What Efforts Should Be Made in Asia in a Globalizing World?

Cross-boundary Cancer Studies at the University of Tokyo: The Globalization of Healthcare

Kenji Shibuya

Professor and Chair, Department of Global Health Policy, Graduate School of Medicine, University of Tokyo, Tokyo, Japan

For correspondence, please contact Hideyuki Akaza, MD, Department of Strategic Investigation on Comprehensive Cancer Network, Research Center for Advanced Science and Technology, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8904, Japan. E-mail: akazah@med.rcast.u-tokyo.ac.jp

Lecture date December 12, 2012

Received December 12, 2013; accepted December 13, 2013

Key words: cross-boundary cancer studies — the University of Tokyo — global health — healthcare — healthcare insurance system

LECTURER PROFILE

Kenji Shibuya obtained his MD at the University of Tokyo in 1991 and started his career at Teikyo University’s Ichihara Hospital in Chiba, Japan. He has been a research fellow at the Harvard Center for Population and Development Studies and worked in Cambodia and Rwanda. In 1999 he earned a doctorate of public health in international health economics at Harvard University. After teaching at Teikyo University in Tokyo, he joined the WHO’s Global Programme on Evidence for Health Policy in 2001 and was chief for the Health Statistics and Evidence Unit from 2005 until 2008. He has published papers widely on mortality, causes of death, burden of disease, risk factors, cost-effectiveness, priority settings and health system performance assessment. He spearheaded the future strategic direction of the Japanese global health policy agenda after the Hokkaido Toyako G8 Summit in 2008. He has led the Lancet Series on Japan published in 2011 in an effort to jump start the debates on Japanese domestic and global health policy reform. He is currently a core member of the Global Burden of Disease 2005, an advisory committee member for WHO health statistics and an organizing committee member for several Lancet series.

THE GLOBALIZATION OF HEALTHCARE

PERSONAL REFLECTION

My first experience and involvement in global health was when I started medical training at a hospital in Chiba. It was at that time that I first found a report that would change my life. That report was the annual World Development Report of the World Bank, and in 1993 the report presented concepts for ‘Investing in Health.’ The stated mission of the World Bank is economic growth, but at the time, the Chief Economist of the World Bank, Lawrence H. Summers had also espoused investment in people, including presenting a direction for health-related approaches. Although it was the World Health Organization (WHO) that was tasked with dealing with global health issues, its focus was primarily on maternal and child health, measures to counter infectious diseases, and the importance of access to basic medical services. The World Bank had a different view based on economics, seeking to identify how limited resources could be invested to maximize people’s health.

This was the first time for emphasis to be placed on the health of adults and disabling conditions with the reasoning being that a healthy productive population is essential for economic growth. This report provided me with a great deal of food for thought, as it pointed out that even in developing countries aging and health transition were progressing rapidly and the disease pattern was shifting from communicable diseases to non-communicable diseases. Another thing that grasped my attention was that healthcare was described not in terms of cost, but as an investment. I found the concept of investing not merely in infrastructure, but also in people, to be extremely attractive and eye-opening. Subsequently, I met one of the lead authors of the report, Christopher J. L. Murray, after which I continued to work with him for research, practice and management at both national and global levels, which have all contributed to me becoming the person I am today.
CURRENT STATUS OF GLOBAL HEALTH AND CHALLENGES

OVERVIEW OF THE CURRENT STATUS OF GLOBAL HEALTH

Healthcare is local, but it is becoming global. The term “global health” basically means the globalization of healthcare. Traditionally, public health has been restricted within predetermined boundaries or regions. International health, which was popular since the 1980s, was essentially a technical transfer and assistance from developed countries to poor countries in the South. Global health is different in that it brings together both developed and developing countries in comprehensive, cross-border, multi-disciplinary collaboration to tackle common global challenges. Its real substance lies in the fact that it provides opportunities for dialogue, joint learning and the sharing of knowledge and experience, regardless of borders and stages of development.

