Conference on Strengthening Health and Non-health Response Systems in Asia: A Sustained Approach for Responding to Global Infectious Disease Crises

Organised By The RSIS Centre For Non-Traditional Security (NTS) Studies

Centre For Non-Traditional Security Studies

Ponder The Improbable

CONFERENCE ON STRENGTHENING HEALTH AND NON-HEALTH RESPONSE SYSTEMS IN ASIA: A SUSTAINED APPROACH FOR RESPONDING TO GLOBAL INFECTIOUS DISEASE CRISES

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This report summarises the proceedings of the conference as interpreted by the assigned rapporteurs and editors of the RSIS Centre for NTS Studies. Participants neither reviewed nor approved this report.

This conference adhered to Chatham House Rules. Accordingly, no attributions to speakers and attendees have been made.

Executive Summary

Systems Strengthening Responses to Infectious Disease Crises

Regardless of how strong a country's national health system is, it is only as good as its neighbours'. National borders are not able to withstand the threat posed by pandemics and infectious diseases. Hence, there is a need for countries to focus on regional cooperation, as part of the larger strategy in responding to the global infectious disease crises. The two-day conference on 'Strengthening Health and Non-Health Response Systems in Asia: A Sustained Approach for Responding to Global Infectious Disease Crises' was organised by the RSIS Centre for Non-Traditional Security (NTS) Studies to explore avenues for global linkages, to achieve preparedness and to develop efficient response systems, as well as to reflect on gaps and challenges with a view to building stronger health systems and global strategies for coping with infectious disease crises.

Socialising the National Health Systems: Think Global, Act Local

Building upon the call for greater international cooperation, countries must also think globally and act locally in securing their national health systems. A country's programme must be sensitive to the socio-economic status of its population since much research has shown that several national health systems appear disconnected from the socio-economic reality of the population. As a result of the disparity, certain segments of the local population may find themselves more vulnerable to the threats of pandemics despite the presence of a strong national health system. In fact, it is argued that the most vulnerable communities in society should be accorded more protection and assistance. One key approach to strengthening national health systems is for developing countries to collaborate with global and regional institutions, developed countries, the media and civil society groups. Each of these actors can play a role in ensuring that national health systems and pandemic preparedness strategies are comprehensive and sensitive to the needs of local communities.

There are several barriers that impede improvements to the delivery of national healthcare services. Many countries have a weak public health infrastructure, limited collaboration with non-state actors and a lack of epidemiology and laboratory capacity. These shortcomings are prevalent in a number of developing countries and may have dire consequences on a regional or global scale. Further, there is a lack of flexibility in several countries' pandemic preparedness plans. Although countries have improved their national health systems and infrastructures, these systems are built to guard against specific types of viruses and epidemics, which may yet again leave the general population vulnerable to other types of pandemics that require a different response.

Some say that it is therefore imperative to develop an efficient and effective early warning disease detection system at the global and national level. Such a system would be necessary, especially in an increasingly globalised and interconnected world, to ensure countries are able to control epidemic diseases from the onset. The early warning systems should be reinforced by an equally effective regional and national epidemic response system. However, it requires greater international cooperation and data sharing, interstate investments in technical facilities and public health infrastructure, which can only be achieved with greater economic cooperation among states.

Way Forward

Looking ahead, there is a need to emphasise problem-solving, policy-oriented research, and capacity building. Research in public healthcare in the context of pandemics should be problem-solving-oriented and driven towards studying the equity and vulnerability issues of the poor while policy-oriented research should study the effectiveness of existing healthcare policies and pandemic preparedness strategies. This is in part driven by the observation that the uncertain nature of pandemics has led to confusion among policymakers and public officials, resulting in occasional incoherent and inconsistent policies and actions. Addressing these issues will require greater transparency in information-sharing and sharing of experience and expertise among national agencies of different countries. At the level of capacity building in the community, it is held by some that more can be done to educate and prepare the public on appropriate social behaviour such as social distancing, the use of surgical masks and the practice of public hygiene during times of crisis.

In conclusion, apart from placing greater emphasis on research, policy reforms, increased investments in public health systems and infrastructure, and more involvement from non-state actors, there needs to be synergy between both state and non-state actors in tackling infectious diseases. This synergy should ultimately lead to improved trust and communication between the public and the state which would enhance the overall global capacity to mitigate the spread of diseases.

Opening Remarks

Ambassador Barry Desker
Dean
S. Rajaratnam School of International Studies
Nanyang Technological University

There is a growing awareness that infectious diseases pose a major challenge to the international community. There is thus an urgent need to intensify regional coordination, especially with regard to non-health responses. Serious obstacles, however, remain in the areas of governance, capacity and implementation. One of the key challenges is identification of diseases and rapid response, particularly in situations where there may be potential escalation to an epidemic or pandemic, which may involve significant costs.

It is important to look at these crises as opportunities for countries to identify their operational limitations in response capacity and to develop revised holistic response plans that strengthen both the alert and response capacity of health systems and non-health responses. For instance, the Severe Acute Respiratory Syndrome (SARS) outbreak prompted a long overdue transformation of the international health regulatory system as well as global investment in strategic planning and improved surveillance capacity. A health-centric response strategy must focus on addressing barriers to healthcare, i.e. weak or fragmented health systems, inadequate resources and the lack of trained personnel. Non-health response strategies on the other hand should aim at mitigating the spread of infectious diseases. The effectiveness and shortcomings of these measures need to be assessed by capitalising on the lessons learnt to improve non-health response measures. Together, both the health response strategy and non-health measures will help mitigate the impact of future pandemic outbreaks. It was against this backdrop that the RSIS Centre for Non-Traditional Security (NTS) Studies convened this conference, which is the second in a series of activities organised under the Centre's broader project on global health and human security.

The aim of the conference was to identify priority action areas in health systems. It focused on the gaps between existing health systems, the needs of local communities and the non-health responses of countries confronted with infectious disease outbreaks. On a broader level, the conference hoped to enhance international cooperation among stakeholders in strengthening both health and non-health measures in Asia and beyond.

Opening Address

Associate Professor Ho Peng Kee
Senior Minister of State
Ministry of Law and
Ministry of Home Affairs
The Government of Singapore

Global outbreaks of infectious disease are as much a concern as terrorist attacks. Like terrorist attacks, infectious diseases can kill large numbers of people and do not respect geographical boundaries. Outbreaks of infectious diseases tend to overwhelm health services and divert resources from elsewhere. It also affects trade, commerce, tourism, and stirs public fear and anxiety.

Despite all this, the H1N1 pandemic was a timely wake-up call. It was a reminder of the need to prepare to respond, manage and recover from pandemics. Managing an outbreak well means reducing fatalities and handling patient loads effectively over prolonged periods. The H1N1 pandemic tested the response systems of countries, validating certain assumptions and responses but raising questions about others. Thus countries must take stock and learn from experience and guard against the dangers of complacency as the virus is still circulating and may still mutate into a more severe strain.

No country has all the resources required to combat pandemics. Countries must therefore determine the most effective way to deploy scarce public health resources. Public health authorities must consider the types of measures to be put in place now in order to prepare for more severe pandemics in the future. Another public health challenge involves vaccines. The global supply of vaccines in the early stages of pandemics is typically insufficient. As a result, some countries develop vaccination plans based on the assumption that vaccines will be available about six months after the pandemic virus first emerges. In the case of H1N1, countries expected large quantities of vaccines to arrive in October 2009 with a steady stream of shipments continuing through to the end of the year. However, problems in vaccine production created a global shortage and delayed delivery schedules. As a result, some countries revised their earlier plans to make the most effective use of what little vaccine was available in the initial period. But as the pandemic turned out to be less severe, countries were left with massive surpluses. These countries dealt with excess vaccines by donating them to developing countries while at the same time ensuring that their own preparedness would not be compromised.

Lastly, it is crucial to institute non-health measures so as to prevent public health systems from collapse. A collective response strategy anchored in multi-sectoral pandemic preparedness will enable personnel from non-medical fields such as the military, police, transport, etc. to contribute to and alleviate the pressure on public health systems.

