News

China's tobacco burden: large and different[1]

One hundred million young Chinese men—one in three of the entire male population now aged ≤29 years—will be killed by tobacco, many of them in productive middle age. This is the conclusion of a Chinese-led international team of epidemiologists who have studied the impact of smoking on health in the world's largest nation.

Their conclusions are based on two studies of unprecedented size, the first of their kind in any developing nation. In the first, the families of almost a million individuals who had died across China between 1986 and 1988 were interviewed to find out whether the deceased person had smoked or not. Death certificates were divided into four groups by cause of death: respiratory, cancers, vascular diseases and all other causes.

Using the "other causes" group as a reference group or baseline, the researchers examined the excess of smokers in each of the other three groups and calculated what fraction of the deaths in each could be attributed to tobacco.

In the second study, the epidemiologists interviewed some 225 000 individuals about their smoking habits and are now following their progress for several decades. The first 10 000 deaths in the cohort were analysed for this study.

Both studies show that tobacco was already killing 12% of Chinese men by 1990. But, because tobacco's damage to a population's health takes several decades to become fully apparent, these deaths reflect the smoking habits of the 1970s and earlier. Today's higher rates of cigarette consumption by Chinese men mean that by the middle of the next century some 33% of them will be killed by tobacco.

The study revealed some surprises. While the overall proportion of persistent smokers who will eventually be killed by tobacco is the same as in the industrialized world — about half — the pattern of diseases that kill smokers in China is strikingly different. In China, the most common cause of death for smokers was respiratory disease, mainly chronic obstructive pulmonary disease, accounting for 45% of the smoking-related deaths. In the West, ischaemic heart disease is the commonest cause of death among smokers, and respiratory disease accounts for only 15% of smoking-related deaths. Importantly for policy-makers, tuberculosis was as likely as heart disease to be a cause of death among Chinese smokers.

Richard Peto, from the University of Oxford, England, one of the researchers who carried out the studies, said that the results underscore the importance of studying the impact of smoking in all regions, not just the West. "The pattern in developing countries is going to be much more heterogeneous," he said.

A second surprise was that young Chinese women appear to be giving up smoking. While today tobacco accounts for about 3% of women's deaths, the proportion could fall to just 1% by the middle of next century.

The work was done by researchers at the Chinese Academy of Medical Sciences and the Chinese Academy of Preventive Medicine in Beijing, together with the University of Oxford, England, and Cornell University, Ithaca, New York. The studies were published in November (*British medical journal*, 1998, **317**: 1411–1422; and 1998, 317: 1423–1424). The study methods used by the team are already being adopted in India and elsewhere to gauge the size and shape of the tobacco epidemic in other nations. ■

[1] For more details of the two Chinese studies see the following Website: http://www.bmj.com

Honours for an economist who showed that health matters[2]

An economist who convinced his peers of the importance of health for human well-being has won a Nobel prize. Amartya Sen, a citizen of India and Master of Trinity College, Cambridge, England, was awarded the 1998 Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel for his contributions to the study of welfare economics.

Sen is best known for his studies of poverty and equity. He has done wide-ranging work covering the theory of social choice, definitions of welfare and poverty indexes, and empirical studies of famine. His work brings out the importance of health care to human well-being, and demonstrates the centrality of this concern for economic and social policies. He argues that what creates welfare is not goods as such, but the activity for which they are acquired. Thus, income is significant because it creates opportunities (or "capabilities") for people. But to assess an individual's capabilities, the economist must take account of other factors as well as income, such as the individual's health and level of education.

"The great thing about Sen," says Tony Culyer, a leading health economist at the University of York, England, "is that he is both an economist's economist, a masterly theorist, but also an economist for every person... He is not only a brilliant economist but a philosopher and one who has his feet firmly on the ground."

Sen has not allowed himself to be confined to an ivory tower, says Culyer. His work has broadened economists' understanding of welfare into one that takes account of individuals' state of being, says Culyer; it argues that social organizations should enhance people's capabilities so that they can lead fruitful lives. Today,

[2] For more details of the Nobel prize, see the following Website: http://nobelprizes.com/nobel/economics/1998a.html

indicators such as those used by the UN Human Development Index reflect this understanding that well-being is determined by many factors.