In the 1990s, it was the UN agencies and Development Banks that played a key role in global health. Today, the most representative stakeholders in global health are the so-called ‘Health Eight’ (H8), an informal group of eight health-related organizations and agencies comprising the public and international bodies of the WHO, United Nations Children’s Fund (UNICEF), United Nations Population Fund (UNFPA), and Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Bank, the public–private partnerships including the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), and the GAVI Alliance, and the Bill and Melinda Gates Foundation.

Since 2000 there has been an increase in public–private partnerships in global health, with the GFATM engaging in actions to fight the three diseases of AIDS, tuberculosis and malaria and the GAVI Alliance specializing in vaccinations. In public–private sector cooperation, as there is already a broad understanding about the methods of intervention in global health, efforts are concentrated on deploying large-scale, effective methods globally. In the case of vaccines, for example, these efforts involve pooling funds and introducing a business model to ensure economy of scale and measuring its impact on health outcomes. The private foundation, Bill and Melinda Gates Foundation, is now a very significant player in the global health arena, concentrating its efforts on three areas for development: global health, development and education in the United States. In terms of global health the main activities of the Gates Foundation are focused on vaccines and other high-impact and low-cost technologies.

If we take a look at the current status of global health, the average longevity globally has already reached approximately 70 years and non-communicable diseases account for a large share of the disease burden. The top 10 causes of death around the world, according to mortality statistics, include heart attack, stroke, pneumonia and cancer. However, these mortality statistics alone do not include any information on disabling conditions such as mental illness. This is the reason why the Global Burden of Disease (GBD) Study is extremely important. The GBD covers other factors relating to disease, for example, if someone dies at the age of 5 in a country where average longevity is 83 years, it can be assumed that 78 years have been lost. Similarly, in the case of people suffering from clinical depression, although they may be alive, half of their lives are spent in suffering, meaning that this time has also been lost. By including both premature deaths and disabling conditions into the rankings for global disease, we see a different picture.

Leading causes of death and disease burden, World, 2010

<table>
<thead>
<tr>
<th></th>
<th>Deaths</th>
<th>Disease burden (DALYs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ischaemic heart disease</td>
<td>Ischaemic heart disease</td>
</tr>
<tr>
<td>2</td>
<td>Stroke</td>
<td>Lower respiratory infections</td>
</tr>
<tr>
<td>3</td>
<td>COPD</td>
<td>Stroke</td>
</tr>
<tr>
<td>4</td>
<td>Lower respiratory infections</td>
<td>Diarrhoeal diseases</td>
</tr>
<tr>
<td>5</td>
<td>Lung cancer</td>
<td>HIV/AIDS</td>
</tr>
<tr>
<td>6</td>
<td>HIV/AIDS</td>
<td>Malaria</td>
</tr>
<tr>
<td>7</td>
<td>Diarrhoeal diseases</td>
<td>Low back pain</td>
</tr>
<tr>
<td>8</td>
<td>Road injury</td>
<td>Preterm birth complications</td>
</tr>
<tr>
<td>9</td>
<td>Diabetes</td>
<td>COPD</td>
</tr>
<tr>
<td>10</td>
<td>Tuberculosis</td>
<td>Road injury</td>
</tr>
</tbody>
</table>

Source: GBD 2010

Healthcare is also globalizing very quickly. There are some countries that are developing medical care as a national strategy. For example, in Thailand medical tourism is extremely popular, with ~1.5 million people visiting the country for treatment each year, with private hospitals in Thailand operating purely to serve such overseas clients. On the other hand, although universal health insurance is implemented, the public health care is not well developed. In Korea, for example, one of the world’s leading hospitals for spinal surgery now has a hospital established in an airport in Seoul. India is home to a hospital famous for its heart surgery, which boasts an annual number of approximately 10,000 operations with a 99% success rate. In addition, there is another hospital in India that specializes in cataract surgery. At both of these hospitals approximately 30% of all operations are implemented for wealthy patients, with high-quality value-added service provided, with the remaining 70% of patients being from low income backgrounds, who are provided surgery at very low cost. This tiered-pricing ensures access to high quality services at reasonable prices at every segment of the society and sustainability as the system makes profits. Cuba is another country that has focused on developing highly competent doctors, who are then dispatched overseas, which has proved another good national strategy. There are many countries in the world that do not have sufficient physicians, and the strategy of Cuba ensures that Cuban doctors are welcomed by such countries, giving a human face to aid strategy.
Taking a look at the ageing of society, we see that all kinds of non-communicable diseases and disabilities are undeniably on the rise, with developing countries being no exception. If medical industries enter the market at an early stage when medical services are still at a low level in developing countries, it can be expected that not only the investment saves lives but the industry will grow together with the development of health insurance system, and that the health sector will transition to become a growth industry in time.

