Asia-Pacific
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APEC CAPACITY BUILDING FORUM ON MANAGING MAJOR INFECTIOUS DISEASES AND RESPONDING TO HEALTH EMERGENCIES

APEC Health Working Group

June 2025

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The China-Japan Friendship Hospital “APEC Capacity Building Forum on Managing Major Infectious Diseases and Responding to Health Emergencies” was held in Beijing, May 2024. This forum is intended to strengthen the capacity on effective response to emerging and re-emerging infectious diseases and the promotions of theoretical research, practical experience and the development of this region’s respiratory medical centers. The forum was held by China-Japan Friendship Hospital (CJFH).

Background

Emerging and re-emerging infectious diseases have posed significant threats to human society over the years. Notable examples include smallpox, influenza, tuberculosis, and Severe Acute Respiratory Syndrome (SARS). The SARS outbreak in 2003 marked a significant global health challenge, followed by the H1N1 influenza pandemic in 2009. This pandemic involved a novel strain containing gene segments from swine, avian, and human influenza viruses, leading to widespread infections. During the H1N1 pandemic, China reported 120,498 cases, including 648 deaths, while Japan reported 4,021 cases. These events underscored the unpredictable nature of infectious disease outbreaks and their potential impact on global health and stability.

The COVID-19 pandemic, which began in 2019, has presented a major threat to global society, becoming one of the most significant pandemics in modern history. The pandemic has resulted in millions of deaths worldwide and placed immense pressure on global healthcare systems. The ongoing struggle with COVID-19 has exposed critical weaknesses in health systems globally, particularly concerning preparedness and response to large-scale health emergencies.

In light of these challenges, it is imperative to strengthen cooperation in primary healthcare and capacity building for managing major infectious diseases and responding to health emergencies among APEC economies. The "APEC Capacity Building Forum on Managing Major Infectious Diseases and Responding to Health Emergencies" was established under the project “HWG 01 2023A” to address this need. APEC, as a key platform for fostering economic and technical cooperation among its 21 member economies, plays a crucial role in facilitating collective action and mutual support in health emergencies. This project aims to enhance technical cooperation among APEC economies through a combination of digital technology and in-person training. The sessions will address the weaknesses in international health organization collaborations exposed during the COVID-19 pandemic. By leveraging the strengths and resources of APEC member economies, this initiative seeks to create a more coordinated and effective regional response to future health emergencies.

APEC Capacity Building Forum on Managing Major Infectious Diseases and Responding to Health Emergencies

From 23 May 2024 to 25 May 2024, the “APEC Capacity Building Forum on Managing Major Infectious Diseases and Responding to Health Emergencies” was held in Beijing. The forum aimed to promote the development of healthcare among APEC economies, effectively address emerging and re-emerging infectious diseases, and present theoretical

research, practical experience, and management methods in the relevant fields. Additionally, the forum sought to advance the development of the National Respiratory Regional Medical Center in China.

During the academic discussion, officials and professionals from APEC members such as Canada；China; Japan; the Republic of Korea; Singapore; the United States, as well as Non-Member Participants (NMPs) including Spain delivered speeches, shared their experience and discussed the current status and research hotspots of each economy's response to infectious diseases, acute respiratory infections, and their long-term impacts. Mr. Jiao Zhenquan, Deputy Director of the Monitoring and Warning Division of the National Disease Control and Prevention Administration of China, and Mr. Huang Xin, Director of the Medical Emergency Division of the National Health Commission of China made presentation at the forum.

Hosted by the China-Japan Friendship Hospital (CJFH), this forum attracted nearly 200 participants. Dr. Song Shuli, Party Secretary of CJFH, presided over the opening ceremony where Mr. Zhou Jun, President of CJFH, Mr. Cheng Lie, Deputy Director-General of the Department of International Economic Affairs at the Ministry of Foreign Affairs of China, Mrs. Li Wei, Deputy Director-General of the Department of International Cooperation at the National Health Commission of China, and Mr. Martin Taylor, Representative of the WHO in China, delivered remarks.

Mr. Martin Taylor highlighted the critical importance of preparedness for infectious disease outbreaks, stating, "Over the past 18 years, we have seen significantly progress, both in individual economy and collectively building and enhancing our preparedness to the outbreak and emergency. Today's Forum is another platform for us to reflect upon our pandemic response, exchange our experiences, and strategize for the future, keeping in mind the inevitability of unknown diseases."