Keynote Address

Dr Noeleen Heyzer
Under-Secretary-General
United Nations, and
Executive Secretary
Economic and Social Commission for Asia and the Pacific (ESCAP)

An effective and well-functioning health system is a key ingredient for social and economic progress. The forces of globalisation in the 21st century create porous national borders that do not necessarily guarantee security as health challenges are increasingly shared and inextricably linked to multiple threats. Such forces include rapid economic growth, the explosion of international travel, increased mobility of people, the IT revolution, increased connectivity, etc. World tourism, for example reached a staggering 950 million in 2008. 21st century health challenges therefore cannot be addressed independently of other challenges.

As a result of the increasing mobility of people, the spread of infectious diseases has become very rapid. It is no longer possible to safeguard a country's health system without helping one's neighbouring countries. In the national context, denying basic healthcare and social security to excluded groups like undocumented migrants also creates risk for the entire population. It is therefore increasingly relevant to place the issue of health at the regional level and not just limit it at the national level. Health systems also have significant cross-border dimensions in addition to the national dimension, not just in the spread of diseases but also in healthcare investment. Lack of investment in the health system of one country can jeopardise the health system of another country. As such, countries should also concern themselves with the well-being of citizens of neighbouring countries as much as they concern themselves with the well-being of their own citizens.

Health policies were once thought to be primarily about healthcare in and of itself. While improved healthcare increases the chances of survival, more important in sustaining good health and longevity is to address the underlying socio-economic conditions that lead to poor health in the first place. Inequalities in health are rooted in inequalities in societies as a whole and closing the health gaps between social groups is crucial not just for the attainment of good health, but also for the overall development of a country.

Session 1: Drawing Linkages between Global Health Crises and Health Systems

The session 'Drawing Linkages between Global Health Crises and Health Systems' examined the extent to which effective responses to health crises worldwide are shaped by the absence of developed infrastructure for healthcare delivery in developing states, with the aim to draw linkages between global and national health systems and their implications for global health governance.

Linkages between Global Health Crises and Health Systems

The use of the term 'health systems' according to the World Health Organization (WHO) refers to 'all activities whose primary purpose is to promote, restore or maintain health'. The building blocks of health systems include service delivery, health workforce, information and research, medical products, vaccines and technologies, financing, and leadership/governance. The overall expected outcome of a health system is improved health, responsive social and financial risk protection, and enhanced efficiency. However, during an infectious disease outbreak, health systems face numerous challenges related to surveillance, epidemiological investigation, laboratory diagnostic capabilities, surge in health care needs, communication, coordination, education and outreach, access to interventions (vaccines, medicines, masks, etc.), strategic system-wide planning-resource allocation, and economic support, etc.

Developing countries tend to have weak capacities for responding effectively to pandemic outbreaks because of their weak health systems; collection of basic health information too can be a challenge. Countries such as India, Bangladesh, Indonesia, Ethiopia and Mali have less than one laboratory health worker per 1,000 people. The corresponding figures for selected developed countries are 23 for the United States, 20 for Finland, 11 for Canada and 10 for Japan (World Health Statistics 2008).

National and Global Linkages

National and global health systems are linked in a number of ways by various international frameworks, each with a different outcome. The WHO Framework Convention on Tobacco Control (WHO FCTC), for instance, is the first treaty negotiated under the auspices of the WHO. It was adopted by the World Health Assembly on 21 May 2003 and entered into force on 27 February 2005. It has since become one of the most widely embraced treaties in UN history and, as of today, already has 168 signatories. The Global Outbreak Alert and Response Network or GOARN, on the other hand, is a global technical partnership coordinated by the WHO to provide rapid international multi-disciplinary technical support for outbreak response.

The exodus of health workers from developing countries to developed countries too has had negative impacts on the health systems of developing countries. Angola had 881 doctors in 2006; the number of Angolan doctors working in eight Organisation for Economic Co-operation and Development (OECD) recipient countries is 168, which is 19 per cent of the Angolan workforce. For South Africa, 37 per cent of the country's health workforce is based in foreign countries. Development aid is targeted at the health sector through the Global Health Initiatives (GHI) which again shows the linkage between national and global health systems. In some countries, there has been a dramatic growth in Development Assistance for Health (DAH) and the funds provided constitute an enormous proportion of the health budget. In the island state of Niue, for example, foreign aid constitutes 66.3 per cent of the government's health budget. In the Marshall Islands, it makes up 66.1 per cent; in Mozambique, 60.3 per cent; in Malawi, it is 59.6 per cent; and in Timor Leste, the figure is 44.9 per cent. A reliance on foreign aid has led to some countries slashing their health spending, making them more vulnerable to global financial shocks.

Implications for Global Health Governance

Global health governance, especially those associated with the GHIs, is characterised by diverse players that often lack coordination. In most cases, a top-down, donor-driven approach is adopted, which exacts a negative impact on countries with fragile health systems. There is also an imbalance in allocation to 'big' diseases (vertical) but not to overall health system strengthening (horizontal). In order to improve aid effectiveness, the Paris Declaration on Aid Effectiveness, a historic agreement to improve the quality of aid, was signed in Paris in 2005 by over 100 donors, developing countries and non-governmental organisations (NGOs). The declaration has five principles, viz. ownership (partner countries have more say), alignment (donors base their overall support on partner countries' national development strategies, institutions and procedures), harmonisation (donor action is more harmonised, transparent and collectively effective), managing for results (managing resources and improving decision-making for results), and mutual accountability (donors and partners are accountable for development results).

The low level of development in many countries serves as a major constraint in building effective health systems. Most developing countries are able to allocate only a small percentage of their gross domestic product (GDP) to health and depend largely on foreign aid. This often places the reins in the hands of funding agencies, thus limiting state authority over health policies. Health ministries often have little influence over national budgets and resource allocations. Moreover, in many developing countries, spending on health is seen not as an investment but as expenditure. Ownership of health policies, it was recommended, would be a good starting point for developing more efficient health systems.

Globalisation and Health Systems

Globalisation has increased the speed and geographic scope of the transmission of pandemics. It has also led to the expansion of the domain of health issues to include social, political, cultural, environmental and economic factors, which has placed health on both the global and foreign policy agendas. Also, in a globalised world, links between health and human security have become ever more relevant. Human security aims to protect the vital core of human lives in ways that enhance human freedoms and fulfilment. Health is vital to human lives and therefore offers a concrete field for developing strategies for human security. A human security approach to health requires the adoption of strategies such as empowerment, i.e. enabling people to develop capacity to cope with or prevent difficult conditions; and protection, i.e. shielding people from critical and pervasive threats as well as enabling them to protect themselves against such threats.

The challenges for global health include strengthening health systems in developing countries, protecting and empowering people in the community, and also collaborating with global and regional institutions. Human resources for policy analysis and policy implementation are critical. At the same time, the role of institutions at both the global and regional levels needs to be clearly defined so as to enhance the effectiveness of these institutions in responding to health crises collectively. This would require reforming and strengthening the WHO and its regional offices, and the enhancement of the legally binding power of the International Health Regulations (IHR). A better balance between equity of access to drugs and the protection of intellectual property rights would also be crucial.

Session 2: Building Strong Health Systems

This session examined the challenges in building strong health systems, by focusing on six 'building blocks': (1) service delivery; (2) health workforce; (3) information; (4) medical products, vaccines, technologies and tools; (5) health financing; and (6) leadership and governance. The session also aimed to analyse the barriers that impede improvements to the delivery of healthcare.

Global Re-emergence of Infectious Diseases

Building strong health systems is crucial given the re-emergence of infectious diseases. There are three main drivers of re-emerging infectious diseases – conditions that result in an increased transmission of disease-spreading pathogens and vectors. Firstly, demographic changes, wherein population growth influences the environment in ways that create perfect conditions for easy transmission of diseases. Rural to urban migration as a result of economic development and the rapid rate of urbanisation has resulted in slums that lack sanitation facilities. Food production to meet this increasing population has also led to changes in animal husbandry, where poultry and cattle are no longer bred free-range, but in closed and compact environments.

