

The 4th Nikkei Asian Conference on Communicable Diseases

Okinawa Communicable Diseases Statement 2017

1. Introduction

As economic globalization advances, Japan is becoming inextricably linked at all levels—including the economic, social, and cultural—with the rest of the world, and most particularly with Asia. The threat posed by communicable diseases has moved to the foreground as a major issue both domestically and abroad following the outbreak of Zika virus and Ebola virus infection as well as global antimicrobial-resistant (AMR) communicable disease epidemics adopted as a global issue at the G7 Ise-Shima Summit in 2016.

During this Summit, the Japanese government expressed a plan of providing approximately 1.1 billion dollar support to enhance public health systems aimed at dealing with public health crisis, controlling infections and achieving universal health coverage (UHC). Much is now expected of its outcome. Such a positive attitude of the government to infection control stimulated active discussions during the Fourth Nikkei Asian Conference on Communicable Diseases.

On March 3-4, 2017, key figures working in the area of communicable diseases in the public and private sectors as well as government and academia gathered from more than 10 countries to take part in the Fourth Nikkei Asian Conference on Communicable Disease in Okinawa. Like in the past, the participants reaffirmed through discussions the necessity and efficacy of addressing communicable diseases, which threaten health and economic activity, by means of public-private partnership (P3).

Within the framework of Nikkei Asian Conference on Communicable Diseases, “Asian Medical Innovation Consortium (AMIC)” composed of multiple working groups has been working throughout the year. At the Fourth Nikkei Asian Conference, one of the working groups “AMIC Tuberculosis Group” reported the status of the P3 initiative on spread of therapeutic and diagnostic drug packages of Japanese origin in Asian countries. In addition, establishment of organization of a new working group ‘AMIC Malaria Group’ aimed at malaria elimination was reported. Regarding Ebola virus infection that spread in 2014 primarily in West Africa, the status and issues related to measures for control of Ebola virus infection in Guinea were confirmed and discussion was made over how to resolve the issues. During this conference, discussion was made over some new topics, i.e. the necessity of actions against AMR in Asia, including Japan,

and the role expected of Japan related to public health. The importance of arranging the platform for development of therapeutic and diagnostic drugs through organizing an infection control center in Okinawa and clinical research centers in Asia was also confirmed. In addition, presentation was made about therapeutic drugs, vaccines, medical devices (including diagnostic agents) and mobile technology from Japan that could contribute to infection control.

As an outcome of these discussions, consensus was reached among the participants in issuing “Okinawa Communicable Diseases Statement 2017.” The outcome of this conference will be reported also at the government’s relevant conferences and furthermore, this statement will be widely communicated not only in Japan but throughout Asia and the rest of the world. Leveraging the deeper international understanding achieved accordingly, it will be incumbent upon Japan to demonstrate even stronger commitment to the international community through measures to prevent communicable diseases.

2. Report on Progress with

Public-Private Partnership (P3) in Japan

2.1. A Actions against Tuberculosis: Their Significance

Among independent communicable diseases, in terms of the number of deaths from the disease, tuberculosis became the first across the world, recently exceeding that from HIV infection. In 2015, 10.4 million people newly developed tuberculosis, and 1.8 million died from this disease. Although the number of patients with tuberculosis is tending to decrease slowly, it remains prevalent primarily in developing countries of Asia and Africa, and the prevalence of tuberculosis is still high in Japan among the developed countries, resulting in Japan being positioned as a semi-developed country in terms of tuberculosis control. Furthermore, because of inappropriate use of anti-tuberculous drugs, multidrug-resistant tuberculosis (MDR-TB) has emerged, causing an increase in the number of cases difficult to treat. For prevention of its epidemic, actions based on a concrete action plan, such as rapid diagnosis of tuberculosis in epidemic countries/districts and spread of reliable medication, are indispensable.

2.1.B P3 Initiative on Tuberculosis and Its Background

The AMIC Tuberculosis Working Group conducted a confirmatory study in tuberculosis-prevalent Asian countries using the package consisting of drugs and diagnostic technology for multiple drug-resistant strains of MDR-TB and made a proposal in 2015 to the Prime Minister's Office and related ministries/agencies about the initiative of actions on MDR-TB through P3initiative in support of tuberculosis eradication in the countries concerned.