Mr. Cheng Lie stressed the need for international cooperation in addressing global health challenges. He remarked, "Major infectious diseases and health emergencies have always been a significant threat to human society. The COVID-19 pandemic has underscored the indispensability of international cooperation in pandemics prevention and control. We must put the people and their lives in the first place. China is willing to work with all members to deepen international health cooperation, enhance our ability to tackle global challenges, and contribute to the building of APEC community of common health for mankind."

Mr. Zhou Jun expressed the hospital's commitment to serving as a platform for international cooperation. He stated, "As a leading institution in international cooperation, the China-Japan Friendship Hospital will fully leverage its exemplary role to build a platform for international cooperation. We look forward to working together with medical and research institutions from APEC economies to advance comprehensive cooperation in modern medicine, particularly in the infectious disease control. Together, we will work to enhance emergency response capabilities for emerging and re-emerging infectious diseases in the Asia-Pacific region and contribute to the building of the global community of health for all."

The discussions focused on critical topics, including COVID-19, AMR, and nosocomial

infections. Experts from APEC economies shared their experiences, best practices, and specific case studies relevant to these issues.

Dr. Norio Ohmagari, Director of the Disease Control and Prevention Center in Japan, delivered a keynote speech. He elaborated on Japan's measures and experiences in managing emerging and re-emerging infectious diseases. Dr. Ohmagari highlighted that the COVID-19 pandemic had exposed significant deficiencies in Japan's medical and public health systems. He emphasized the urgency of rapid vaccine development, timely updates to diagnostic methods, and effective treatment strategies to control the pandemic. Furthermore, he underscored the importance of international cooperation in combating infectious diseases and reiterated Japan's commitment to maintaining close collaboration with APEC and other members of the international community to address the challenges posed by infectious diseases.

Chinese experts contributed significantly to the forum by sharing their latest research and practical experiences in managing respiratory diseases. Dr. Cao Bin, Vice President of CJFH and Executive Deputy Director of the National Center for Respiratory Medicine, presented latest clinical data on respiratory viral infections. His presentation focused on recent advancements in clinical research, providing a robust foundation for theoretical investigations into respiratory disease prevention and treatment. Furthermore, Dr. Yang Weizhong, Professor at the Chinese Academy of Medical Sciences & Peking Union Medical College and Director of the School of Population Medicine and Public Health, delivered an insightful discussion on strategies for managing respiratory infections. Dr. Yang emphasized the importance of collaboration in enhancing public health responses across the Asia-Pacific region, showcasing the collective resolve to confront these challenges and enhance overall health outcomes.

In-depth discussions also centered on the responses of Canada; Japan; and Korea to emerging and re-emerging infectious diseases. Dr. Lee E. Errett, professor from the University of Toronto and President of the Norman Bethune Medical Development Association in Canada, and Dr. Eu Suk Kim, Director of the Infection Department at Bundang Hospital, Seoul National University, South Korea, presented their respective economies' strategies and measures. These presentations were complemented by insights from Dr. Jaehyun Jeon, Director of the Infectious Disease Department at Seoul National University College of Medicine, who summarized recent trends in acute respiratory infections in Korea. They collectively offered valuable perspectives on refined strategies that could be adopted for effectively managing future emergency situations, ensuring a more prepared and efficient response.

Additional contributions were made by international experts who delved into various aspects of infectious disease management. Dr. Ziyad Al-Aly, Director of the Clinical Epidemiology Center at VA St. Louis Health Care System, discussed the long-term consequences of respiratory infections, highlighting the importance of adequate preparation in managing the acute, subacute, and chronic effects of emerging and re-emerging infectious diseases. Furthermore, Dr. Gu Xiaoying, a researcher at the CJFH, and Spanish experts, notably Prof. Joan B. Soriano, Professor at the Autonomous

University of Madrid in Spain and Member of the International Advisory Committee of The Lancet Respiratory Medicine, alongside Prof. Roger Paredes, Director of Germans Trias i Pujol University Hospital, presented a comprehensive overview of the current status, trends, and research hotspots surrounding respiratory infectious diseases. Their insights encompassed the latest scientific advancements and challenges within this field.

Experts from other APEC member economies also contributed invaluable experiences and research findings, enriching the discourse on global health challenges. Dr. Yee-Sin Leo from Nanyang Technological University in Singapore summarized the patterns of vaccine-preventable respiratory infections, emphasizing key insights that can inform future vaccination strategies. Meanwhile, Dr. Janne Estill from the University of Geneva discussed public health policy from the perspectives of mathematical modeling and literature review, offering a novel perspective on policy interventions. Furthermore, Dr. Karen Spruyt from City University of Paris explored the intricate relationship between children's sleep patterns and immune function.