Secondly, modern transportation as a result of globalisation has intensified the link between disease and trade as travel time has decreased; making it easier to move people, goods and animals. The latter is particularly significant as the majority of infectious disease crises have been caused by zoonotic (animal) pathogens.

Thirdly, the lack of effective vector control further drives the re-emergence of infectious diseases. This is due to secondary drivers such as the period of complacency since the 1970s during which policymakers tended to emphasise emergency responses rather than consider preventive measures to deal with disease spread. This is evident in many Asian countries, where plans for pandemic outbreaks have in recent years concentrated on continuity planning – ensuring hospitals and health services are equipped to continue running – and health workforce planning – ensuring medical staff are adequately prepared. This clearly shows a lack of emphasis on preventive measures.

Fourthly, global warming, though not a major driver may with increased temperatures, also exacerbate the spread of diseases. Given the circumstances, it is likely that future pathogens will come from animals in Asia, where population growth is estimated to be most rapid, particularly in Asian cities.

Besides the re-emergence of old diseases, new diseases would also emerge as a result of increased pathogen mutations. It would be nearly impossible to completely eradicate zoonotic diseases, but the key is to improve the capacity to contain outbreaks at a local level as far as possible. In doing this, the media and public must be provided with reliable information by the authorities so as to prevent panic and the tendency to overreact. Regional surveillance networks such as Promed and GORN are important in facilitating such information, but these systems nevertheless require laboratory confirmation and back-up.

Lessons Learnt and Future Prospects

There is a demand to establish laboratories, not just for confirming diseases but also to improve the capacity for prevention and research of infectious diseases. In its 2005 report on 'Combating Emerging Infectious Diseases in the Southeast Asian Region', the WHO notes the importance of laboratory capacity in public health infrastructure. One of the concerns, however, is that donor countries tend to channel their funds to certain diseases, which leads to a gap in the ability to detect other potential diseases. Moreover, surveillance and laboratory work are not attractive as there is limited funding money available. There is therefore a need to highlight this situation to policymakers to increase funding. However, convincing policymakers of the need to address the situation can be problematic as credible data will be the precondition.

Highlighting the economic costs of infectious disease epidemics would be an effective method of engaging governments to take pro-active action. The costs of a pandemic include the direct costs of medical care and public health, and the indirect costs (externalities) of productivity losses. Flagging these economic costs of pandemics to policymakers would also however require substantive data, particularly in developing countries, which are most in need of laboratories and better surveillance mechanisms. In light of the need for credible data, whether scientific or economic, international pressure from the WHO would be integral in pushing governments and regional organisations into action.

A Multi-systems Approach at the Regional Level

Multi-sectoral collaboration is limited, as governments in Asia have not fully engaged the business sector and civil society in the effort to strengthen health systems. In contrast, the European Union has taken steps to synergise the business community's potential with their health systems. Industries such as housing and urban development, food and agriculture, animals and livestock, biotechnology, pharmaceuticals, travel and leisure as well as market products have been engaged in addressing a variety of public health issues such as environmental health, sanitation, nutrition, genetics, social lifestyles, disease control and healthcare. In order for Asia to develop sophisticated health systems, it would be crucial to build these multi-sectoral linkages. The development of multi-systems would also require studying the interfaces among six key aspects – disease, host-pathogen links, ecological-evolutionary patterns, circumstances related to the eco-system, human population and health systems. Furthermore, multi-sectoral interfaces have to take into account issues related to agriculture, health and the environment at the local, regional and national levels to feed into policy.

Communication and Cooperation at the Regional Level

Regional cooperation is essential for the building of strong health systems as it allows countries to pool their resources and facilitates rapid response in times of crises. Regional cooperation also provides an opportunity to build upon regional social capital, which would be highly valued in understanding and addressing local dynamics.

The challenges of effective regional cooperation lie in issues of cost and coordination. For instance surveillance costs in Asia alone, according to the WHO, are estimated at USD 100 million. Hence, unless there is substantial funding from countries outside Southeast Asia – such as Japan and the United States – it is unlikely that ASEAN (Association of Southeast Asian Nations) countries would be willing to invest in regional frameworks, given their limited capacities. Moreover, ASEAN lacks international partnerships and needs to improve coordination efforts with international donor agencies. The inability to do so will reduce the region's ability to strengthen the health systems of developing countries.

In addition, if countries focus on immediate national interests, they may end up competing with one another, thus abandoning regional cooperation. Existing and potential issues include competition for foreign aid, information-sharing and transparency in data reporting. The lack of accountability mechanisms in some developing countries may also deter developed countries from providing assistance for fear that aid may bypass vulnerable communities and targeted sectors.

Lastly, a sustained approach is needed to support the structures of the WHO in Southeast Asia. Currently, ASEAN countries are grouped under two branches of the WHO, the Western Pacific Regional Office (WPRO) and the Southeast Asia Regional Office (SEARO). The WHO's leadership and funding are critical in coordinating the efforts of SEARO and WPRO, and reducing existing political baggage that impedes these two offices from working together effectively. However, the WHO will require the assistance of ASEAN member states in developing a sustained approach for the region, with civil society and the private sector filling in the gaps where governments are slow to respond.

Session 3: Constraints and Challenges of Health Systems in East Asia

This session focused on the regional experience of East Asia and the national experiences of Thailand, Indonesia and China with Emerging Infectious Diseases (EIDs). It concentrated on the development of national health systems, the role of state and non-state actors, and the historical evolution of responses to EIDs.

Regional Interest in EIDs

Recently, there have been significant health policy developments at the regional level in the Asia-Pacific, particularly concerning EIDs as an agenda item in the region and the constraints and challenges posed to health systems across the region. In 1996, the WHO spearheaded an EID response programme, which was followed shortly by the WHO 1997 World Health Day organised under the theme of World Emerging Infectious Diseases. Before the 1997 Avian Influenza outbreak, there was little interest across Asia in infectious disease research or related government funding. Indeed, funds raised then were spent on EIDs in Africa after the Ebola outbreak. However the situation in Asia changed following the 1997 Avian Influenza outbreak and changed more significantly with the 2002/3 SARS outbreak. Interest in infectious diseases increased exponentially worldwide with the increase in the number of confirmed cases of SARS and the emergence of H1N1 in 2009.

Regional Challenges and Lessons Learnt

There are several challenges in promoting improved responses to EIDs. The first challenge for health systems is a lack of reporting and data analysis, which results in the slow processing of information and subsequent action. At present, data collection teams are organised according to specific diseases with little inter-team cooperation during the initial investigation period. This is compounded by the central focus of the healthcare information system on the compilation of an annual general report rather than reports on specific disease outbreaks. Furthermore, individual countries are only required to inform the WHO about particular disease outbreaks but are not required to inform the WHO of their responses to them. As a result, many countries have limited epidemiology capacity that mainly focuses on the identification of certain diseases. A second challenge is that zoonoses usually affect those who are the most marginalised and lack the finances to respond effectively. The first and second challenges highlight the limited availability of community and financial resources as well as the limited access of these communities to new technologies.

The third challenge facing the region is the tension between research and policy because of the difficulty in translating interdisciplinary research into operational policy. Indeed, some international institutions do not always collaborate effectively because of the operational silos of institutions in the global architecture.

The fourth challenge is the difficulty in conceptualising issues that are beginning to be captured through the notion of 'One Health' but are not yet sufficiently delineated. For instance, health systems are focused on health services, which can be bolted on to eco-systems or surveillance frameworks but are not necessarily holistic. In the absence of a concrete conceptual framework, it would be difficult to assess knowledge gaps and where the notion of 'One Health', which addresses the linkages between conservation, human and animal health, and security, can be furthered.

The fifth challenge is decentralisation. There are many regional examples of governments shifting decision-making to the local level but this is not necessarily followed by financial support or the authority for local communities to raise their own funds. As a result, this leads to logistical constraints such as the inadequate networking of laboratories, lack of laboratories and resources to analyse data, limited inter-sectoral collaboration, as well as inefficient case

confirmation systems, and tensions between local and national considerations and policy priorities. The greatest challenges ahead for health and non-health responses to EIDs lie in the issues of equity, optimisation of present facilities, human resources, leadership and governance.