More specifically, the initiative is first aimed at improving the tuberculosis diagnosis rate through screening of tuberculosis by means of simple and high precision genetic test (TB-LAMP, Eiken chemical co., ltd.), instead of the microscopic sputum test, under the support of the Japanese government and cooperation from the targeted countries. Then, definite diagnosis of MDR-TB is made with the multiple drug-resistant genetic test (Genoscholar, NIPRO CORPORATION). This is followed by appropriate prescription of the new drug against MDR-TB (delamanid, Otsuka Pharmaceutical Co., Ltd.) approved in Japan and Europe for the first time during the past 4 decades. In this way, the initiative attempts to elevate responses to treatment, prevent the expansion and eradicate MDR-TB in the countries concerned.

2.1.C Status of Progress

After the appeal to the Prime Minister's Office and related ministries/agencies, the public-civil sector cooperative project began to work at various levels.

In August 2016, the World Health Organization (WHO) issued recommendation on use of TB-LAMP. This resolved the practical obstacle against the spread among Asian countries of the diagnostic package (TB-LAMP combined with the already recommended Genoscholar).

In Afghanistan, TB-LAMP had begun to be used earlier than in other countries, and it was recently decided that the government would purchase Genoscholar in addition to the diagnostic devices. Within the framework of the "Anti-Tuberculosis Project (Phase 3) (2015-2018)", which is a technical cooperation project between Japan and foreign countries concerned, it has been decided to utilize TB-LAMP, Genoscholar and delamanid during the first half of 2016. Delamanid was listed in Afghanistan's Essential Medicines Program and was first exported to this country in February 2017.

Marked progress was noted in the Philippines. Within the framework of the JICA Collaboration Program with the Private Sector for Disseminating Japanese Technologies, "Program for Dissemination of a New TB Diagnostic Algorithm Based on Japanese

Technologies (TB-LAMP and Genoscholar)” (adopted in February 2016) was started. In January 2016, through discussion with the enterprises participating in the AMIC Tuberculosis Working Group (JICA’s on-site investigation), the Philippine government expressed an intention of welcoming P3 support in the field of tuberculosis, thus accelerating advances in the project.

Regarding Genoscholar and TB-LAMP, it was decided to carry out clinical studies at the National Reference Laboratory of the Philippines. Eiken started the clinical study in February 2017, and Nipro plans to start it in March of the same year. In 2018, a study is scheduled to start concerning the combination of these products as a diagnostic package enabling early detection of tuberculosis and evaluation of drug resistance, leading to appropriate treatment of MDR-TB. For these products to be disseminated in the Philippines, application for approval of their manufacture/distribution as diagnostic tools is needed. For this purpose, selection of agents in the Philippines is required, and the selection procedure has approximately been completed. Regarding delamanid, Otsuka has filed an application for approval of distribution of this new drug with the Philippine government. From now on, confirmatory studies need to be implemented in the Philippines to achieve listing of delamanid in the Philippine Guidelines on Tuberculosis Treatment. As far as anti-MDR-TB actions are concerned, a request of support has been placed from the Philippine government to the Japanese government. At present, adjustment is being made among JICA and relevant ministries including the Ministry of Foreign Affairs. P3 initiative has the potential of making significant contribution to these actions.

In Indonesia, “Project Promoting the Dissemination of a System Supporting the Medication Compliance of Tuberculosis Patients (Delamanid)” (adopted in July 2015) and “Project Promoting the Dissemination of Tuberculosis Diagnosis Kits (Genoscholar)” (adopted in July 2015) are now under way within the framework of the JICA Collaboration Program with the Private Sector for Disseminating Japanese Technologies. Because of problems with communication, these projects began in December 2016. Eiken and Nipro have concluded clinical research contracts with the hospitals in Indonesia and plan to complete the clinical study by March 2017. On the basis of the clinical study data, Eiken and Nipro will submit an application for approval of distribution of these products as diagnostic agents in Indonesia. At present, they are selecting agents that will serve as distributors.

Each enterprise is working actively also in Thailand and Vietnam to submit application for approval of distribution of diagnostic agents and therapeutic drugs as soon as possible. Thus, the environments for the package strategy involving TB-LAMP,

Genoscholar and delamanid are being arranged. If the tuberculosis diagnosis package being developed by Eiken and Nipro facilitates detection of patients with MDR-TB, it will contribute greatly also to dissemination of delamanid. So that this package can be listed in the tuberculosis treatment guidelines in each country based on the confirmatory study on the package strategy proposed by the AMIC Tuberculosis Working Group, it is advisable to fully utilize the manpower network of communicable diseases in Asia cultivated through the tuberculosis-related personnel training provided by the Japan Anti-Tuberculosis Association. Discussion over this topic should be continued at the Tuberculosis Working Group.

