries that have phased out and enacted regulatory controls on use of antimicrobials in animal production*
- *AMR reduces potency of veterinary drugs and negatively affects animal health*
- *Consumer demand for antibiotic residue free animal source foods*

6.

Evidence that reduction in habitat fragmentation has led to the control of zoonosis

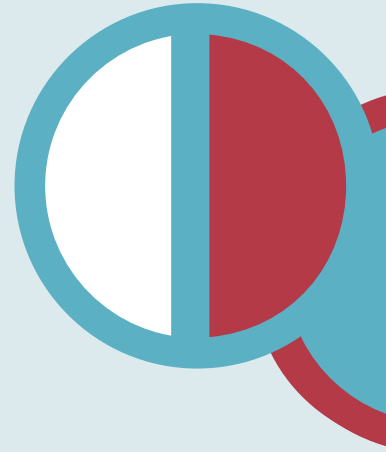
How does habitat fragmentation impact on vector-borne diseases

- *Evidence that changes in habitat leads to changes (increase/decrease) the transmission dynamics of infectious diseases (e.g. chikungunya, malaria)*

7.

Evidence that that the real and/or projected economic impact from emerging zoonoses and AMR has informed resource allocation policies and an investment case for prevention

- What practices and approaches have shown promise in fostering decision making informed by economic analyses
- What novel structures have proven utility in transcending the challenge of inequitable sectoral cost and benefit distribution
 - *Evidence for one or more sectors bearing the cost for benefits accruing to different sectors/stakeholders (e.g. H7N9 control in China: costs borne by producers and markets, but benefits accrue to health sector; or resource extraction and disease emergence: costs borne by health sector, but benefits accrue to industry and land planning/mining/forestry entities)*



ABSTRACT GUIDELINES

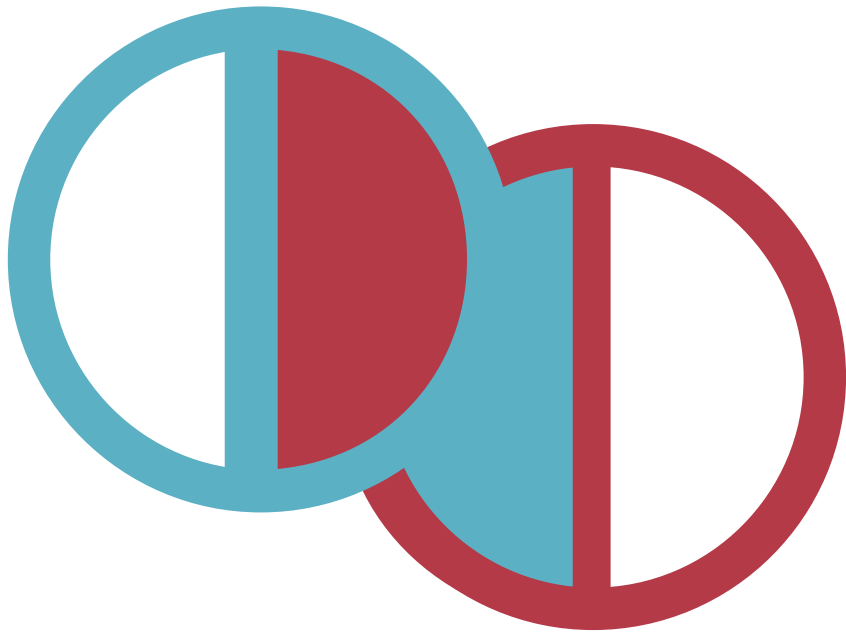
All submitted abstracts will be reviewed by an independent International Scientific Committee. The authors of the accepted abstracts will be invited to participate in the 2018 Conference during 29 January – 3 February 2018, either as presenters in sessions or poster display. If accepted to present in sessions, the author may be required to adjust the scope of their presentation to fit with the session objectives and format.

Successful abstracts for presentation in the session are required to submit a 2,000-word short paper of the selected abstract to be printed in the Conference Book. The deadline for the submission of the short paper is 1 December 2017.

Abstracts selected for poster display will be sent the guidelines for preparing the poster.

FUNDING OPPORTUNITY

Funding support for travel and accommodation for presenters, whose abstract is accepted, is available in limited number based on criteria. Priority for funding is given to authors whose abstract has been selected for presentation in the sessions, especially those from government, academics and NGOs of developing countries. The authors who have been granted sponsorship must be able to stay for the whole period of the main conference that is 1-3 February 2018. Please indicate in your submission, if you would like to be considered for the available scholarships.



SUBMISSION INSTRUCTIONS

The closing date for submission of abstracts is

31 March 2017 at 4:00 pm

Thailand local time (GMT+7)

All abstracts must be submitted electronically at the Conference

website: www.pmaconference.mahidol.ac.th.

Please follow the instructions indicated in the online submission system.