

2nd Nikkei Asian Conference

2015 Okinawa Communicable Disease Statement

Introduction

Outbreaks of communicable disease, such as avian influenza H7N9 and Ebola virus disease (EVD), highlight the growing interconnectedness of nations. Internationally renowned experts in communicable disease, both within and outside Japan, representatives of the private sector, and high-ranking government officials responsible for health gathered in Okinawa on January 16 and 17 for the Nikkei Communicable Diseases Okinawa Conference 2015. This gathering, organized by Nikkei Inc., built upon the foundation of the inaugural Nikkei Communicable Diseases Okinawa Conference, which took place in February 2014.

Conference participants reaffirmed the imminent threat posed by communicable disease and the importance of stepping up efforts to address such threat. Discussions focused on tuberculosis (TB) and EVD, as well as on Japan's role in fighting such disease. Through an active plenary panel and smaller group discussions, participants unanimously adopted this Statement, which includes detailed action plans whose implementation is essential.

I. A Mounting Challenge

Asia, the world's most populous continent, is poised to take the global lead in economic growth. Japan engages in ever-deepening interaction with other Asian nations in economic, cultural, and scientific spheres. As an integral member of the Asian community, Japan is urged to work in close collaboration and partnership with neighbouring countries to address the common challenges posed by the re-emergence and resurgence of communicable disease. Addressing such challenges is also critical to Japan's fulfilment of its responsibilities, given that increasing human mobility makes communicable disease a major cross-border concern.

II. Japan's Role and Okinawa's Position

Participants at the Okinawa conference agreed that Japan has a significant role to play in the fight against communicable disease—in Asia and worldwide. They agreed, too, that fulfilling that role will require close cooperation among government, industry, and academia.

Meanwhile, conference participants agreed to support the notion that Okinawa should be an international center for research and development in the area of prevention and control of communicable disease.

III. Action Plans

Action plans focused on 1) measures for combatting TB—a critical health problem across most of Asia, and 2) EVD, which has become an endemic in West Africa and poses a threat in other regions. Action plans detailed ways to introduce to the international community the new technological innovations developed in Japan, such as new therapies or diagnostic kits, as well as how to make them available for international public use.

1. Tuberculosis

1-1. Status and Issues

Tuberculosis is second-only to human immunodeficiency virus (HIV) among communicable diseases in terms of number of deaths. In 2013, some 9 million people contracted TB worldwide, and 1.1 million people died of the disease. The number of people infected with TB worldwide is declining gradually, but the disease remains widespread in developing nations of Africa and Asia. Tuberculosis also continues to occur in Japan, at a higher rate than in most other industrialized nations.

The emergence of multidrug-resistant strains of TB is a challenge for the international community. Such strains have arisen partly as the result of the inappropriate use of anti-tubercular drugs. As a result, the number of people who have contracted multidrug-resistant TB is growing.

Forestalling epidemics of TB depends on rapid, early detection of the disease as well as the appropriate administration of effective drugs. [The Stop Tuberculosis Japan Action Plan, created in 2008](#), contains a useful blueprint for working systematically to prevent epidemics. The plan underwent revision in the follow-up to the 2014 Okinawa conference, and comprises part of current Japanese government policy for preventing the spread of communicable disease.

1-2. Loop-Mediated Isothermal Amplification

The Loop-mediated isothermal amplification (LAMP) method, a single tube technique for the amplification of [DNA](#) developed in Japan, facilitates rapid, easy detection of TB. LAMP is potentially applicable to the detection of other diseases, and making it available in developing nations could aid the fight against communicable disease in areas of greatest need. Government, industry, and academia should promote the international deployment of LAMP by joining hands in gathering data for verifying the method's efficacy and cost performance, and by identifying viable approaches for LAMP's distribution and use.

1-3. Quick, Simple Diagnosis of Drug-resistant Tuberculosis

Drug-resistant strains are the Achilles heel of efforts to fight TB. Curtailing the spread of drug-resistant strains depends on the capacity of countries to identify resistance to different anti-TB drugs accurately, quickly, and inexpensively. Multi-sector cooperation, namely

collaboration between government, private sector and academia, in promoting the international deployment of LAMP will therefore be crucial in containing drug-resistant tuberculosis.

