

FEATURE: OUR HEALTH FEATURE BEGINS HERE WITH A SAMPLING OF THE TYPES OF INFECTIOUS DISEASES THAT ARE MOST WIDESPREAD IN ASIA. DR. MITSUHIRO MAKAKURA GIVES US A SURVEY OF EPIDEMICS, BOTH PAST AND PRESENT, THAT HAVE PLAGUED THE ASIAN REGION.

A REGIONAL PERSPECTIVE

THE STATE OF EMERGING AND REEMERGING DISEASES IN ASIA

MITSUHIRO KAMAKURA

With a population of nearly three and a half billion—nearly sixty percent of the world's population—the Asia Pacific region has the potential to greatly influence the course and overall impact of the global pandemic of various infectious diseases.

On the global scale, a single disease such as tuberculosis (TB) kills as many as two million people each year. The global epidemic is growing and becoming more dangerous, with the spread of HIV/AIDS, the emergence of multiple drug-resistant TB, and the breakdown in health services, thus delaying diagnosis. An estimated 8.4 million TB cases have occurred in 1999, and three countries in Asia—India, China, and Indonesia—account for forty-four percent of this total. Even in Japan, which is viewed as the most developed country in the region, incidence of TB has increased during these past three years. Because HIV infection is the single strongest risk factor for TB progression, Asia-Pacific countries that have a high prevalence of HIV infection also see increasing rates of TB.

Although most patients with HIV-associated TB have typical clinical patterns, the frequency of atypical manifestations has increased, making diagnosis far more difficult. Five to ten percent of adults who are infected with HIV will develop TB each year. If HIV seroprevalence rises in ten percent of the adult population, one hundred to two hundred new cases of HIV-related TB can be expected for every one hundred thousand people in the world. In most countries, this will represent at least a twofold increase. In high-burden countries, in particular, the Directly Observed Therapy Short Course (DOTS) strategy should be promoted to investigate for cures.

HIV epidemics in Asia are diverse, localized, and have different trends over time. The spread of HIV in this region began in the early-to-mid 1980s; by the late 1980s, the transmission of HIV was rapidly increasing among several populations. Two sets of factors strongly influenced the course of the emerging epidemics in this region: patterns in sexual networking and patterns of injecting drug use (IDU). HIV infections were first introduced into several Asia Pacific nations such as Australia, New Zealand, Japan, Malaysia, Singapore, and Hong Kong, in the early 1980s, transmitted from North America and Europe. Furthermore, many intense local HIV epidemics have been documented in Asia Pacific countries among their IDU populations beginning

Mitsuihiro Kamakura
is an Assistant
Professor at the
Department of
Preventative Medi-
cine and Public
Health at the School
of Medicine, Keio
University

around the late 1980s. Such epidemic spread, which led to infection levels of over fifty percent within a couple years, have occurred in northeast India, several provinces of China, Australia, Thailand, Malaysia, Myanmar, Vietnam, and most recently, Nepal. As with all other sexually transmitted diseases (STDs), however, the major driving force of the HIV pandemic is heterosexual transmission.

From a regional perspective, short-term HIV epidemic trends are largely dependent on the extent of ongoing epidemics in a few countries: Cambodia, India, Myanmar, Thailand and China. With a population of one billion and multiple epidemic foci, India is embroiled in a complex problem, involving local outbreaks among injecting drug users as well as an extensive HIV spread among female prostitutes and their clients in western and southern states. China, because of its size and rapid changes in social and sexual behaviors during the past decade, potentially represents a major focus of the HIV epidemic in the Asia-Pacific region. There are limited HIV data, but a working estimate of one million HIV cases in the year 2000 appears reasonable. The potential for continued spread of HIV/AIDS in Asia and the Pacific is substantial and requires determined and sustained prevention efforts.

In 1996, large outbreaks of Enterohaemorrhagic Escherichia coli (EHEC) infections occurred in Japan. Initial clusters occurred in Okayama (four hundred and ninety seven infections, including two deaths) and Hiroshima (one hundred and ninety seven infections). An extraordinarily large-scale outbreak of E. coli O157:H7 occurred in the city of Sakai, Osaka, in July 1996, which reportedly caused 6,561 cases but is actually believed to have affected more than eleven thousand people. A total of 6,309 schoolchildren and ninety-two school staff members were affected, and another one hundred and sixty people have contracted secondary infections. The number of hospitalized patients peaked at five hundred and thirty-four on July 18, 1996, as the number of patients suffering from hemolytic uremic syndrome (HUS) peaked at one hundred and one on July 24, 1996. Three of these patients—all young girls—eventually died. The epidemiological investigation revealed that fresh radish sprouts, which are popularly eaten raw in Japan, were responsible for the epidemic, as all the schoolchildren ate the same school meals. Another outbreak occurred in July 1996 in a convalescent home in a surround-

ing city of Osaka (one hundred and nineteen infections). Three other small outbreaks occurred in a workplace in Kyoto, a hospital in Osaka, and a day nursery in Osaka. For these outbreaks, the radish sprouts produced by the same farm in Osaka had been consumed. The DNA patterns of E. coli, analyzed by the National Institute of Infectious Diseases, Japan, were identical among the five outbreaks. Although samples of radish seeds as well as the water from the radish sprout farm showed no trace of E. coli O157:H7, careful attention to foods should have reduced the severity of the epidemic.