Thailand

There have been three significant pandemics in recent history – SARS, H1N1, and H5N1, which received varied levels of attention ranging from low global pressure to prepare for SARS to the increasing amounts of attention given to the subsequent two pandemics – H1N1 and H5N1. The central reason for the shift in attention towards preparedness plans is the increasing politicisation of health policy. This increased politicisation has led to preparations for an EID outbreak involving both health and non-health responses.

In Thailand, preparedness plans saw the installation of 1.6 million thermal scanners at border entry points. However, the effectiveness of this strategy was questioned when only two confirmed cases were found. The thermal scanners proved to be insignificant in the detection of the H5N1 virus. The presence of thermal scanners only served as a government policy tool to show government proactiveness rather than providing a robust method of detecting H5N1.

The Thai experience of H5N1 has illustrated a trend towards greater amounts of decentralised decision-making and empowering local administrations through the establishment of local health authorities. This development has largely been welcomed by the local and policymaking communities. That said, decentralised decision-making is met with caution as increased decentralisation does not necessarily equate to more funding or an increase in the number of trained primary healthcare professionals. In addition to the policy developments that have occurred, there is a need to expand disease surveillance to monitor EIDs more effectively. Above all, the EID experience in Thailand has received a mixed response and identified more areas for improvement.

Indonesia

In 2001, the national government restructured and decentralised health policymaking powers, shifting decision-making powers to the regional and provincial level. Currently, the greatest challenge to Indonesia's government system, and in particular, healthcare, is in reaching out to all sectors of the community, particularly when Indonesia has over 300 ethnic groups and 700 language groups spread across the archipelago. A significant constraint to the Indonesian decentralised decision-making process is the limited resources available to fund policy decisions. There is an ongoing need for structural investment, including provision of isolation units in hospitals, and improving logistical support and communication among laboratories. Further, there is limited research available and difficulties surrounding the sharing of data among provinces, which significantly hampers the healthcare information system.

Moving forward, it is necessary to reconcile gaps between the needs of the existing health system and the health needs of local communities, as well as address the inadequacies of the national health infrastructure, and human and financial resources. Indonesia would have to strengthen interstate cooperation and all existing networks, and maintain and improve pandemic preparedness. The Indonesian government ought to give reasonable priority to research zoonoses, which might emerge potentially as the main source of emerging and re-emerging infectious diseases. Jakarta is evidently heading in this direction as it mulls the creation of a special committee to look into issues regarding zoonoses. In the area of collaboration, R&D, improved information-sharing among regional states, the transfer of medical technologies and knowledge from developed to developing states, and the provision of technical and financial assistance are possible areas for improvement. Strong political commitment is also essential for implementing the IHR guidelines.

In order to improve the national health system, there should be more focus on surveillance (and on the need to explore the integration of human and animal surveillance), implementation of periodic table-top exercises (conducted twice in Indonesia thus far), and simulations of emerging and re-emerging infectious diseases. Indonesia also needs to increase its medicine, medical equipment and vaccine production capacity, institute an adequate public health information system, and strengthen multi-sectoral cooperation.

Lastly, it is crucial to improve inter-sector coordination and engage civil society organisations (CSOs) and NGOs. Due to the critical gaps that exist as a result of geographical, political and socio-economic disparities among countries, there is a need for closer interstate collaboration in a transparent, yet equitable and mutually beneficial manner.

China

China has a three-tiered organisational structure for its health system. Before the 1980s, the country's health system was primarily state-directed. After the 1980s, due to a decrease in state support, China's health system experienced certain difficulties such as limited availability of basic healthcare services. The health reform launched in 2009, however, signalled Beijing's recognition that health is no longer an instrument, but a goal, of economic development.

The Chinese health system requires the incorporation of the values of primary healthcare and the integration of a rapid response plan into the broader health policy framework. The 2009 Health Reform essentially strives to strengthen grassroots medical services particularly in the rural, central and western regions. It also seeks to increase government funding and achieve an equalisation of basic public health services, as well as establish a basic medical insurance system. An important facet of this reform is the establishment of the Essential Drug System, aimed at reducing medical cost burdens on citizens.

China's prevention and control strategy on H1N1 was a three-phased plan that covered inspection, quarantine, viral spread prevention and treatment. To date, top priority has been accorded to H1N1 prevention and control by the Chinese government, as evidenced in the establishment of a cross-ministerial policy group and a technical advisory group on H1N1. The success of China's H1N1 policies is reflected in the growth of laboratory networks from 63 before June 2009 to 411 after, and an increase in the number of influenza surveillance hospitals from 197 to 556 in the same period.

Other measures implemented by Beijing include R&D, as well as inoculation using H1N1 vaccines. To bolster public communication, the Chinese government provided timely information updates and 24-hour consultation hotlines. Community-level and school-based health promotion activities were also part of Beijing's strategy to enhance public awareness about infectious diseases.

Notwithstanding the measures instituted, H1N1 posed an array of challenges to China's health system. In order to address these challenges, the authorities needed to improve inter-agency coordination, resolve existing disparities in human resources (for example, the availability and quality of healthcare personnel in remote parts of China has been relatively poor compared to the more affluent, urbanised regions), and ensure that the public health information system was up to date. On a broader level, China needs to strengthen international cooperation with the WHO and other regional bodies. China also needs to develop guidelines to evaluate the capacity of its health system; and thereby strengthen capacity building in line with the implementation of the IHR.

Session 4A: Assessing Non-Medical Responses to H1N1 at the Global Level

This panel examined the implications of the H1N1 pandemic for research, effectiveness of non-pharmaceutical interventions such as social distancing and school closures, lessons learnt from the response to the pandemic, overreactions by national governments and international health authorities, and responsible communication.

H1N1 and Implications for Research in Developing Countries

The WHO declared a Public Health Emergency on 25 April 2009 in response to the outbreak of the H1N1 pandemic. In less than two months, the pandemic alert was raised from level 4 to 6. An overview of the WHO's response to H1N1 provides insight into its actions, strategy and operations.

The pandemic created huge demands on the WHO, which required work beyond normal capacities, and collaborations within and outside of the WHO. Its general objective was to mitigate the impact of the pandemic by strengthening the readiness and response capacity of countries, especially in the most vulnerable communities. Monitoring and assessment using critical viral, epidemiological and clinical information was crucial. Strategic and technical guidance and operational support had to be provided for country preparedness and strengthening response capacity. Strategic actions included the development, production and availability of vaccines and antivirals, management of media, provision of guidelines and administrative support.

The response strategy required a coherent structure, which included a command chain of senior policy officials providing strategic leadership and guidance, and the project executive director and project managers to facilitate and manage day-to-day activities. Team leads from different lines of work – distribution, media, laboratory teams, medical services, etc. – proved instrumental in the implementation of the response strategy. Teams functioned in areas such as monitoring and assessment, patient care, production of technical documents and publications, media and communications, resource mobilisation and operations. As part of the global response, laboratories were equipped to conduct research; the virus monitored; and where countries lacked laboratory capacity, clinical samples were shipped to designated research centres.

Further improvements, however, are required in surveillance, patient care and access to vaccines, drugs and other critical material for developing countries. Much of Africa has no vaccine policy or vaccine information available. These countries need more funding to ensure laboratory support, patient care, vaccines, infection control, etc. Donors and funding bodies should be urged to focus on these issues, and research must be driven by public health needs.

Non-Pharmaceutical Interventions

Pharmaceutical interventions such as vaccines and antiviral drugs are normally late to arrive during a pandemic hence non-pharmaceutical interventions play an important role in reducing the impact of an influenza pandemic. It is useful to look at some proposed measures to reduce international spread, and whether these are the most appropriate or effective.

Social distancing has been used widely during influenza pandemics in the past. However, reports from many countries indicate that mandatory case reporting and isolating patients did not work during the influenza pandemic in 1918 and were not particularly effective during the 2003 SARS epidemic either. Social distancing can be socio-economically difficult to achieve and is a challenge to implement. In workplaces, for instance, social distancing measures include people avoiding close physical contact with others, such as hugging, shaking hands, and having communal meals. It essentially creates a very asocial environment, and while promoted everywhere, there

is insufficient data of its impact on limiting the spread of pandemics.