The forum facilitated an exchange of ideas grounded in the challenges of managing emerging and re-emerging respiratory infectious diseases. Prior to and subsequent to the forum, surveys were conducted to gather insights, which informed the formulation of pertinent suggestions aimed at enhancing our collective response to these health threats. Policy recommendations for APEC's information and voluntary consideration were given.

Key points from the forum:

APEC Joint Action Plan on Managing Emerging and Re-emerging Respiratory Tract Infections

Respiratory tract infections

Respiratory tract infections prove a public threat across regions and societies, but the public awareness remains limited. It is imperative for us to collaborate on the research, education, and development of diagnostics, drugs and vaccines to combat these diseases.

Viral pneumonia

With population growth and movements, environmental changes, as well as accelerated urbanization, the Asia-Pacific region faces challenges posed by emerging viral pneumonia. It is important to address this challenge to minimize social and economical impacts.

Antimicrobial Resistance

Antimicrobial resistance (AMR) remains a serious problem in the Asia-Pacific region. It is necessary to research further on the dynamic monitoring of antimicrobial spectrum and information sharing of AMR, research on prevention and control strategies.

Tuberculosis (TB)

Tuberculosis still remains an important public health threat in the Asia-Pacific region. APEC economies are encouraged to take a range of measures, including strengthening monitoring and prevention by digital technologies to ensure patient care.

Enhance International collaborations

The COVID-19 pandemic reveals significant deficiencies of the cooperation in the global healthcare systems, highlighting the urgent need for enhanced international collaboration.

Strengthen technical cooperation mechanisms

APEC economies will consider to collaborate in expanding the group of donors, mobilizing resources, exploring action plans to support affected populations in the Asia-Pacific region mitigating the impact on society.

Facilitate experience sharing and knowledge exchange

Participants recommended experts from all APEC members to maintain regular communication for experience sharing and academic exchange.

Support developing economies

To assist APEC economies with limited healthcare, the participants proposed launching an initiative, entitled “Managing Respiratory Tract Infections, Safeguarding the Health of People in the Asia-Pacific Region (MRTI-SHPAPR)” to provide appropriate treatment and care, as well as sustainable support for their population.

Increase public awareness and self-care abilities

Participants proposed to improve the public awareness and self-care ability of population in APEC economies. Enhancing public awareness and participation in infectious disease prevention and control through education and publicity will ultimately benefit the local labor force and promote future development in the Asia-Pacific region.

Integrate diverse stakeholders

It is important to integrate difference stakeholders, like governments, medical institutions, and research laboratories, and to encourage them to focus on conducting research and translating research outcomes into new technologies and products for disease prevention, diagnosis, and treatment.

Strengthen epidemiological surveillance

The rapid emergence and spread of emerging infectious diseases pose significant challenges to health systems of Asia-Pacific region. It is important to strengthen epidemiological surveillance for urgent, collaborative, and innovative responses.

Training of health personnel

APEC economies are encouraged to manage the training of health personnel in the identification, diagnosis and epidemiological investigation of cases corresponding to respiratory tract infections with emphasis on outbreak investigation.

Survey response on collaboration, preparedness, clear communication, and addressing long-term impacts in managing and recovering from emerging infectious diseases

The survey design was strategically crafted to encompass an assessment of participants' understanding and preparedness in addressing emerging infectious diseases, both before and after their engagement in this forum. The objective is to not only identify existing gaps and challenges but also to evaluate the effectiveness of the capacity-building initiatives undertaken.

Before attending the forum, participants were invited to complete the survey, providing baseline data on their perspectives on international collaboration, the preparedness of health systems and healthcare institutions, clarity in public communication, strategies for potential outbreak improvements, and the long-term impacts of endemics and pandemics. This initial assessment can reflect participants' current knowledge, skills, and attitudes. Upon completion of the training program, participants were once again invited to fill out the questionnaire, allowing for a comparison of their pre- and post-training responses. This comparative analysis aimed to quantify the impact of the forum.

After the analysis of pre- and post-training responses, the results revealed a significant improvement in participants' capacity, demonstrating that the training program effectively achieved its capacity-building goals. Participants demonstrated increased awareness of international collaboration mechanisms, enhanced preparedness within their respective health systems and institutions, clearer communication strategies, and a more nuanced understanding of how to address potential outbreaks and mitigate the long-term impacts of endemics and pandemics.