2.2.A Control of Ebola virus infection: Its significance

Although Ebola virus infection has been contained, there is still a risk for re-outbreak of an epidemic. Ebola hemorrhagic fever, whose outbreak began in West Africa in the spring of 2014, has developed in 28,646 individuals to date (WHO, March 2016), claiming 11,323 lives. In Guinea, the end of its epidemic was declared in December 2015, but it reemerged in March 2016, with 2 cases of this disease and 3 suspected cases having been reported to date. Although large-scale outbreak has been controlled, our country is now required to provide necessary support with a united public-private sector approach, in linkage to Asian and other countries and to continue paying close attention to this topic.

2.2.B Ebola P3 Initiative and its Background

Upon receiving a request for assistance from the government of Guinea and a joint research request from the French National Institute of Health and Medical Research (INSERM), Japan launched a public-private sector cooperative project funded by the MHLW scientific research grant.

This project consists of 3 major parts. The first part pertains to supplying RT-LAMP-based Ebola virus diagnostic drugs and devices (Toshiba Medical Systems Corporation and Nagasaki University) for use in a confirmatory study in Guinea. The second part pertains to implementation of clinical research on the efficacy of the RNA-dependent polymerase inhibitor favipiravir (FUJIFILM Corporation, TOYAMA CHEMICAL CO., LTD.; brand name Avigan) against Ebola virus infection. Favipiravir is an anti-influenza drug with a new mechanism of action and is expected also to prevent Ebola virus proliferation by suppressing gene replication within viral cells. The third part pertains to a confirmatory experiment in Guinea about the protective clothing developed by Toray Industries, Inc, collecting data on impressions of users and changes

in temperature and humidity inside the clothing under actual conditions (this experiment has been already conducted).

2.2.C Status of Progress

In December 2014, a proof-of-concept (POC) experiment (JIKI clinical trial) was started at the initiative of INSERM and with the cooperation of Médecins Sans Frontières and the Guinean government in order to plan clinical research demonstrating the efficacy and safety of favipiravir. The JIKI trial yielded findings valuable in planning clinical research, including the finding that treatment should target cases of moderate viral infection rather than cases of severe infection, and that the frequency of nephropathy and blood Ebola virus level can serve as biomarkers of prognosis. In addition, dose escalation was attempted and effectiveness of the drug in eradicating the Ebola virus remaining in semen (one of the causes for reemergence of infection) was confirmed. In addition, it was demonstrated that emergence of mutant virus would not arise as a problem from favipiravir treatment (this finding has been reported in a paper).

Thus, through the JIKI trial, information valuable for clinical research planning has been collected to date.

In April 2015, RT-LAMP (3,000 specimens) and three diagnostic devices were provided to the Guinean government free of charge via Japan's Ministry of Foreign Affairs. A research team organized by Toshiba Medical Systems and Nagasaki University sent members to the country, implementing the personnel development program related to Ebola kit diagnosis method and tests.

On October 5, 2015, a collaborative agreement to enhance R&D on Ebola virus diseases (EVD) was concluded with the French government at the Prime Minister's Official Residence. The agreement re-confirmed implementation of joint research on anti-Ebola virus infection measures, cooperation in overall analysis of research outcome, implementation of joint confirmatory research on infection control in Africa and cooperation in personnel development.

Although the end of epidemic was declared in December 2015, the epidemic reemerged in March the following year. In response to a request from the Guinean government, Avigan for 2,000 cases was arranged and supplied to the country within the framework of urgent gratis fund aid in June 2016.

3. New Challenges and Actions Needed

3.1 Tuberculosis P3 Initiative: Issues and Actions Needed

【Issue】

Despite the initial plan of providing TB-LAMP, Genoscholar and delamanid as an anti-MDR TB package, packaging has not been fully implemented.

【Actions needed】

<For consortium>

1. In view of the WHO's recommendation of use and the almost completed preparation for submission of approval application in Asian countries, the Tuberculosis Working Group should supply the package to the targeted countries under closer cooperation to confirm its effectiveness. More P3 cooperation and adjustment are needed.
2. The countries targeted by P3 program need to be expanded (4 countries for the time being).
3. The network of Asian infection researchers accumulated by the Japan Anti-Tuberculosis Association should be actively utilized to facilitate personnel development in the countries covered by the confirmatory study and to provide support to arrange treatment guidelines.
4. Understanding by international organizations and NGOs should be deepened through publication of confirmatory study results in professional journals and presentation at professional society meetings, leading to the utilization of the WHO Prequalification of Medicines Programme and adoption of the results in treatment guidelines.