Modelling suggests that some school closures may be effective up to a point. In the US, more than 100 schools were closed during the H1N1 pandemic, and this affected 55 million students. However, this also resulted in the absenteeism of many health workers, thus affecting the health workforce. In the case of the UK, it was found that while cases doubled almost every week between June and July 2009, there was a 40 per cent drop in the number of estimated cases during the school holidays. The impact of school closures is unclear, and such local interventions have been modelled to be effective if done early, decisively and for prolonged periods, but are highly dependent on disease severity, and may not be sustainable, either socially or economically.

Public measures held to limit transmission of the pandemic flu include practising personal hygiene, mask-wearing, practising simple hand and respiratory hygiene, and seeking early medical help, and considering self-quarantine when ill. Although these measures can be promulgated through good health education, few have been rigorously studied. Masks can be effective when individuals with influenza-like illnesses wear them in public. The use of masks by the entire population may not be particularly useful, and is not recommended.

Travel restrictions and entry screenings on their own are not very effective. In the case of Singapore, there were three waves of influenza importation. The first wave was from 27 May to 7 June, with cases imported mainly from the US; then from 9 to 19 June, when cases were mainly imported from Australia; and a third wave, mainly from Southeast Asia from 20 June onwards, which also coincided with the onset of local transmission. However, data collected revealed that regardless of where travellers came from, a large proportion of them developed symptoms much later and not when they first arrive in their destination countries, thus stressing the point that early isolation was difficult to achieve and that airport entry screenings were not necessarily effective. Screening at entry points is costly, has low yield, and is insufficient by itself. Travel restrictions are neither effective nor feasible and are disruptive to the global community.

A combined strategy of health and non-health interventions will be the best way forward, coupled with improved data collection and analysis. As was true for SARS, the principal focus of WHO-recommended non-pharmaceutical interventions is not at international borders but at national and community levels.

H1N1 – Lessons Learnt

Living in an interconnected world with high air traffic volumes and mass movements of people globally, there is a high co-relation between the movement of people or the volume of air traffic and the spread of a virus. In the case of influenza, because of the generation period, the time taken for virus detection, intervention and decision-making by governments is extremely short. This would mean that it is extremely important to conduct clinical epidemiological studies in the early stages of the outbreak of any novel epidemic.

A clear definition of policy aims and objectives is required. A number of factors are instrumental in determining the adoption of a particular strategy. These include: clarity as to whether the objective is the minimisation of morbidity and mortality, whether the government would have a fixed or variable budget depending on the severity of the influenza, and whether the policy is to buy more time for vaccine development, or to minimise the duration of the pandemic and economic impact, or to minimise peak prevalence below a defined level to avoid collapse of the secondary healthcare system.

It is difficult to intuitively work out what the impact of an intervention is without analysis – clinical and medical opinion should be backed-up with detailed scientific analysis. If one is to assess accurately pandemic alertness and government responsiveness, one must conduct serological studies very early on

in an epidemic/pandemic. Currently, 99 per cent of research funds worldwide are spent on vaccines and drugs, but research priorities need to be reordered such that more is spent on epidemiological studies, to evaluate non-drug, non-vaccine interventions.

An estimation of morbidity and mortality rates early in an epidemic/pandemic is extremely important, and this cannot be achieved without serology. In the WHO's revision of pandemic criteria, it is hoped that a high emphasis would be placed on assessing the spectrum of the clinical severity of human disease with a novel virus.

Dangers of Apocalyptic Messages

The view from the ground revealed that the pandemic caused a great deal of anxiety among the general public, and that the public health interventions proved to be not only impractical but also disproportionate to the severity of the pandemic. For instance, the WHO Director-General, Dr Margaret Chan, in her statement issued during the H1N1 outbreak, said 'It really is all of humanity that is under threat' [adding later that there was no need to panic]. Such announcements always cause medical and public anxiety, and indeed panic.

One of the concerns about the management of these issues is the projection of nightmare scenarios from the highest health authorities of the state, and internationally. A case in point is the UN projection that avian flu was going to kill 150 million people, when the fatalities were in the few hundreds. Again, 65,000 deaths were anticipated from swine flu in the United Kingdom, when the total number of deaths was 300 there.

There is confusion at the highest levels between rational contingency planning and apocalyptic doom-mongering. While it is sensible to make contingency plans in relation to the probability of outbreaks by way of rational risk management, it is different from the projection of apocalyptic nightmare scenarios that seem to be the mission of the predominantly political face of the WHO. There is an increasing tendency for the dramatisation of threat in the most vivid terms in a way that suggests a concern not with probable dangers but with elevating the worst possible dangers.

The driver of this from a political, public health perspective is the desire of public health officials to avoid blame should the situation turn out worse than expected. Officials project their anxieties in the public realm to the maximum possible extent, which is an evading tactic. This has unfortunately become a general feature of public health policy, where we have 'epidemics of epidemics' – epidemics of obesity, binge drinking and so on.

One question to pose concerns the costs of rehearsals that are conducted to prepare for pandemic outbreaks – what are these rehearsals for? History has shown that history never repeats itself, and unpredicted phenomena will always have to be dealt with, and often, *are* dealt with. The costs of the rehearsal for the imagined apocalyptic situation from the H1N1 pandemic are enormous, but pointless. It only amounts to a rather costly speculation. Moreover, it flags the issue of trust – hyping up public health risks, which are then deflated in a very short period of time, and leads to an undermining of public confidence in messages from public health authorities.

Another concern is the impact of this on wider immunisation campaigns; there is a remarkably low uptake of H1N1 vaccine. A significant indicator of that problem is not the scepticism of the public, but the scepticism of health professionals. Indeed, some have

argued that this refusal may have been one of the only avenues open to them to express their rejection of the official response. A final issue that needs to be addressed is that of fear itself. There is a sense in public health that there has to be a generation of an appropriate level of fear, just short of panic. Is it legitimate to use fear as an instrument of public policy? Is it effective? Does it lead to the ascendancy of a sense of fear over hope?

Preparedness and Responsible Communication

Rehearsals are a way to deal with logistical issues, and the public often underestimates government advice and judgment. Fear is not a good method in communicating risk and it should instead be replaced with the provision of precise and accurate information to the public. In relation to immunisations, the point was raised that poor communication resulted in a situation where a cry for vaccines then turned into a situation where available vaccines were not taken up. In response to the WHO's reaction to the pandemic, it was said that the organisation believed in 'practice practice practice' and that when WHO Director-General Margaret Chan said that all of humanity was under threat, she was under great stress and wanted the public to take the threat seriously. Such responses, however, are now a typical feature of public health messages in relation to a whole range of issues ranging from AIDS, avian flu, Bovine Spongiform Ensephalopathy (BSE, also known as mad cow disease), SARS, obesity, where similar apocalyptic rhetoric and projections of doom are made. Apocalyptic doom-mongering has become a dominant theme of public health discourse.

The perceptions of the benefits of social distancing depend, in part, on the mass media. In addition, responses to a pandemic and perceptions of it may oftentimes be culturally determined. When communicating the threat of a pandemic, the choice of words and the timing at which the message is delivered are crucial. Fear is not a useful basis for response and action should be based on sound science and evidence. One other issue is that of prevention and the need for better and more research. A crisis-oriented society does not think of prevention, and often in the current world, it is also difficult for public officials to make the right call in times of emergencies. Better public health programmes are needed and public health itself should be apolitical. It is equally important to build adequate infrastructure in order to detect, mitigate and contain pandemics.