One of the symbolic examples of this concept in action is the strategic official development assistance (ODA) of various countries. The countries of the Organisation for Economic Co-operation and Development (OECD) use approximately 15% of their ODA budgets in global health, whereas Japan only uses 2% of its ODA budget for the health sector. Strategic investment and involvement in the medical sector is significant in humanitarian terms, but it many countries it is also part of a greater agenda to protect national interests, by promoting growth in partner countries and creating markets. This is why other countries are engaged in such actions, to both save lives and also to invest strategically in the growth sectors of healthcare and health insurance. Japan, unfortunately, does not share such concepts.

**The Global Health Agenda and Cancer**

In terms of cancer globally, the most prevalent cancers for men are stomach, lung and liver cancers, while for women they are cervical and breast cancers. The causes of cancer are relatively well understood and treatment and prevention are possible to a certain extent. There is little difference between developed and developing countries in the survival rate of some cancers, with the mortality rate from lung and stomach cancers, for example, being high in all countries. On the other hand, although it is possible to cure some types of leukaemia with drugs, the drugs that are most effective are only available in developed countries, leading to a difference in the survival rate between developed and developing countries. There are also differences in the survival rates from cervical and breast cancers, where early detection and treatment are critical factors. Therefore, it is extremely important to engage in preventive measures before cancer develops.

In order to place a disease on the global health agenda, we need evidence by identifying the issues and causes of people’s suffering and cost-effective health intervention for the diseases that are recognized to be most serious. For example, lifestyle-related diseases were placed on the global health agenda at the 2011 United Nations High-Level Summit on Non-Communicable Diseases (NCDs) and evidence is now being provided concerning measures to control risk factors for such diseases. However, in order to further the promotion of the prevention of lifestyle-related diseases it will be imperative to boost awareness and understanding about the need to reform health systems. Although it is simple merely to place NCDs and cancer on the global health agenda, it is incredibly difficult to know what to do to tackle them. As cancer would require long-term treatment it will be essential for developing countries not to rely on aid, but to create mechanisms that enable them to tackle the challenges they face themselves.

AIDS is a good example. As developing countries could not produce the drugs for treatment themselves, the GFATM was established into which developed countries provided funds, which were then used to provide treatment drugs to developing countries. In parallel to the activities of the GFATM, negotiations also took place seeking to remove the patents from anti-viral drugs, which resulted in it being possible to receive treatment with medication for as little as US$20 per month. Currently, it is the case that developed countries pay approximately half the cost of anti-viral drugs themselves. Given that lifestyle-related diseases are certain to increase from now, it will not be possible to respond to them by relying on aid alone. Unless such a system reform is implemented, even if NCDs are placed on the global health agenda, big challenges lie ahead of us.

Although there is much discussion in the international community regarding universal health coverage, such systems are the responsibility of each country and therefore it is difficult to propose a one-size-fits-all solution. In order to realize universal healthcare coverage there are several essential conditions that need to be met: stable government, high economic growth, and younger population. There are also other factors to be considered, in particular politics. For example, in the case of Thailand under the administration of former Prime Minister Thaksin Shinawatra, a universal healthcare insurance system was introduced that covered all rural areas, which was part of Thaksin’s political agenda to gain the support of rural voters through the provision of universal healthcare. This was a tactic similar to one that had been implemented previously in other countries including Japan.

**Current Status of Healthcare in Japan and Challenges**

In 2011 Japan marked the 50th anniversary of its universal healthcare insurance system, to coincide with which the medical journal *The Lancet* featured a special issue on the Japanese healthcare system. I served as the overall coordinator for the compilation of the special issue. The source data for the analysis implemented in the special issue was an evaluation and analysis of health insurance systems developed by the WHO in 2000. We created a very simple and easy to understand input–output model using the data.