<For enterprises>

1. Enterprises should make further efforts to establish diagnostic methods for MDR-TB other than rifampicin and to develop drugs with new mechanisms of action for treatment of MDR-TB.
2. More efforts should be made to achieve further cost reduction so that products can be supplied at lower prices to Asian countries.

<For government>

Further support to R&D, including financial aspects, is expected of the government.

3.2. Ebola Virus Infection P3 initiative: Issues and Actions Needed

< For enterprises >

●RT-LAMP

Although clinical trials on RT-LAMP have been completed, information supply to WHO and NGOs is needed to facilitate its approval in the targeted countries, adoption of such information in Ebola virus infection guidelines, and diagnostic device installment and diagnostic drug stock in preparation for reemergence of epidemic.

●Favipiravir

After publication of the JIKI trial results in papers, further data analysis and further information supply concerning favipiravir, both in Japan and abroad and including the follow-up study results, are needed. Clinical studies to demonstrate the efficacy and safety of this drug on the basis of the JIKI trial results should be planned. Clinical application of this drug (in combination with oseltamivir) to H7N9 avian influenza is the latest issue. In addition, application to other infections having the potential of epidemic (Crimean-Congo hemorrhagic fever, Lassa fever, tick-borne SFTS virus) and use in children, pregnant women and elderly people should also be investigated and relevant data should be collected.

For prevention of reemergence of Ebola virus epidemic:

1. It is desirable to develop a formulation of this drug applicable to animal studies and to demonstrate its effectiveness in protecting animal models from Ebola virus infection.
2. Clinical studies should be planned to expand the indications of this drug to infections other than Ebola infection such as H7N9 avian influenza and other dangerous infectious diseases (if favorable results are obtained, international stock of the drug should also be considered).

< For consortium >

1. The entire consortium should support the above-mentioned efforts by enterprises.
2. Supports through international cooperation, including financial aid and personnel development, are provided to in vitro diagnosis, surveillance and health system establishment in three West African countries.

3.3. New Consortium: Malaria Infection

【Background】

In Asian countries, malaria is prevalent, posing significant threat to the society, and elimination of malaria has become a major goal. According to the roadmap of the Asia Pacific Leaders Malaria Alliance, elimination of this disease is to be achieved in 6 countries by 2016-2020, preventing infection of 40.3 million people and saving 260,000 lives. A high goal has been set, attempting to eradicate malaria from 22 Asian countries by 2026-2030. Through discussion at the Third Nikkei Asian Conference on Communicable Diseases, the AMIC Malaria Group was organized on September 30, 2016. This group has discussed over supplying a package for malaria elimination, covering diagnosis, therapeutic drugs, antimalarial medicine, vaccines and including vector-related actions.

【Actions needed】

< For consortium and enterprises >

The time has come to step forward towards the goal of malaria elimination.

Corresponding to the progress in the efforts for full-scale application, consortium and enterprises we will consider supplying the package of diagnostic system/agents, therapeutic drugs, antimalarial medicine/vaccines and vector control products to Asian countries through P3 initiative.

1. Diagnosis

It is important to deal with the fact that there are numerous asymptomatic cases of malaria unable to detect with existing diagnostic techniques. It is necessary to detect undiagnosed cases of malaria (asymptomatic cases) by the use of a package consisting of high sensitivity malaria LAMP (Eiken) and flow-cytometry (SYSMEX CORPORATION).

2. Vector control

A system made of a combination of Olyset Net (Long Lasting Insecticidal Nets), Indoor residual spraying, Larvicide (Sumitomo Chemical Co., Ltd.), anti-mosquitoes paint (Kansai Paint Co., Ltd.), repellent, antiseptic solution (Saraya Co., Ltd.) is introduced and disseminated. In addition, development of new technology to manage pyrethroid insecticides resistance is also needed.

3. New antimalarial medicine

Development of new treatment methods also needs to be facilitated. An antimalarial medicine made from 5-aminolevulinic acid by neopharma Japan and SBI Pharmaceuticals is an example.

4. Vaccines

Clinical introduction of the malaria vaccine, now under development at Osaka University needs to be supported.

<For government >

Japanese government will support these attempts.