Strengthening Health and Non-Health Response Systems in Asia: A Sustained Approach for Responding to Global Infectious Disease Crises
Organised by
Centre for Non-Traditional Security (NTS) Studies
S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES
Holiday Inn
Tikki Pang
Bill Durodie
Michael Fitzpatrick
Minako Jen Yoshikawa
Hitoshi Oshitani
Sir Roy Anderson
AND IMPLICATIONS FOR RESEARCH

Front row: Dr Agus Suwandono, Dr Tikki Pang, Dr Noeleen Heyzer, Amb. Barry Desker,
Assoc. Prof. Ho Peng Kee, Dr Choong May Ling, Mr Kwa Chong Guan, Prof. Keizo Takemi, Assoc. Prof. Mely Caballero-Anthony

Middle row: Dr John Tam, Dr Benjamin Cowling, Dr Michael Fitzpatrick,
Dr Duane Gubler, Ms Meredith Miller, Sir Roy Anderson, Prof. Richard Fielding, Ms Minako Yoshikawa, Prof. Yan Guo.

Back row: Dr K.U. Menon, Assoc. Prof. Huang Yanzhong, Dr Somsak Chunharas, Prof. Chan Chee Khoon, Prof. Hitoshi Oshitani.

Absent from photo: Prof. Annelies Wilder-Smith, Prof. Phua Kai Hong, Prof. Richard Coker, Dr Sania Nishtar and Prof. Tjandra Yoga Aditama.

Session 4B: Assessing Non-Medical Responses to H1N1 in East Asia

This panel discussed more about the effectiveness of non-medical responses such as quarantine, travel restrictions, school closures, crowd control, early screening at ports of entry, contact tracing, and other measures in the context of the H1N1 outbreak. Case studies presented included China, Japan, Singapore and Hong Kong. Aside from the effectiveness of the various non-medical responses, the issue of risk communication and perception was discussed.

China

On the surface, China's response to the H1N1 outbreak was seen to be decisive and responsive. However, a more thorough evaluation of the measures undertaken months later indicated that they may not have been as effective as believed initially.

While the country recorded a low number of cases of infection in proportion to its overall population (an estimated 1.6 cases per one million people), other countries such as India consistently recorded fewer cases of infection and fatalities. Quarantines implemented were found to have been ineffective as only a very small number of cases were identified through these involuntary and draconian measures. The effectiveness of border screening was also questioned, as very few cases of H1N1 infected persons had been identified through thermal scans by mid-June 2009. The strategy of limited vaccination also failed to build up 'herd immunity' rapidly enough.

The sustainability of these measures was also questioned as they put tremendous pressure on the country's health surge capacity system, especially in terms of hospital capacity and the workload on health professionals. Draconian measures such as involuntary quarantines discouraged people from voluntarily reporting H1N1 infection, creating conditions where cases reported might not have reflected actual levels of infection. The collateral economic costs of the measures were also very high. An estimate placed the total cost of these non-medical interventions at over five billion yuan, and the domestic agriculture (specifically the pork industry), tourism and trade sectors were disproportionally harmed.

In examining the Chinese government's strategy in dealing with H1N1, it was clear that the country had reacted aggressively to avoid repeating the supposed mistakes made in dealing with SARS, where it had been criticised for inaction. In doing so, the country was said to have reflected the tendency of states to err on the side of caution because of the political risks of pursuing ineffective responses. However, this did not negate the possibility that some of these measures may have been implemented as much for their political utility as for their actual effectiveness in controlling the spread of H1N1.

While China's draconian non-medical responses delayed the spread of H1N1 temporally and spatially within the country, it was not exactly successful and would have been unsustainable if a long-term outbreak had occurred. Despite the improvements of China's disease control strategies since the SARS crisis, responses were hampered by misreporting and inaccurate data.

Japan

Japan's overall response to the H1N1 outbreak was grounded in human security. This included coordinating with international organisations like the WHO by sharing information and providing technical assistance for virulence analysis and the implementation of measures. The central government

announced the outbreak of influenza pandemic and gave instructions to prefectures. At the prefectural level, actors as diverse as municipalities, schools, hospitals and clinics provided instruction and technical assistance to the public. This was done by facilitating secure access to medical care, encouraging the washing of hands and gargling of mouths, cancellation of classes, and instituting a secure crisis management structure.

The low mortality rate in Japan was attributed to effective implementation of non-health responses. It was pointed out that vaccine coverage in the country was low during the H1N1 outbreak. Social determinants therefore were found to play an important role. For example, during the H1N1 outbreak, Japan strictly implemented quarantine measures, school closures, and widely disseminated advice on hygiene.

Japan adopted a medical care system at the national level for a prolonged period. Such a system included the establishment of hospital bed capacity to respond to severe cases of infection, reinforcement of a medical care system that focused on critical-condition patients, and reinforcement of infection control measures for those with co-morbidity. At the prefectural level, the following situations were managed with corresponding measures:

- Increased number of calls from citizens – Support overtime consultation service at hospital by volunteers from nurse association (Okinawa)
- Increased number of Emergency Room (ER) cases – Increase the number of on-call medical institutions during holidays (Okinawa, Hokkaido), support consultation at emergency medical institution by clinic doctors (Okinawa)
- Increased number of outpatient cases– start facsimile prescription (Okinawa, Hokkaido), recommend seeing clinic doctors (Tokyo, Aichi)
- Increased number of hospitalised cases – implement medical institution triage by severity (Okinawa)
- Increased number of severe cases in Intensive Care Unit (ICU) – establish information network system for status of ICU use (Okinawa)

Singapore

Singapore's non-medical responses to the H1N1 outbreak were designed around a strategy of 'risk communication', where uncertainties were explained to the public to boost their confidence in non-medical measures, enabling people to act responsibly.

The experience of SARS encouraged the Singapore government to take decisive measures early in the outbreak of a disease such as H1N1 and to encourage transparency and honesty in dealing with the outbreak. The DORSCON (Disease Outbreak Response System) was developed to coordinate community measures, healthcare measures and border controls for health. Divided into a colour-coded alert system, these

measures escalate the level of response according to the severity level of any pandemic. At the containment level, while the disease spread was slow, measures were undertaken to reduce transmission. Had the spread accelerated, the government would have shifted to mitigation measures to reduce the peak load on the healthcare system. The overall mitigation strategy could be summed up in the acronym PDIP, which stands for Protecting borders, Detecting and Isolating cases of infection, and maintaining good Personal hygiene in the general population.

The government acted early and aggressively to respond to the H1N1 outbreak, activating the containment strategy as early as 27 April 2009. This gave the country at least a seven-week advantage to prepare both psychologically and logistically for the emergence and local transmission of the H1N1 virus.

However, there were various forms of challenges too. Several experts criticised Singapore's border control strategy, arguing either for a total border shutdown or for a completely open border to allow the development of 'herd immunity'. The government, besides, had to deal with conflicting priorities such as discouraging crowd congregations while simultaneously preparing for the Asian Youth Games, retaining public faith in policy measures even as mitigation strategies were adopted, and fighting fatigue and complacency in the months following the initial outbreak.

It was concluded that it was better for Singapore's government to err on the side of caution, given the small size of the country and its high vulnerability to infectious disease as a regional travel hub in Southeast Asia. It was also important to note that the securitisation of the pandemic was constructive as it created greater public awareness and action, but that exaggeration of the severity of an outbreak was unhealthy for society.

Hong Kong

In the containment phase (which began on 1 May 2009), the government implemented border control screening, isolation of sick individuals, contact tracing, prophylaxis and quarantine of close contacts of the infected, and directly observed chemoprophylaxis for certain cases. After 11 June, the government shifted to a mitigation strategy, which included public health campaigns, proactive two-week school closures for both primary schools and kindergartens, and laboratory testing of virus samples taken from infected individuals. However, certain private enterprises took advantage of the school closures by offering retail and service promotions during the onset of the pandemic. The school closures were also said to have been implemented too late to have any impact, and data on their actual effectiveness was limited by the under-reporting of cases during the mitigation stage. This prevented an accurate estimate of the actual number of H1N1 cases.

On the issue of entry screening, it was noted that data on the effectiveness of this measure was still lacking, but entry screening could buy time for preparation and planning, averaging around seven to twelve days.

Further, pertinent points regarding the general population's response to H1N1 were raised. A psychological study conducted through telephone interviews revealed that the risk perception of H1N1 by the population declined even as the number of actual cases was rising. While awareness of the transmissibility of H1N1 and of the need for good hygiene was high, people were less concerned about social distancing. In general, the population perceived the H1N1 pandemic as highly severe initially, but felt low anxiety after the initial period.