Sen, who was awarded the prize on 14 October, heard the news in New York at 0515 local time, he says—"about twenty minutes before it was announced". He is pleased, he says, that the Nobel committee's description of his contribution emphasizes his work on theory as well as its application to the problems of equity and deprivation.

He was born in Bengal in 1933 and has held posts in India, the USA and the UK. In 1998, he left professorships in economics and philosophy at Harvard University to become Master of Trinity College. ■

Malaria initiative gains momentum

WHO's new Director-General, Gro Harlem Brundtland, acted swiftly on her arrival in office to tackle one of sub-Saharan Africa's greatest health threats. She announced the start of a new initiative called Roll Back Malaria (RBM) — a campaign intended to curb a disease that kills a million people every year, most of them children in poor African countries.

Malaria causes up to 500 million cases of illness each year. The economic costs, including control efforts and working days lost through illness, are estimated to be between 1% and 5% of the gross domestic product of affected African countries. Poverty, disintegrating health services, war, rapid urbanization and the mass movement of refugees have all fuelled the spread of the disease in recent years.

RBM is different from previous approaches to controlling the disease. As well as seeking to develop new tools, it is intended to strengthen the health systems catering for the populations most heavily affected by malaria so that they can deliver the existing tools for preventing and treating the disease more efficiently and equitably. This means, for example, making insect-impregnated bednets more widely available and improving access to treatments with the existing drugs, which can save many lives. RBM's approach will also seek to involve less formal healthcare providers in communities, including drug vendors and traditional healers. The project is jointly sponsored by UNICEF, UNDP, the World Bank, and WHO. Its budget over the first 18-month planning stage is just under US$ 20 million.

Tore Godal, RBM's acting project manager, said the first year's priorities included the formation of clear strategies in each affected country. These strategies would need to take account of the realities of the health system, he said. Godal added that the provisional findings of assessments of each country's needs had revealed that, in many cases, the situation was worse than expected. "People are given substandard treatment and the use of health facilities seems to be minimal even where they exist," he said. "That just provides further justification for Roll Back Malaria."

Within five years, he hopes, the project "will really make a difference in the field". He envisages more potent combinations of drugs that should help to slow the emergence of resistant malaria parasites; and, equally important, advances in the delivery of health services that would enable more people to benefit from the existing drugs and the best standards of existing care and prevention. In addition, the project's goals include more accurate measurement of malaria's impact on child survival, using "sentinel" sites across the sub-Saharan African region. ■

AIDS shortens life and dents economic growth across Africa

HIV infections continues to take a severe toll on life and health in sub-Saharan Africa, according to the latest figures released by the United Nations. The UN Population Division in New York in last autumn released figures suggesting that AIDS has taken fully seven years off the average life expectancy at birth of a baby born today in any of 29 affected African countries. In the absence of AIDS, life expectancy for these countries would average 54 years, but HIV has reduced that figure to 47 years.

In certain countries where more than 10 % of the adult population is infected with HIV, including Botswana, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Africa, Zambia and Zimbabwe, the UN says that the virus may have reduced life expectancy even more sharply, by 10 years. And, as the spread of the virus continues, its impact will worsen, with babies born between 2010 and 2015 facing lives that are on average 17 years shorter than they should have been — 43 years instead of 60 years in the absence of AIDS. But, because birth rates are generally high in the region, no African country, however hard-hit, is expected to see the overall growth in its population reversed.

A similarly disturbing picture for southern Africa was described by the Joint UN Programme on HIV/AIDS (UNAIDS) on the eve of World AIDS Day, 1 December 1998, based on the same epidemiological and demographic models. In 1998 two million people died of AIDS in sub-Saharan Africa, according to the agency. While these deaths reflect infections that happened several years ago, new infections continue to occur at "alarming" levels, says UNAIDS. In nine severely affected southern African countries, the agency estimates, a total of 1.4 million adults became infected in 1998, half of them in South Africa alone. By 2005, it is expected that South African companies will be paying out AIDS-related benefits equivalent to 19% of their salaries' bill. Studies from other African countries show that households whose breadwinner has AIDS lose most of their income, while their children's education is sharply reduced. Zimbabwe is expected to have 0.9 million "AIDS orphans" by the year 2005. ■