In essence, the pre- and post-training survey design serves as a powerful tool to not only measure the effectiveness of the capacity-building forum but also to reinforce the importance of continuous education and professional development in the face of emerging infectious diseases. The successful outcomes highlight the potential of capacity-building program in building a more resilient and prepared global health force.

The full questionnaire is provided in Annex 1.

Recommendations

During the "APEC Capacity Building Forum on Managing Major Infectious Diseases and Responding to Health Emergencies," experts delved into emerging respiratory infectious diseases, complemented by questionnaires before and after the event. Various respiratory tract infections prove a public threat across regions and societies, but the public awareness remains limited. It is imperative for us to collaborate on the research, education, and development of diagnostics, drugs and vaccines to combat these diseases. It will ultimately promote the further development of APEC members.

Recommendations on improving health systems based on the state quo of respiratory infectious diseases

Recommendation 1.1: Addressing emerging viral pneumonia through enhanced collaboration in Asia-Pacific region

In the face of rapid population growth, widespread migration patterns, profound environmental transformations, and accelerated urbanization, the Asia-Pacific region

stands at the forefront of a pressing health crisis: the emergence and spread of novel respiratory tract infections, particularly viral pneumonia. Historical data underscores this trend, with several high-profile outbreaks of viral pneumonia, including SARS in 2003, H1N1 influenza in 2009, and more recently, the COVID-19 pandemic, originating or significantly impacting the Asia-Pacific region. These events have not only posed significant health risks to millions but also had profound socio-economic consequences, disrupting economies, altering lifestyles, and straining healthcare systems.

In light of these challenges, it is imperative that we strengthen our collective response mechanisms and enhance regional and global collaboration to address emerging viral pneumonia in the Asia-Pacific region. We will endeavor to:

a. Identify new pathogens: With the continuous evolution of viruses, it is essential to establish robust surveillance systems capable of detecting emerging pathogens early on. This requires investing in advanced laboratory facilities, training skilled personnel, and implementing innovative surveillance methodologies. By identifying new threats, we can control their spread and prevent outbreaks.

b. Establish rapid warning mechanisms and response systems: These systems should be integrated with robust response protocols, ensuring that necessary measures, such as quarantine, contact tracing, and public health messaging, are implemented promptly and efficiently.

c. Develop guidelines in disease management: Drawing upon existing research and best practices, we can refine our understanding of viral pneumonia and its management. By disseminating this knowledge widely, we can empower healthcare providers and the public to make informed decisions and take appropriate actions.

d. Academic collaborations: Collaborative research efforts can accelerate the discovery of new treatments and vaccines, while educational programs can enhance public understanding and compliance with preventive measures. Additionally, sharing data and resources efficiently can maximize the impact of our efforts, ensuring that no community is left behind in the fight against emerging respiratory infections.

e. Development of diagnostics and treatment: Collaborative research efforts can accelerate the discovery of new treatments and vaccines, while educational programs can enhance public understanding and compliance with preventive measures. Additionally, sharing data and resources efficiently can maximize the impact of our efforts, ensuring that no community is left behind in the fight against emerging respiratory infections.

Recommendation 1.2: Monitoring closely on antimicrobial resistance (AMR)

AMR, a global health emergency, has reached alarming levels in Asia-Pacific region, posing a significant threat to public health, food security, and economic stability. Antibiotics have been a cornerstone in the treatment of bacterial infections, saving countless lives worldwide. However, the misuse and overuse of these antibiotics have inadvertently paved the way for the evolution of resistant strains. Over the past decades, the excessive use of

antibiotics in both human medicine and agriculture has contributed to the emergence and spread of drug-resistant pathogens. This has rendered old effective treatments ineffective, leading to prolonged illnesses, increased hospitalizations, and higher mortality rates. According to the WHO, AMR is now a major public health concern in the Asia-Pacific, with economies in the region reporting high levels of resistance to common antibiotics across various pathogens. For instance, multi-drug resistant strains of TB have emerged, requiring the use of more expensive, less effective, and potentially more toxic second-line drugs.