Risk Perceptions and Risk Fatigue

Risk communication is a powerful tool that should be used carefully. In the context of increasing hyperbole in both the media and popular literature, the general population is increasingly desensitised to risks. Rural and urban populations are also said to perceive risks differently: while rural populations are familiar with death, urban populations are said to be less so given the comparatively insulated environment, making panic in urban populations in the face of infectious disease crises more likely.

The danger of constantly highlighting the risks posed by pandemics could also lead to 'risk fatigue', whereby populations could become exhausted from preparing for all potential risks. Instead of preparing for all possibilities, governments should accept the uncertainties of life and act according to the priorities that their general populations set. To change people's behaviour in response to risks, certain policies have increasingly been legislated, and peer networks utilised to transmit messages and information, though quite how useful this so-called 'behaviour-modifying' or 'nudging' approach is, remains to be determined.

The effectiveness of some non-medical responses was questioned. While school closures were said to have some effectiveness in the developed world, where schools and classes are relatively uniform in size and small, they could be less effective in the crowded and varying conditions existing in the developing world. This made generalising the findings of some of these cases impossible.

The effectiveness of entry screening was also questioned, given the data presented. However, it was argued that this measure remained useful to policymakers because it reassured populations that governments were responsive to a pandemic.

Finally, it was recommended that non-medical responses go beyond quarantines and isolation, and examine the dangers posed by disease agents. Governments should be equally aware of overreaction as they are of inaction, as both impose considerable costs on society.

Session 5: Ways Forward and Policy Recommendations

This panel was convened with the aim of using the discussions over the two-day conference to arrive at answers to the following questions: 1) what needs to be done at the global and regional levels; 2) how to strengthen health systems to be better prepared for infectious disease outbreaks; and 3) how to improve public engagement.

Ways Forward

There is an acute need to **address the research and knowledge gaps** on emerging and re-emerging infectious diseases. Past experiences with pandemics (back in the 1910s, 1950s and 1960s) are clearly insufficient to allow for comprehensive preparedness today. The prevailing 'unknowns' pertaining to those infectious diseases simply compound the difficulty in implementing sound and effective policies.

At the global level, **greater interstate cooperation through the promotion of the IHR** is essential so as to prevent deviation by national governments based on their self-interests. The global sharing of epidemiological and clinical data and information remains important, as does the continued focus on prevention (comprising vaccination and early detection of possible zoonotic events). The best way to prevent a global epidemic/pandemic outbreak is to detect and contain the virus at the local level.

Global agencies can assist domestic health agencies, especially in the areas of targeted capacity building in compliance with IHR (particularly human resource, R&D, information-sharing and surveillance). Greater progress should be made on global health initiatives spearheaded by the WHO as health issues could become the most suitable common agenda for inter-governmental collaboration and could facilitate progress towards global governance in general.

Risk communication to the public by decision-makers is equally crucial in improving public engagement. There is a need to **restore trust through better risk communication**, especially in addressing the issue of uncertainty. In this respect, the role of the media is particularly important as media education can help in better public engagement. Risk communication is not merely verbal in nature. Symbolic physical means of communication, such as placing body thermal scanners at entry/exit points, may also be used. However, such means of communication could be based more on intuition than scientific rationale, which could potentially aggravate the lack of trust between the government and the general public.

At the national level, more investment is needed to **improve information-sharing and to establish a comprehensive public health surveillance system**. In order to improve national-level health governance in the developing world, countries could be persuaded to spend more of their GDP on health instead of armaments. A 'carrot and stick' approach may be considered where developed countries forgive

debts incurred by developing states on the condition that a greater portion of the national budget is allocated to health. Furthermore, local communities could attempt to leverage domestic politics as a way to obtain more health incentives. An example is Indonesia, where health issues are commonly used as campaigning platforms in local elections. There is a need to develop roles, contributions and knowledge as well as to **empower people at the local level**. In order to obtain political commitment for regional mechanisms, the health sector should rely on the evidence of impact instead of simply soliciting governments for funds.

While most countries appeared better prepared during the H1N1 outbreak, capacities remained insufficient in responding to the virus. **Greater flexibility to pandemic preparedness** plans is needed at the national, regional and global levels, as well as general capacity building for all forms of infectious diseases, and not just for influenzas alone. In particular, Asian countries fared poorly according to international standards on pandemic preparedness based on equity and responsiveness. To address this loophole, improvements in governance, focusing on enhancing efficiency and transparency, are crucial towards improving health systems from the domestic up to the global levels.

To strengthen health systems for better preparation during infectious disease outbreaks, **the implementation of combination mitigation strategies**, the linking of surveillance with response processes, and early detection and local knowledge at the local community level are important. Health researchers, in particular, need to collect, analyse and generate adequate evidence for presentation to policymakers so as to improve the capacity for sound policy analysis and implementation.

Concluding Remarks

Associate Professor Mely Caballero-Anthony
Head
Centre for Non-Traditional Security Studies
Secretary-General
Consortium of Non-Traditional Security Studies in Asia
S. Rajaratnam School of International Studies
Nanyang Technological University

The overarching challenge of today's health system is that it is insufficient to simply examine the operational aspects; a deeper understanding of the nature of health systems is required.

Health governance emphasises the role of strong institutions at the national, regional and international levels to coordinate cross-national measures, yet pandemic preparedness should not be viewed in isolation from other national needs. Enhancing pandemic preparedness is not merely about increasing investments, but also about the proper prioritisation of government expenditures.

Risk communication is holistic and includes both verbal and non-verbal languages – all of which matter. In the area of risk communication, the role of non-state actors and the media in particular in bridging the disconnect between the scientific and policymaking community should be accorded greater attention.

The issue of interstate trust is especially problematic in the developing world. This challenge would have to be surmounted urgently, given the salience of the diverse range of risks in this fluid and complex security environment the world is currently in. As such, there is a need to revitalise and operationalise the concept of human security as the governance framework for health-related policymaking.

Health is essential for human well-being and cannot be properly addressed without first properly addressing the basic needs of individuals.

Programme

18 March (Thursday) Day 1
Crystal Suite, Level 2, Holiday Inn Singapore Orchard City Centre Hotel

8:45 – 9:20 **Registration**
Please be seated by 09:20hrs

9:25 – 9:30 **Arrival of Guest of Honour**
Associate Professor Ho Peng Kee
Senior Minister of State
Ministry of Law and
Ministry of Home Affairs
Singapore

9:30 – 9:35 **Welcome Remarks**
Ambassador Barry Desker
Dean
S. Rajaratnam School of International Studies (RSIS)
Nanyang Technological University
Singapore

9:35 – 10:00 **Welcome Address**
Associate Professor Ho Peng Kee
Senior Minister of State
Ministry of Law and
Ministry of Home Affairs
Singapore

10:00 – 10:30 **Keynote Address**
Dr Noeleen Heyzer
Under-Secretary-General of the United Nations and Executive Secretary of the Economic and Social Commission for Asia and the Pacific
Thailand

10:30 – 11:00 **Photo Opportunity and Coffee Break**

11:00 – 12:30 **Session1:**
Drawing Linkages between Global Health Crises and Health Systems
This session will examine the extent to which effective responses to health crises worldwide are shaped by the absence and/or lack of developed infrastructure for healthcare delivery in developing states. It also aims to draw linkages between the global and national health systems and their implications on global health governance

12:30 – 13:45 **Lunch**

13:45 – 15:00 **Session 2:**
Building Strong Health Systems
This session will examine the challenges in building strong health systems, by focusing on its six 'building blocks': (1) service delivery; (2) health workforce; (3) information; (4) medical products; vaccines and technologies, tools; (5) health financing; and (6) leadership and governance. The session also aims to analyse the factors that impede improvements to the delivery of healthcare.