1-4. Asia-Wide Cooperation in Drug Approvals

In 2014, delamanid, which was developed in Japan, became the first new anti-TB drug to go on the market in 40 years. Regulatory authorities in Japan and in Europe approved the drug for adults who suffer from multidrug-resistant TB. Making delamanid available throughout Asia will require the submission of applications to relevant government authorities in each nation. Building a framework for international liaison in governmental, corporate, and academic sectors could speed up that process while also ensuring safety. Japan's Pharmaceuticals and Medical Devices Agency (PMDA) should spearhead initiatives for constructing such a framework.

1-5. Delamanid

Cultivating global awareness of delamanid's promise will depend on supplementing corporate work with joint initiatives by government, industry, and academia. Such initiatives must include measures for amassing data to verify the drug's efficacy, safety, and cost performance. The Japanese Society for Tuberculosis and the Japan Anti-Tuberculosis Association (JATA) should lead the evaluation of drug candidates, and Japan's government and pharmaceutical industry should enthusiastically support that evaluation work.

Cooperation with the World Health Organization (WHO) will also be necessary to share the benefits of Japanese anti-TB drugs with developing nations. Japanese pharmaceutical companies must therefore work with the government, nonprofit organizations, and counterparts in other Asian nations to devise viable approaches for drug deployment.

1-6. Continuing Drug Development

Overcoming drug resistance and defeating TB will depend on the mobilization of multiple anti-TB drugs of differing mechanisms. Such mobilization will require continuing work on anti-TB drugs, despite the market for anti-TB drugs being commercially unattractive for the pharmaceutical industry. Promoting research on anti-TB drugs will require joint initiatives between public and private sectors, such as Japan's Global Health Innovative Technology Fund (GHIT). Of additional importance will be the mobilization of sufficient funding. Finally, international cooperation is essential to speeding work on anti-TB drugs. Japan's government will launch the Agency for Medical Research and Development (AMED) in spring 2015; collaborations between this agency and organizations that participated in this conference should be further strengthened.

1-7. Asian Platforms for Clinical Trials

An anti-TB vaccine developed in Japan, which uses recombinant human parainfluenza virus type 2 (rhPIV2), has shown exciting promise in animal testing. The vaccine, which induces mucosal immunity, has exhibited greater effectiveness than the traditional Bacillus Calmette–Guérin (BCG) vaccine in preventing infection and forestalling the onset of disease following infection. The world currently lacks an effective tuberculosis vaccine for adults, and the Japanese vaccine candidate has attracted international attention in that regard. Work on developing technology to support commercial production of the vaccine is under way.

Japanese research on anti-TB and other vaccines gained momentum with the 2014 completion of a world-class facility for animal testing at the National Institute of Biomedical Innovation's Tsukuba Primate Research Center (TPRC). Nevertheless, work on anti-TB vaccines suffers from the lack of a comprehensive clinical trial platform. Neither Japan nor any other Asian nation has a framework for clinical trials comparable in size, for example, to the South African TB Vaccine Initiative. Creating a large testing platform remains a pressing need in the development of anti-TB vaccines and other agents while ensuring safety. Also pressing is the need for pan-Asian cooperation in processing drug applications and approvals. Such cooperation will be crucial ensuring appropriate, timely access to new vaccines and drugs.

2. Ebola

2-1. Status and Issues

The outbreak of EVD in West Africa during spring 2014 has infected more than 20,000 persons and has claimed nearly 10,000 lives. Logging associated with economic development exposed people to pathogens that lurked deep in West African forests, and road-building allowed EVD to spread quickly to cities. This outbreak of EVD is correlated to insufficient public awareness of the importance of good sanitary practices and an inadequate network for providing primary health care.

The 2014 West African outbreak has made EVD a global health concern, illustrating the danger of epidemics in other regions. As a result, Japan must address the threat of EVD in the context of global health care, as well as in the context of regional assistance for West Africa.

2-2. Favipiravir: Emergency Administration

The drug favipiravir, developed in Japan, received approval from the Japanese government in March 2014 for stockpiling against influenza epidemics. It is the world's first antiviral agent to gain approval based on the selective inhibition of viral RNA-dependent RNA polymerase. In addition to favipiravir's indication for influenza, the drug demonstrates potential effectiveness against EVD, Rift Valley fever, and other diseases caused by RNA viruses.