To alleviate the current state of AMR and bring health and socio-economic value to economies in the Asia-Pacific region, several steps can be considered:

a. Dynamic monitoring of antimicrobial spectrum: To combat AMR effectively, it is imperative to establish robust systems for dynamic monitoring of the antimicrobial spectrum. This involves continuous surveillance of antimicrobial usage patterns, resistance trends, and the emergence of new resistant strains. With advanced diagnostic tools and data analytics, health authorities can gain real-time insights into the evolution of AMR, enabling them to make decisions on infection control measures and antibiotic prescribing practices.

b. Information sharing of AMR: By establishing international networks for the exchange of AMR data, economies in the Asia-Pacific can share experiences, identify common challenges, and coordinate efforts to tackle AMR. This includes updating latest practices in infection control, antibiotic stewardship programs, and surveillance methodologies. Furthermore, the timely dissemination of AMR-related information can alert healthcare providers to emerging threats, facilitating early interventions and controlling the spread of resistant pathogens.

c. Research on prevention and control strategies: Investment in research is vital to developing innovative prevention and control strategies for AMR. This includes exploring novel approaches to infection prevention, such as vaccines and alternative therapies, as well as enhancing our understanding of the underlying mechanisms of AMR. By leveraging cutting-edge technologies like genomics, proteomics, and metagenomics, researchers can gain deeper insights into the evolution of resistant pathogens and develop targeted interventions.

d. Development of new technologies and drugs: To address the growing crisis of AMR, the development of new technologies and drugs is mandatory. This includes the discovery and development of novel antibiotics, as well as the reuse of existing drugs for new indications. Additionally, the exploration of non-antibiotic approaches, such as immunotherapy and phage therapy, can replace the traditional treatment options. Furthermore, the integration of advanced technologies, such as artificial intelligence and machine learning, can accelerate the drug discovery process and enhance our ability to track and respond to AMR outbreaks.

Recommendation 1.3: Strengthening prevention and enhancing research and innovation about tuberculosis (TB)

In the Asia-Pacific region, TB continues to pose a significant public health challenge,

particularly with the emergence of multi-resistant (MDR-TB) and extensively drug-resistant (XDR-TB) strains. These forms of TB have proven to be more difficult to treat, leading to increased morbidity, mortality, and healthcare costs. Given the urgency of this issue, APEC economies are strongly encouraged to embark on approaches to tackle this ongoing threat.

Strengthening monitoring and prevention by digital technologies: By integrating digital tools into TB monitoring and prevention strategies, we can improve patient tracking, enhance early detection, and ensure timely and appropriate care. For instance, the use of AI algorithms can analyze patient data to identify high-risk individuals and predict disease progression, enabling targeted interventions. Additionally, mobile health platforms can facilitate remote monitoring and adherence to treatment protocols, reducing the risk of treatment interruptions and drug resistance.

a. Enhance research and innovation: APEC economies can invest in research programs that focus on understanding the molecular mechanisms of drug resistance, exploring novel drug targets, and accelerating the development of next-generation TB drugs and vaccines.

b. Strengthen international cooperation: APEC economies should work together to harmonize TB control policies, share best practices, and coordinate cross-border responses.

c. These efforts will contribute to tuberculosis control and prevention and safeguard public health and the well-being of people in the Asia-Pacific region.

Recommendations on how to improve health systems for further emerging and re-emerging infectious disease and reduce socio-economic impacts

Recommendation 2.1: Enhancing international collaboration by strengthen technical cooperation mechanisms

The WHO announced that in the first two years of the pandemic, COVID-19 caused approximately 14.9 million deaths globally. In May 2023, the WHO declared the end of the emergency phase of the COVID-19 Pandemic. The pandemic has highlighted significant losses and exposed vulnerabilities in primary healthcare systems and health management worldwide. In light of these challenges, strengthening international cooperation among APEC economies is important for preparation and response to future global health crises.

This forum represents a key step towards achieving this goal, aiming to improve collaborative mechanisms by integrating digital technology with on-site training. This approach will empower APEC economies with the knowledge, skills, and resources necessary to strengthen their health systems. A healthier workforce will eventually benefit the economic stability and growth for APEC economics. This collaborative framework aligns with the APEC Vision 2040, which emphasizes inclusive growth and ensures that no APEC member is left behind in the face of global challenges.

Recommendation 2.2: Building platforms for healthcare professionals from all APEC economies to exchange research and practices

To foster a collaborative environment and facilitate the knowledge exchange among healthcare professionals, it is essential to establish platforms that enable participants from all APEC economies to share their research, experiences, and innovative approaches to managing emerging and re-emerging infectious diseases. This initiative aims to bridge the gap between different healthcare systems of APEC members and promote a unified approach to tackling global health emergencies.