15:00 – 15:15 **Coffee Break**

15:15 – 17:15 **Session 3:**
Constraints and Challenges of Health Systems in Addressing Infectious Diseases in East Asia
This session will focus on the constraints and challenges – technical and structural – to healthcare systems in East Asia, and their impact on fighting infectious diseases in the region. Some of the questions that will be raised are:

1) What are some of the capabilities and critical gaps faced by health systems in the region, particularly when faced with the surge capacity of an epidemic or a pandemic disease outbreak?

2) Are there specific technical and structural problems for improving healthcare systems in East Asia, and what are the areas where local, national and international priorities overlap?

3) What is the role of non-state actors such as civil society organisations in building robust health systems in East Asia?

19 March (Friday) Day 2
Crystal Suite, Level 2, Holiday Inn Singapore Orchard City Centre Hotel

9:30 – 10:30 **Session 4A:**
Assessing Non-Medical Responses to H1N1 at the Global Level
This session will examine lessons learnt in dealing specifically with the recent H1N1 pandemic. Issues that will be examined include the policies and measures adopted by policymakers, scientists, as well as the media in responding to this crisis. Questions to be raised include:

1) What lessons can be drawn from the reactions of policymakers, scientists, the public, and the media to the recent H1N1 outbreak? Did countries overreact?

2) To what extent were measures such as border controls and social distancing effective?

3) What kind of lessons can be drawn from its impact on global healthcare systems and the corresponding responses by public health officials?

10:30 – 10:45 **Coffee Break**

10:45 – 12:00 **Discussion**

12:00 – 13:00 **Lunch**

13:00 – 15:00 **Session 4B:**
Assessing Non-Medical Responses to H1N1 in East Asia

This session will examine lessons learnt in dealing specifically with the recent H1N1 pandemic. Among the issues to be examined are the policies and measures adopted by policymakers, scientists, and other actors like the media in responding to this crisis. Questions to be raised include:

1) What lessons can be drawn from the reactions of policymakers, scientists, the public, and the media to the recent H1N1 outbreak? Did countries overreact?

2) What kind of pre-pandemic preparations were found to be crucial?

3) Looking forward, what are the most pressing issues that countries must address?

15:00 – 15:15 **Coffee Break**

15:15 – 17:00 **Session 5:**
Ways Forward and Policy Recommendations

This session will discuss ways forward to best engage the international community in preventing and/or managing health crises. Questions that will be raised include:

1) What needs to be done at the global, regional and national (and local) levels to improve response systems?

2) How do we enhance regional and international cooperation in strengthening health systems and in the fight against infectious diseases?

3) How can we best engage the public in future health outbreak episodes and what can be done – at a structural level – to improve response systems?

17:00 – 17:15 **Concluding Remarks**
Associate Professor Mely Caballero-Anthony
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About the RSIS Centre for Non-Traditional Security (NTS) Studies

The **RSIS Centre for Non-Traditional Security (NTS) Studies** conducts research and produces policy-relevant analyses aimed at furthering awareness and building capacity to address NTS issues and challenges in the Asia-Pacific region and beyond.

To fulfil this mission, the Centre aims to:

- Advance the understanding of NTS issues and challenges in the Asia-Pacific by highlighting gaps in knowledge and policy, and identifying best practices among state and non-state actors in responding to these challenges

- Provide a platform for scholars and policymakers within and outside Asia to discuss and analyse NTS issues in the region

- Network with institutions and organisations worldwide to exchange information, insights and experiences in the area of NTS

- Engage policymakers on the importance of NTS in guiding political responses to NTS emergencies and develop strategies to mitigate the risks to state and human security

- Contribute to building the institutional capacity of governments, and regional and international organisations to respond to NTS challenges

Our Research

The key programmes at the **RSIS Centre for NTS Studies** include:

1) Internal and Cross-Border Conflict Programme
   - Dynamics of Internal Conflicts
   - Multi-level and Multilateral Approaches to Internal Conflict
   - Responsibility to Protect (RtoP) in Asia
   - Peacebuilding

2) Climate Change, Environmental Security and Natural Disasters Programme
   - Mitigation and Adaptation Policy Studies
   - The Politics and Diplomacy of Climate Change

3) Energy and Human Security Programme
   - Security and Safety of Energy Infrastructure
   - Stability of Energy Markets
   - Energy Sustainability
   - Nuclear Energy and Security

4) Health and Human Security Programme
   - Health and Human Security
   - Global Health Governance
   - Pandemic Preparedness and Global Response Networks.

The first three programmes received a boost from the John D. and Catherine T. MacArthur Foundation when the RSIS Centre for NTS Studies was selected as one of three core institutions leading the MacArthur Asia Security Initiative* in 2009.

Our Output

Policy Relevant Publications

The **RSIS Centre for NTS Studies** produces a range of output such as research reports, books, monographs, policy briefs and conference proceedings.

Training

Based in RSIS, which has an excellent record of post-graduate teaching, an international faculty, and an extensive network of policy institutes worldwide, the Centre is well-placed to develop robust research capabilities, conduct training courses and facilitate advanced education on NTS. These are aimed at, but not limited to, academics, analysts, policymakers and non-governmental organisations (NGOs).

Networking and Outreach

The Centre serves as a networking hub for researchers, policy analysts, policymakers, NGOs and media from across Asia and farther afield interested in NTS issues and challenges.

The **RSIS Centre for NTS Studies** is also the Secretariat of the Consortium of Non-Traditional Security Studies in Asia (NTS-Asia), which brings together 20 research institutes and think tanks from across Asia, and strives to develop the process of networking, consolidate existing research on NTS-related issues, and mainstream NTS studies in Asia.

More information on our Centre is available at www.rsis.edu.sg/nts

** The Asia Security Initiative was launched by the John D. and Catherine T. MacArthur Foundation in January 2009, through which approximately US$68 million in grants will be made to policy research institutions over seven years to help raise the effectiveness of international cooperation in preventing conflict and promoting peace and security in Asia.*

About the S. Rajaratnam School of International Studies, Nanyang Technological University

The **S. Rajaratnam School of International Studies (RSIS)** was established in January 2007 as an autonomous School within the Nanyang Technological University (NTU). RSIS' mission is to be a leading research and graduate teaching institution in strategic and international affairs in the Asia-Pacific.

To accomplish this mission, **RSIS** will:

- Provide a rigorous professional graduate education in international affairs with a strong practical and area emphasis
- Conduct policy-relevant research in national security, defence and strategic studies, diplomacy and international relations
- Collaborate with like-minded schools of international affairs to form a global network of excellence

Graduate Training in International Affairs

RSIS offers an exacting graduate education in international affairs, taught by an international faculty of leading thinkers and practitioners. The teaching programme consists of the Master of Science (MSc) degrees in Strategic Studies, International Relations, International Political Economy and Asian Studies. Through partnerships with the University of Warwick and NTU's Nanyang Business School, RSIS also offers the NTU-Warwick Double Masters Programme as well as The Nanyang MBA (International Studies). The graduate teaching is distinguished by their focus on the Asia-Pacific region, the professional practice of international affairs and the cultivation of academic depth. Over 200 students, the majority from abroad, are enrolled with the School. A small and select Ph.D. programme caters to students whose interests match those of specific faculty members.

Research

Research at **RSIS** is conducted by five constituent Institutes and Centres: the Institute of Defence and Strategic Studies (IDSS), the International Centre for Political Violence and Terrorism Research (ICPVTR), the Centre of Excellence for National Security (CENS), the Centre for Non-Traditional Security (NTS) Studies, and the Temasek Foundation Centre for Trade & Negotiations (TFCTN). The focus of research is on issues relating to the security and stability of the Asia-Pacific region and their implications for Singapore and other countries in the region. The School has three professorships that bring distinguished scholars and practitioners to teach and do research at the School. They are the S. Rajaratnam Professorship in Strategic Studies, the Ngee Ann Kongsi Professorship in International Relations, and the NTUC Professorship in International Economic Relations.

International Collaboration

Collaboration with other Professional Schools of international affairs to form a global network of excellence is a **RSIS** priority. **RSIS** will initiate links with other like-minded schools so as to enrich its research and teaching activities as well as adopt the best practices of successful schools.

For more information on the School,
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