Sporadic outbreaks of E. coli continue in Japan, with nine hundred and eight cases in 1997, eight hundred and eighty three cases in 1998, and five hundred and seventy-two cases in 1999. EHEC infection will continue to be an important health concern. Continuous epidemiological investigation, improvement of food safety systems, and observation of rules of food safety are important for the prevention of the food poisoning, such as EHEC.

In 1997, Influenza A (H1N1) was first isolated in Hong Kong. The virus was previously known to infect birds only. Yet there were eighteen confirmed human cases, at least six of whom have died. The onset date of the last case was

on December 28, 1997. Of these eighteen cases, nine were children under the age of twelve. Investigation of the first case indicated that the main mode of transmission of this influenza was from bird to man. The efficiency of man-to-man transmission was considered to be low, for there was a history of exposure to poultry in seven of the eighteen cases. Thus, an authorization to slaughter all chicken in local chicken farms and all poultry at wholesale markets was effectively carried out. In May and June 1999, a similar strain of H1N1 viruses was reported in New Caledonia. Continuous surveillance and preparation of vaccination for this type of influenza are therefore necessary.

From September 1998 to April 1999, two hundred and twenty-nine cases of febrile encephalitis were reported to the Malaysian Ministry of Health. During March 1999, nine cases of similar encephalitic illnesses and two cases of respiratory illness occurred among abattoir workers in Singapore. Tissue culture isolation from central nervous system specimens identified a previously unknown infectious agent. Additional



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PROSPERITY VERSUS PATHOLOGY

A SOCIAL HISTORY OF OBESITY IN CHINA

JAMES L WATSON

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Thirty years ago most Chinese people celebrated plumpness as a sign of prosperity and robust health. Many businessmen of my acquaintance worked hard to put on extra body weight, consciously eating calorie-rich meals at every opportunity. Similarly, plump babies were much admired as symbols of good luck and were depicted as such in popular art and religious iconography. The opposite condition—thinness—was avoided at all costs, given that an emaciated body represented bad luck, illness, and early death. Chronic food shortages were imprinted in the living memories of most adults who lived in the New Territories in Hong Kong (the site of my anthropological research) during the 1960s and 1970s. The Chinese famine of 1958-60, known euphemistically as the “three bad years,” killed more than thirty million people and was directly responsible for a huge influx of refugees into Hong Kong.

James L Watson
is a Fairbank Professor
of Chinese Society
and a Professor of
Anthropology at
Harvard University

The stigma of emaciation was such that even during affluent years thin people had difficulty finding marriage partners. It was assumed that they would not live to bear or support children. If special bulking diets did not help, villagers consulted shamans (*wenmipo*) to determine if supernatural forces were causing a secret affliction. The culprits usually turned out to be aggrieved ancestors who were “eating” the health and vitality of a descendant in retaliation for neglect or mistreatment. Plumpness, by contrast, was perceived as a clear indication that the person so blessed was in harmony with the supernatural world.

Until recently, therefore, ordinary people in China worried more about increasing their body weight than reducing it. Obesity did not become a recognized pathology in popular consciousness until the late 1980s; prior to this

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laboratory investigation suggested that a virus related to Hendra virus (formerly called equine morbillivirus) was responsible for these illnesses. Additional laboratory testing, including preliminary nucleotide sequencing information, indicated that the virus was related but not identical to the Hendra virus and was named the Nipah virus. Illness has been characterized by three to fourteen days of fever and headache, followed by drowsiness and disorientation that can progress to coma within twenty-four to forty-eight hours. Of the two hundred and twenty-nine cases, most have been men working on pig farms. Five cases have been reported in Malaysian abattoir workers exposed to swine. No cases have been reported

among health-care workers caring for infected patients. Preliminary assessment suggests that spread of the virus among states in Malaysia has occurred through transport of infected swine. Susceptibility of other animal species is not known.

In 1997, a non-governmental surveillance group for Creutzfeldt-Jakob disease (CJD) in Japan reported its analysis of a 1996 mail questionnaire survey to the Ministry of Health and Welfare. This analysis identified eight hundred and twenty-nine patients with CJD who had been diagnosed by physicians from January 1979 to May 1996. Of these patients, forty-three had received a cadaveric dura mater graft during a neurosurgical or orthopedic

procedure. The findings indicated that an international outbreak of CJD associated with a single brand of dura mater grafts is larger than previously recognized and that recipients of contaminated grafts may remain at risk for CJD at least sixteen years following the procedure.

Infectious diseases are still responsible for almost half of the deaths in developing countries. Approximately half of the deaths due to infectious diseases can be attributed to just AIDS, TB, and malaria. These three diseases cause over three hundred million illnesses and more than five million deaths each year. We are now at a time to reconsider the historical burden of infectious diseases. ■