The China-Japan Friendship Hospital (CJFH), with its extensive experience in organizing international healthcare cooperation projects, is willing to host the construction of the platform. Over the past two decades, CJFH has successfully trained 1,282 healthcare workers from underdeveloped regions through on-site training programs. Moreover, CJFH's particular strength is its respiratory disease department, which has undertaken and participated in research projects at the economy level multiple times. Furthermore, as a professional drug clinical trial testbed of the State Food and Drug Administration (SFDA), it has led the completion of the world's first phase I clinical research on SARS vaccine and human avian influenza vaccine. Leveraging this expertise, CJFH will host and manage the platform, ensuring it is equipped with the necessary resources and support to facilitate meaningful exchanges.

These platforms will serve multiple purposes:

a. Facilitating Knowledge Exchange: By bringing together healthcare professionals, researchers, and policymakers from across the APEC region, these platforms would enable the sharing of critical research data, clinical experiences, and innovative treatment methodologies. Such academic exchange can foster a deep understanding of the complexities infectious diseases, enabling participants to identify shared challenges and collaboratively devise coordinated, evidence-based responses.

b. Promoting Best Practices: Participants will have the opportunity to learn from the successes and challenges faced by their peers in other APEC economies. This exchange of best practices will enhance the overall quality of healthcare services and improve the efficiency of disease management strategies.

c. Encouraging Collaboration: By fostering an environment of collaboration, these platforms will promote joint research projects, clinical trials, and other cooperative initiatives. This collaborative approach will accelerate the development of new treatments, diagnostic tools, and preventive measures, ultimately benefiting all APEC economies.

d. Enhancing Professional Development: Continuous professional development is crucial for healthcare professionals to stay updated with the latest advancements in medical science and public health. These platforms can offer training programs, workshops, and seminars led by experts in the field, ensuring that participants have access to cutting-edge knowledge and skills.

Recommendation 2.3: Collaborative Expansion of Donor Networks and Resource Mobilization Strategies

COVID-19 pandemics have a profound impact on vulnerable communities of APEC, straining government resources and highlighting the importance of external support. To effectively mitigate the negative societal consequences and facilitate recovery, a broader and more diverse donor base is essential.

APEC economies are encouraged to embark on a collaborative journey to expand their donor networks, leveraging the unique strengths and resources of each member. In parallel, the development and implementation of robust resource mobilization strategies are crucial. This necessitates a comprehensive understanding of funding needs, aligning these needs with potential donor interests, and designing targeted appeals that resonate with diverse audiences. APEC economies should collaborate on research and analysis to identify funding gaps and prioritize areas of intervention. Additionally, by leveraging technology and digital platforms, economies can enhance the efficiency and transparency of their fundraising efforts, building trust with donors and maximizing impact.

To translate these efforts into meaningful outcomes, APEC economies can explore and implement action plans that directly support affected populations. These plans should focus on immediate relief measures, such as food aid and medical supplies, as well as longer-term initiatives aimed at rebuilding infrastructure, restoring livelihoods, and enhancing resilience.

Recommendation 2.4: Fostering Unified Collaboration Across Diverse Health-Oriented Institutions

Traditionally, these institutions have operated individually, with each focusing on their specialized mandates. Governments set policies and regulations, medical institutions provide direct care, prevention agencies monitor outbreaks, enterprises develop healthcare products, and research institutions delve into scientific inquiry. However, this fragmented approach has often led to inefficiencies, duplication of efforts, and slow translation of research findings into actionable solutions.

The COVID-19 pandemic has underscored the interconnectedness of health systems and the urgent need for swift, collaborative action across borders and sectors. APEC economies recognize the imperative of strengthening cross-sectoral collaboration. By fostering unified collaboration, APEC economies can harness the unique strengths and resources of each stakeholder, accelerating the pace of scientific discovery, product development, and policy implementation. The following collaboration can be considered:

a. Multicenter Research: APEC encourage joint research projects involving multiple institutions within and across APEC economies can leverage diverse expertise, patient populations, and data sets. This collaborative approach fosters innovation, enhances the rigor of studies, and ensures research findings are more widely applicable and impactful.

b. Translational Research: By collaborating, stakeholders can facilitate the translation of research outcomes into new technologies, diagnostics, treatments, and prevention strategies. This accelerates the pace of innovation, ensuring that life-saving interventions reach those in need faster.

c. Shared Resources and Infrastructure: Collaboration also entails the efficient use of resources. By pooling funds, expertise, and infrastructure, APEC economies can undertake larger-scale projects that would be unfeasible for individual institutions.