The output from a healthcare insurance system can in simple terms be said to be an improvement in population health. However, there are other outputs, such as the prevention of catastrophic payment due to disease, fair financing by pooling risk through insurance systems, and also other non-medical outputs such as responsiveness of the system. Inputs to a health system are stewardship such as regulation and management, financing and resource creation (doctors and nurses, infrastructure, etc.). Current discussion on the health system reform in Japan is entirely focused on how medical care is close to collapse due to lack of financial resources and
physicians, but this is not necessarily a substantive discussion. The actual situation facing the current health system is complex in nature and includes various issues. These include the fact that in order to increase income, hospitals are implementing larger numbers of examinations for patients and prescribing more medicines, as well as prolonging the stays of patients. What is more, the hospitals that seek to improve patient satisfaction by improving the medical environment through investment in facilities and increasing the number of doctors are seeking diminishing returns on their investment. There is a huge demand—supply mismatch due to fee schedule and old-fashioned medical education. If the system in Japan remains in its current state it is questionable whether it will be able to continue to lead to improved population health, even if further funds are provided. This is an issue that requires discussion if we are truly to seek to tackle the substantive issues that face the universal coverage system.

Japan introduced universal coverage in 1961, when conditions for the introduction of a system were in perfect alignment: high economic growth from the mid-1950s onwards, long-term stable government under the Liberal Democratic Party and a young and increasing population. There are similar conditions in Asian countries now that are comparable to Japan in the 1960s. On the other hand, the universal healthcare system in Japan is one that was designed with a developing country and if it remains in place in contemporary Japan, which is now one of the most ageing societies, the increasing number of people with non-communicable conditions and disabilities will bankrupt the system. Over the years employment patterns have changed and according to estimates there are now approximately more than 2 million people in Japan who have no medical coverage at all. While we still talk of universal coverage, the system is already in a bankruptcy. Discussion on healthcare reform must challenge the current conventional concepts. There are various options for changing the system and medical care in the Japan of the future should not seek to merely keep burdens down while treating as many patients as possible, but should rather seek to provide high value-added service that matches the values of the population.

The special Japan edition of the *Lancet* presented four proposals. The first was that the value-based health reform: the concept of ‘human security,’ currently used by Japan in its foreign policy, should now be also used in the domestic context. Healthcare insurance could be a significant agenda in human security. The second proposal concerned the role of national and local governments and asked whether the best format is for national government organizations to have decision-making powers over all aspects of medical care. The third proposal is about the quality of medical care and treatment. The current medical insurance system is a completely controlled economic structure through medical fee schedule, and yet the service provision structure is laissez-faire in nature, allowing a cancer specialist to advertise as an otolaryngologist. It is this structure that brings about a mismatch in supply and demand. The final proposal called for Japan’s healthcare and medical systems to be saved by a commitment to global health. The reason for this is that Japan can no longer continue to operate a universal coverage system that was designed for a developing country, but as universal coverage systems are developed and introduced in Asia, Japan could find an advantage in being a late starter in reform efforts and introduce a new universal coverage system based on innovations in Asia.

**Global Health as a Savior for Japan**

There are many things that Japan can learn from developing countries. For example, the development method of using a voucher-based system or conditional cash transfer for child education and medical care, with such vouchers being redeemable for cash if used for children, is a system that Japan would do well to learn from, particularly given the increasing number of people who are not covered by health insurance. In addition, task shifting is another method that could be used to increase the number of people engaged in basic everyday health management, by delegating the work of doctors, for management of high blood pressure and diabetes for example, to clinical nurses for home-based care. There are charity hospitals in India that are non-governmental, and which have managed to reconcile their charitable status with for-profit activities as a means of staying in business. These sorts of approaches are not currently possible in Japan, but it is necessary for Japan to learn about them.

