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Because there are no borders for infectious diseases, what happens in one country is a threat to its neighbor. We need to exchange information and personnel on a systemic basis. This is a very important thing to control disease in this area.

After the idea of emerging and reemerging infectious diseases came out the 1990s, the last 10 years shows the emergence of a tremendous number of bacterial and viral diseases, particularly in our region.

NIID, the former name of NIH of Japan, is a national institute. We function as a term of reference, supporting and advising the Ministry of Health in their performance of the real action to control infectious diseases. From the beginning, NIID had strong collaboration in many countries in that area. For example India and NIID have strong collaboration through JICA and the WHO. Recently we have been collaborating on noroviruses and hepatitis E viruses. The Mecca of hepatitis E science is India, who first reported control and molecular biology, cloning the hepatitis E virus. We developed a system to produce a virus-like empty particle, a good candidate for the vaccine as well as preparation of the antigen for good diagnostics. In addition to India, we have strong collaboration with Thailand, mostly at the departmental or individual scientist basis, for example on dengue virus and noroviruses. With Bangladesh we collaborate particularly on bacterial enteric diseases.

On top of that, in the APEC countries a very important research group was recently established, PulseNet Asia, targeting bacterial diseases. Our colleague, Deputy Director Watanabe, is very keen on this group. This is the epitome of a multilateral collaborative network for controlling certain bacterial diseases in this region.

Of course, our strongest collaboration is with China. A good example is the polio eradication program. I would like to take several minutes to discuss this, as polio is an important disease, and the polio control system is a model of how to control specific diseases at a global level. We also have good vaccines and vaccination, a key point in controlling disease at a global level, in addition to patient and virus surveillance. These wheels have to come together to achieve global level control.

The polio eradication laboratory network exists at three levels: each country has its own national or sub-national laboratories; then there are regional reference laboratories in each of six regions; and finally we have specialized reference laboratories in the United States, the United Kingdom, France, the Netherlands, Finland, Japan, and India. Laboratories at each level have their own special functions. This hierarchy exists to make the network more solid.
If there is a suspect patient, the national polio laboratory epidemiology group takes a stool sample and sends it to the national laboratory. The national laboratory isolates the polio virus and identifies it as polio type one, two or three. That sample together with the information is sent to a regional reference laboratory, where they determine whether it is a wildtype or vaccine virus. If it is a wildtype or related with vaccine-associated cases, this sample together will all of the information is sent to a specialized reference laboratory. For wildtype the whole nucleotide sequence is determined and whether it is a new or known strain. This information is immediately sent to WHO headquarters. In some serious cases this information will down-stream, and active additional vaccination will be done. This is a good example of the laboratory network and epidemiology network which is so important to systemize this global-level polio eradication program.

Based on this, using this system as an example, recently Japan’s special reference laboratory for polio, China’s regional reference laboratory in Beijing, and Korea’s national laboratory in Seoul recently established strong collaboration on infectious disease between NIID and the Chinese CDC. These two institutions established close cooperation to improve the health and welfare of people in the two countries and of mankind.

The areas we collaborate in are collaborative research on every kind of infectious disease: viral diseases, bacterial diseases, and parasitical diseases; also, development and training of human resources. We have a strong human bondage through JICA collaboration, WHO collaboration, and individual collaboration between universities and laboratories, and we have an annual symposium to exchange recent results. Finally, using this collaboration, the most important thing is the sharing of prompt and accurate disease information and analysis. The resultant information should influence individual countries’ decisions for public health action.

Last month, on the 22 August at NIID in Tokyo we made a special exchange of memorandum between China CDC and Japan NIID. I thought originally that because we had already started many collaborations that this was a somewhat superficial exchange of memorandum, but surprisingly this affects a lot of fields. One reason is that because of this exchange, it is easier to get financial and human support from both the Japanese and Chinese governments. In addition the mass media is very interested, because regardless of political conflict, the exchange of infectious disease information is very importance.

Like the NIID, China CDC is composed of many important national institutes. China CDC, Korea CDC and Japanese NIID have a common mission which is somewhat different from academia; we have mission work all the time; and in that sense the
collaboration is very important. At the same time these institutions support many provincial health laboratories as well, with strong national networks. On 28 April we exchanged a similar memorandum between Korea and Japan. The Chinese CDC recently combined the former NIH and the previous CDC to make a large CDC. Similarly Japanese NIID constitutes a lot of centers or institutes. Therefore a triangle of collaboration has now been established. As a first step, China CDC proposed the holding of a first annual inter-institutional symposium next year in Beijing. Yesterday Korea CDC made me a proposal for a special diarrhea symposium together, for bacterial diarrhea disease and norovirus infection control.

This is the first start of strong collaboration with the triangle in this area. Of course, there are many other countries, particularly India and Vietnam; this is the nucleus of strong collaboration in these national institutes. Without this kind of collaboration no infectious disease can be controlled completely. This triangle is the start of infectious disease control.