Recommendation 2.5: Improving health systems and public health resilience

In the face of emerging infectious respiratory diseases, APEC economies recognize the urgent need to strengthen their health systems and bolster public health capabilities. Experts from different economies provided invaluable insights on the improvement of hospital care and public health in the survey. This recommendation outlines a comprehensive strategy aimed at mitigating the impact of respiratory infections, enhancing preparedness for outbreaks, and empowering citizens with the knowledge and skills to protect themselves.

a. Strengthen epidemiological surveillance: APEC economies need to prioritize the enhancement of their surveillance systems for respiratory infection, ensuring timely detection and tracking of emerging pathogens. This includes investing in advanced technologies and strengthening data sharing mechanisms across borders, enabling a rapid and coordinated response to potential outbreaks.

b. Rapid response to outbreaks: To contain the spread of respiratory disease outbreaks, APEC economies must establish and strengthen mechanisms for identifying clusters or outbreaks of respiratory syndromes within medical institutions. This requires heightened vigilance among healthcare professionals, coupled with efficient communication channels to report and respond to suspected cases promptly.

c. Capacity building for healthcare personnel: A skilled and well-trained healthcare workforce is essential for effective disease management. APEC economies should manage the training of health personnel in the identification, diagnosis, and epidemiological investigation of respiratory tract infections, ensuring they are equipped with the latest knowledge and skills to manage infectious diseases and respond to health emergencies.

d. Empowering the public through education and personal protective equipment (PPE): Since public awareness and self-care in disease prevention plays a critical role, APEC economies propose to undertake an education plan to upgrade the prevention, treatment, and emergency response capacities of their populations. This includes initiatives to raise public awareness about epidemics and pandemics, promote healthy behaviors, and educate individuals on basic preventive measures and self-care abilities. By empowering citizens with the knowledge and skills to protect themselves, APEC economies can reduce the burden on healthcare systems and promote a more resilient society.

e. Upgrading healthcare facilities: Strengthening hospital healthcare infrastructure to accommodate heightened patient demand during pandemics is a key finding summarized from the survey conducted among APEC economies' experts. This underscores the urgency for upgrading facilities, including expanding bed capacity and equipping hospitals with advanced technologies, to ensure uninterrupted medical

services during respiratory disease outbreaks.

Recommendation 2.6: Supporting developing economics on their constructions on healthcare systems

In the Asia-Pacific region, respiratory tract infections pose a significant health challenge in developing economies where access to adequate medical resources and expertise can be limited. These infections, ranging from mild colds to severe conditions like viral pneumonia, can have devastating consequences, especially among vulnerable populations such as children, the elderly, and those with underlying health conditions. To address this issue and safeguard the health of millions across the region, it is imperative to establish comprehensive strategies that prioritize prevention, early detection, and effective management of emerging and re-emerging respiratory infectious diseases.

We propose the initiation of a campaign, "Managing Respiratory Tract Infections, Safeguarding the Health of People in the Asia-Pacific Region (MRTI-SHPAPR)." This initiative aims to bridge the gap in healthcare access for regions with limited resources by facilitating access to appropriate treatment and care. Through public awareness campaigns, partnerships with local communities, and collaboration with international health organizations, we can ensure that every individual in the region has access to timely and effective interventions.

Key components of the MRTI-SHPAPR campaign include:

a. Health Personnel Training: Developing and implementing training programs tailored to the needs of healthcare workers in the region. These programs will emphasize latest knowledge on respiratory infections, diagnosis techniques, treatment protocols, and infection control measures.

b. Outbreak Surveillance and Notification Systems: Establishing efficient cluster or outbreak notification flows can facilitate rapid identification and reporting of respiratory infections. This will enable timely intervention and containment, minimizing the spread of disease.

c. Captive Population Focus: Special attention will be given to captive populations, such as schools and penitentiary institutions, where infections can spread rapidly.

d. Knowledge Sharing and Best Practices: Encouraging the sharing of experiences, lessons learned, and best practices among healthcare providers, policymakers, and international health organizations.

e. Clinical Management Guidelines: Jointly drafting and disseminating clinical management guidelines that are evidence-based, practical, and tailored to the regional context is recommended. These guidelines will provide a consistent framework for healthcare providers to follow in the prevention, diagnosis, and treatment of respiratory infections.

f. Prevention Strategies: Comprehensive training programs should be implemented to cover prevention strategies, including vaccination, personal hygiene, and

environmental sanitation. These programs will target both health professionals and the general public, empowering communities to take proactive steps in preventing respiratory infections.

These efforts are expected to provide sustainable support to regions with limited medical resources.