3.4 Actions on Antimicrobial-resistant Bacteria (AMR)

【Background】

At the annual general assembly of WHO in May 2015, a global action plan concerning drug resistance was adopted, requiring member countries to devise action plans. Following this decision, anti-AMR measures were adopted as a topic at the G7 Ise-Shima Summit in 2016. In the UK and the USA, AMR Centre and CARB-X were organized under the P3 initiative. Now, anti-AMR measures are a major issue for the international society. On February 27 of this year, the WHO made public 12 dangerous types of AMR as the research topics of highest priority, urging close attention. Also in Japan, an action plan concerning drug resistance was devised in April 2016, beginning concrete efforts such as the establishment of the AMR Clinical Information Center at the National Center for Global Health and Medicine and the Drug-Resistant Infection Control Research Center at the National Institute of Infectious Diseases.

【Actions needed】

<For Japanese government and entire consortium >

1. To promote education and awareness including disinfection of hands and appropriate use of antimicrobials.
2. To develop an AMR surveillance system, including development of diagnostic agents.
3. To coordinate AMR measures with the agriculture, forestry and fishery industries (“one health” initiative).
4. To conduct research and development on antimicrobials with new action mechanisms.
5. To develop vaccines to decrease the use of antimicrobials and suppress the emergence of AMR.
6. As an incentive for enterprises’ development efforts, to consider the adoption of public systems such as tax refunding and market entry rewards as a means of eliminating post-development market pressure.
7. To accelerate all processes of clinical trials, expand clinical trial centers to foreign

countries in order to recruit patients with drug-resistant infection, and cultivate experts in clinical trials

8. To work in collaboration with future Asian Communicable Diseases Clinical Research Center (cf. 3 • 6).

3.5 Public Health and Infection Control

【Background】

Japan experienced eradication of many communicable diseases, including malaria and tuberculosis, through two major means (public health improvement and active therapeutic intervention). How to utilize such an advantage of Japan in infection control in Asia was actively discussed during the current conference. Asian countries are expecting much of the Japan's experience with public health improvement.

However, many resources (manpower, materials, funds and technology) are needed to improve public health. Furthermore, close cooperation among the government, communities, private enterprises and academia is indispensable.

【Examples cited during the conference】

1. Saraya Co., Ltd. has been disseminating the hygienic habits of finger disinfection and hand washing to developing countries.
2. LIXIL Corporation has been implementing a campaign titled "Toilet for Everyone Project" by which a simplified toilet is donated to Asian and African countries corresponding to the amount of the company's products sold.
3. Sumitomo Chemical has been disseminating "Olyset Net" (a mosquito net treated with an insecticide) in Asia and Africa.
4. RICOH JAPAN Corp. has been supplying an IT-driven visual communicating education enriching program by using such device as a handy projector.

【Actions needed】

The enterprises mentioned above will consider how to disseminate these public health campaigns in cooperation with JICA and other organizations. It is necessary to develop manpower engaged in public health improvement and to diversify personnel development, accompanied by arrangement of the career path for these personnel. Evaluation and feedback of the outcome of our attempts of improving public health and the sharing of this information with foreign countries are also needed.

3.6 Asian Communicable Diseases Clinical Research Center

【Background】

The necessity of Asian Communicable Diseases Clinical Research Center was discussed also at the Third Nikkei Asian Conference. During the current conference, this topic was discussed in more depth. A budget towards the goal of establishing a clinical research center has already been allocated to the National Center for Global Health and Medicine. Furthermore, discussions over creation of a research center for infection control have been made in Okinawa and Nagasaki.

【Necessity】

1. There is no border concerning communicable diseases, including AMR-related issues. To control communicable diseases, linkage and cooperation with Asian countries through creation of a clinical research center are required.
2. Since the number of cases in Japan is limited, partnership with neighboring countries is indispensable.
3. In Japan, there are many seeds of diagnostic agents, therapeutic drugs and vaccines that can contribute to the control of communicable diseases in Asia.
4. Creation of the clinical research center will contribute to infection control not only in Japan but also in neighboring countries.

【Issues】

1. Further promotion of regulatory science among countries has not been sufficiently done.
2. There is a shortage of manpower capable of promoting clinical research in Asia, such as data management experts, and exchange of manpower with foreign countries is still insufficient.
3. A system uniting the government with private sector and academia towards the creation of the clinical research center has not been established.
4. No proposal or agreement to/with neighboring countries (including mutual understanding of cultural background) has been made concerning the creation of the center.
5. The budget needed for the creation of the clinical research center has not been secured, and the relevant political commitment has not been started.