Humanitarian considerations dictate that Japan should make favipiravir available for

emergency administration against high-mortality viral diseases, such as EVD. In December 2014, France's Institut National de la Santé et de la Recherche Médicale (INSERM) began conducting clinical trials on favipiravir at an Ebola clinic in Guinea run by Médecins Sans Frontières. The trial results could prompt the Guinean government to request supplies of favipiravir for administration to Ebola patients, and Japan's government and pharmaceutical industry must be prepared to respond appropriately.

2-3. Favipiravir: Platforms for Infection Experiments

Japanese work in establishing favipiravir's efficacy against EVD has been hindered due to the difficulty of securing data in Japan on EVD in primates. Japanese researchers have addressed the problem by obtaining data from experiments conducted in the United States, but the lack of direct engagement in such experiments has slowed progress of such research. To contribute more fully to the fight against EVD and other diseases of international public concern, Japan should establish domestic platforms for infection experiments. Such platforms must meet the highest, BSL-4 standards for biosafety levels, as defined by the U.S. Centers for Disease Control and Prevention. Establishing platforms in Japan for infection experiments will need to include measures for reassuring the public about safety. Such measures will be most persuasive if led by objective third parties, rather than by the pharmaceutical industry.

2-4. Favipiravir: New Indications

Researchers have reported findings that favipiravir is effective against multiple RNA viruses. The agent has demonstrated *in vitro* efficacy in treating hemorrhaging caused by RNA viruses and in treating severe fever with thrombocytopenia syndrome (SFTS) contracted from ticks. Translating those results into new indications for favipiravir will require a multi-sector approach involving the pharmaceutical industry, academia, and government—both within Asia and worldwide.

2-5. Favipiravir: Distribution and Stockpiling

Fulfilling the potential of favipiravir in the fight against EVD will depend in part on joint work by companies, government agencies, international agencies, universities, and nonprofit organizations. That joint work needs to marshal data for nurturing an international consensus in regard to favipiravir's efficacy, safety, cost performance, and other benefits. Based on that consensus, the parties concerned need to work with World Health Organization (WHO) and other nations to establish common recognition to develop viable approaches for stockpiling and distributing favipiravir.

2-6. Public Health and Sanitation Systems

Japan needs to provide support focused directly on ending the Ebola outbreak in West African nations and on preventing future outbreaks with support for upgrading public health and sanitation systems in those and other developing nations. That support for systemic improvements should include sharing expertise in combatting communicable disease, advanced medical technology, and experience in providing universal health coverage. It should also include support for human development for developing countries.

2-7. Elevated Commitment to International Initiatives

As the Ebola outbreak abates, Japan must redouble its commitment to international initiatives aimed at preventing epidemics of other diseases. These efforts should include cooperation with international agencies and with other nations to mobilize necessary resources.

3. Other Issues

The successful prevention of infection hinges greatly on a solid, widespread understanding of the issue, fostering good habits in regard to washing hands and sterilizing equipment and fixtures, securing reliable access to clean water, and maintaining a pristine environment. A promising step forward in that regard: All Asian nations now subscribe to the World Health Organization (WHO) guideline for preventing infections in hospitals and clinics by promoting rigorous hand washing. The final two Asian nations to adopt the guideline, Laos and Myanmar, announced their adoption at the Okinawa conference.

Additionally, fulfilling the conditions for preventing infection depends on proactive cooperation among and between government agencies, schools and universities, and the private sector. Japan can help to promote that cooperation by sharing its experiences with government-academic-industrial interaction.

IV. Establishing A Consortium for Action Plan Implementation

Participants at the Okinawa conference reaffirmed their commitment to the fight against communicable disease. They also emphasized the importance of cooperation between government, industry, and academia, as well as the critical value of a long-term perspective on the development of medical technologies, including drugs and vaccines, and in fostering human resources in the medical sector. Participants therefore unanimously agreed to establish a consortium to implement the action plan that accompanies this Statement in cooperation with the Japan Agency for Medical Research and Development (AMED). In addition, they have agreed that the 2016 conference should be an occasion for reviewing the first-year performance of the consortium.

Conclusion

Through fruitful discussions, conference participants agreed that healthcare innovation developed in Japan should be introduced to the international society. Furthermore, they concluded that joint efforts with other Asian countries and our global society are necessary for the fulfillment of the consortium's above-stated actions in fighting against communicable disease.