Recommendation 2.7: Conducting Public Communication During an Epidemic

In the face of global health crises such as epidemics and pandemics, effective public communication becomes paramount to mitigating fear, fostering resilience, and ensuring the public is equipped with the necessary knowledge and tools to better cope with emerging infectious diseases. Drawing from a comprehensive survey among experts across various economies, a consensus emerged on the critical role authorized media plays in shaping public perception and behavior during such times. This recommendation outlines a strategic framework for public communication that leverages psychology, transparency, timeliness, and empathy to strengthen societal resilience against infectious threats.

a. Leveraging Psychological Insights: During epidemic crises, it is paramount to comprehend and address the profound psychological repercussions. This necessitates acknowledging anxiety, fear, and uncertainty among the people, while employing empathetic communication strategies to alleviate these emotions and avoiding triggers that may exacerbate stress.

b. Ensuring Accurate and Transparent Information Sharing: Transparency is vital for fostering public trust. Accurate and comprehensive information on epidemic dynamics, symptoms, preventive measures, and treatment options should be disseminated, thereby reinforcing public confidence in containment efforts.

c. Combating False Information: Swift action against false information is crucial for safeguarding public health. Fact-checking and authoritative voices must be employed to counter misconceptions, reassuring the public of ongoing containment measures and protections.

d. Timeliness and Relevance: As epidemics evolve rapidly, prompt dissemination of updated information is essential. Messages must adapt to the evolving situation and be tailored to diverse demographics.

e. Establishing Authority and Credibility: Trust in communications is built through reliance on experts in epidemiology, public health, and psychology. Their insights underscore the scientific basis of recommendations, enhancing credibility and motivating the public to adopt precautionary measures.

f. Leveraging Media Supervision and Accountability: To uphold information quality, media outlets must adhere to ethical standards and fact-checking. The establishment of feedback mechanisms promotes accountability, ensuring a responsible and constructive media role in guiding the public through epidemic crises.

Acknowledgment

This report is the culmination of an APEC-funded project dedicated to the advancement of managing major infectious diseases and responding to health emergencies across the Asia-Pacific region. The project, titled “APEC Capacity Building Forum on Managing Major Infectious Diseases and Responding to Health Emergencies” was launched under the auspices of the APEC Health Working Group (HWG), with collaborative support from various APEC member economies, including Canada; China; Japan; the Republic of Korea; Singapore; United States; as well as Non-Member Participants (NMPs) including Spain. Additionally, China-Japan Friendship Hospital has provided significant contributions to this project.

The project's objective is to strengthen the capacity of the prevention and control mechanism of the region in response to emerging and re-emerging infectious diseases across APEC member economies. The insights and recommendations presented in this report are the results of extensive consultations with expert representatives from APEC member economies. These consultations took place during the forum focused on critical areas such as viral pneumonia, antimicrobial resistance, tuberculosis, and other respiratory infectious diseases. The Forum was attended by over 200 participants from APEC economies and NMPs, including representatives from government bodies, research institutes, healthcare providers and non-governmental organizations.

The project organizers extend their heartfelt gratitude to all the speakers and participants who generously shared their expertise and insights during the thematic sessions.

Annex 1 Survey Questionnaire

May 23, 2024

Pre-Training Evaluation Questionnaire

Project No. : HWG 01 2023S

Project Title : APEC Capacity Building in Managing Major Infectious Diseases and Responding to Health Emergencies

1. Please briefly describe lessons learned by different economies in responding to emerging infectious diseases. (no more than 20 words)

2. Please briefly describe the main measures that health systems should take when responding to emerging infectious diseases. (no more than 30 words)

3. Please briefly describe the main measures that healthcare institutions should take when responding to emerging infectious diseases. (no more than 20 words)

4. Please describe how public communication should be conducted during an epidemic to ensure the public can better cope with emerging infectious diseases. (no more than 20 words)

5. Please describe the routine measures that should be taken to respond to potential emerging and re-emerging infectious diseases in the future. (no more than 20 words)

6. Please describe the main impacts during the recovery period following an infectious disease outbreak. (no more than 20 words)

May 25, 2024

Post-Training Evaluation Questionnaire

Project No. : HWG 01 2023S

Project Title : APEC Capacity Building in Managing Major Infectious Diseases and Responding to Health Emergencies

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4. Please describe how public communication should be conducted during an epidemic to ensure the public can better cope with emerging infectious diseases. (no more than 20 words)

5. Please describe the routine measures that should be taken to respond to potential emerging and re-emerging infectious diseases in the future. (no more than 20 words)

6. Please describe the main impacts during the recovery period following an infectious disease outbreak. (no more than 20 words)