【Actions needed】

To deepen the discussions over activation of steadily advancing regulatory science,

relationship to the Okinawa communicable disease research center/Nagasaki University/National Center for Global Health and Medicine, personnel development and achievement of consensus with Asian countries, we will consider organizing new working groups in addition to the existing Tuberculosis Working Group and the Malaria Working Group. At that time, support to create a communicable diseases research center in Okinawa will also be included in the major topics of discussion.

3.7 Creation of Communicable Diseases Research Center in Okinawa **【Background】**

Okinawa Prefecture has been increasing its function as an international logistic center, making use of its geopolitical advantage (located at the middle of East Asia). The amount of international goods handled at the Naha Airport has been increasing sharply and it is now ranked fourth in Japan. Okinawa Prefecture is considering raising its goal for the number of tourists by fiscal 2021 from the current 10 million (including two million tourists are from overseas) to 12 million (including 4 million tourists from overseas). While the increase of human exchange and trading of goods with foreign countries stimulates economic growth, the risk for communicable diseases also rises, requiring infection control measures. Okinawa is the only area with a subtropical climate in Japan, and some of its rich bioresources may be used as materials for new drug discovery and there are growing expectations for commercialization. Because Okinawa consists of islands, pure data useful in control and eradication of communicable diseases are easier to collect in this prefecture than in larger cities or inland areas of Japan. Furthermore, Okinawa has a history of successfully eliminating malaria and filaria through united efforts of the community during the post-war economically difficult period and possesses know-how about public health.

Also at present, Okinawa is taking infection control actions serving as a national model, including close linkage to universities and hospitals during AMR data collection, the Okinawa measles zero project, and avoidance of issuing certificates of healing during influenza epidemic. Okinawa thus has the potential of serving as a clinical field for communicable diseases.

Following the holding of the East Asian Ministerial Meeting on Caring Societies in Okinawa in December 1996, at the Kyushu/Okinawa Summit in July 2000, Japan proposed the “Okinawa Infection Control Initiative” laying emphasis on addressing communicable diseases through global linkage. With these meetings serving as a beginning, three of the four meetings of the Nikkei Asian Conference on Communicable Diseases (the 1st, 2nd and 4th) have been held in Okinawa. Okinawa Prefecture now is

now aiming to create an Asian communicable disease research center.

【Actions needed】

During the 4th conference, the significance of creating a communicable diseases research center in Okinawa was confirmed again, and a statement was issued expressing its commitment to playing an important role as a clinical trial center in Asia. During the efforts for creating the center in Okinawa, as one of the important themes of the AMIC Working Group meeting, it will be necessary to discuss the new functions of the center in Okinawa and its coordination with other clinical research centers in Japan and overseas.

3.8 New Technical Seeds

During this conference, technical seeds of Japanese origin that can contribute to disease control in Asia were presented. The impacts of the below-listed technical seeds on disease control need to be evaluated precisely and then it should be discussed whether or not individual seeds deserve promotion within the framework of this consortium.

1. Communicable disease vaccines such as dengue virus and Zika virus (Takeda Pharmaceutical and other companies)
2. Microcapsule nucleotide vaccine (Daiichi-Sankyo)
3. New antimicrobials such as Cefiderocol (Shionogi, AMR Centre (UK), etc.)
4. New treatment medicine for hepatic fibrosis (Tokyo Metropolitan Institute of Medical Science)
5. Antibody development by EB virus method (EVEC)
6. Drug creation from marine organisms (OP Bio Factory)
7. Low-cost rapid DNA diagnosis (TBA)
8. Ultrahigh sensitivity tuberculosis diagnosis technology (Fujifilm)
9. Low-cost ultrasound diagnostic devices and remote diagnosis service (Lequio Power Technology)
10. Promotion of vaccination with electronic mother-child pocketbook (MTI)
11. Ice battery resolving pharmaceutical product logistics (I.T.E.)

4. Conclusion

The P3 initiative towards the goal of communicable disease eradication, which had not been formed before in Japan, was formed in the fields of MDR-TB and Ebola virus, and it has been confirmed that this initiative has been yielding favorable results. Furthermore, to eliminate malaria from Asian countries, the third consortium has begun to work. Also concerning the Asian communicable disease clinical research center, the plan of forming a consortium has been confirmed.

Although the P3 initiative yielded certain results in a short period of time, there are still many issues to be addressed.

It is expected that the linkage among the participants in the consortium is enhanced and this initiative is further advanced by the fifth conference to be held in Okinawa next year.

The Fourth Nikkei Asian Conference on Communicable Diseases 2017

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