However, it is likely that a Japanese style of universal coverage will be required in the countries of Asia in the future. The Japanese model of healthcare insurance could be implemented as a system to other countries. It was statesman Shinpei Goto (1857–1929) who introduced a package of reforms in Taiwan that covered agriculture, medical care and education. He implemented the promotion of development of integrated life systems, namely those that are closely related to lifestyle and quality of life. He first concentrated on medical care, working to ensure that medical knowledge was spread not just in hospitals but also throughout communities. To enhance knowledge in the area of medicine and healthcare he also worked to promote education from the perspective of human resources development and also developed agriculture from the perspective that ‘good food begets good health.’

In contemporary times the economist Jeffery Sachs has also employed a similar package in his Millennium Village Project (MVP).

Under the MVP, villages in Africa are applying Japanese models as comprehensive systems for development. As every nation requires a good health system, global health presents an extremely favourable entry point for foreign policies in the era of the inter-connected world. As Richard Horton, the Editor-in-Chief of *The Lancet* wrote, the Japanese health insurance system represents an incredibly important barometer, not just for the Japanese public, but for other people around the world. Japan possesses a great deal of soft power, and although we face political and fiscal issues at home, there are great expectations that the peaceful and health ‘Brand Japan’ can be...
exported around the world. I believe that the future for diplomacy and industrialization focused on insurance and medical care has tremendous potential. It is now necessary to set the agenda about how that potential can be realized and there is also value in what the setting of such an agenda can do for global health.

**DISCUSSION**

Q: The topic of how universal coverage systems handle NCDs in the context of global health is a becoming one that is often discussed. Is emphasis being placed on the introduction of developing country models of universal coverage, or rather the introduction of universal coverage that incorporates lessons from developed countries?

Shibuya: Both. The context for universal coverage is that in the face of increasing prevalence of non-communicable diseases it is best to make preparations by pooling risks and financial resources. As donor countries are unable to bear the entire burden of healthcare in developing countries, donors should encourage those countries to engage in efforts themselves. However, I feel that when it comes to examining what can be done specifically to implement universal coverage there are various sticking points. When introducing a system of universal coverage there is little benefit in simply installing an old, outmoded system. Innovation that utilizes technology is required. One concept would be to introduce a system based on the Japanese model, namely a developing country-style system of universal coverage, to which has been added the latest technologies. When creating such systems it is important to bear in mind not simply medical care alone, but to seek to provide added value by using medical care as a springboard to approach other sectors, such as education and agriculture. The perfect scenario would be if those sectors were subsequently developed into local businesses. These local businesses could then be reverse-imported to Japan. In Japan it is easier to create something new than to change something that is old. Brining in new ideas and businesses that have enjoyed overwhelming success in other countries would be a way to move things forward.

Q: Although Japan may be able to export its system of universal coverage, I cannot see any way of maintaining such a system other than by using a Northern European model. This ultimately causes introduction to be halted and I believe a solution to this problem has yet to be found.

Shibuya: I do not think that exporting the Japanese system is the solution but we could develop a better system with partner countries. My key message is that the only way forward is to globalize. It would be best to develop the systems that developing countries require and see them used and developed through a process of innovation in those countries, with a possibility of the evolved system then being re-imported back to Japan. In addition, it is important to perceive healthcare not as a cost, but as an investment. What is standing in the way of the development of the medical industry is too much regulation, and although there is resistance to abolishing all forms of regulation I think it would be advisable to keep regulation and guarantee of coverage to a minimum, with other items over and above the minimum level being subject to an increased individual burden.

Q: If the medical cost burden in Japan is so low, the question is who is paying for the rest?

Shibuya: Any medical and health insurance system should aim to ensure that burdens and benefits are matched, but as there are insufficient fiscal resources to cover medical costs in Japan, the shortfall is being supplemented through taxation. The functions of pooling risks and redistributing income are mixed up. There is a growing generational gap between the young and the old and there are also disparities within generations. There are usual responses to fix growing budget deficits: increasing premiums and/or taxes, increasing out-of-pocket payments or introducing private insurance. But there would be another way of transforming health care into a more modernized sector. Japan is capable of implementing further regulatory easing. Unless industries are able to engage in free competition they cannot grow. That is the reasoning behind my hypothesis that global health can be the savior of medical care in Japan.

Conflict of interest statement

None declared.