



## Global Male Longevity Gap Persists

### Male Mortality Remains on the Rise Worldwide

by Alan D. Lopez, Ph.D., Team Coordinator, Epidemiology and Burden of Disease, World Health Organization, Geneva

Each year, males account for more than half (53 percent) of the 50 to 54 million deaths worldwide. Not only do more males than females die annually, but death rates for males are higher than for females at all ages, with only one or two exceptions among young girls and women of reproductive age in South Asia. Long-term declines in death rates have also been less impressive for men than for women, with the result that the female advantage in life expectancy at birth has widened in most industrialized countries from two to three years at the turn of last century to seven to eight years at the turn of this one. Public health experts from the World Health Organization (WHO), the Harvard School of Public Health, the World Bank and other organizations have examined the sex differentials in mortality and attribute this widening gap largely to differences in lifestyle practice, notably the higher prevalence of cigarette smoking among males.

#### Regional Trends

In the early 1990s, WHO's Global Burden of Disease Study estimated age- and cause-specific death rates and life expectancy, projecting the burden of disease (and life expectancy) worldwide for the period 1990 to 2020 for eight major regions of the world: the Established Market Economies (EME); the Former Socialist Economies of Europe (FSE); India; China; Latin America and the Caribbean (LAC); Sub-Saharan Africa (SSA); Middle-Eastern Crescent (MEC) and Other Asia and Islands (OAI).

The study found that, in 1990, male life expectancy at birth was, not surprisingly, highest in the EME region (74 years) and lowest in SSA (47 years). Meanwhile, males in LAC, FSE and China could expect to live 67 to 68 years at birth, reflecting the significant health gains in China and Latin



World Bank, 1999/01, Joe Losen, Health Canada

An early start and a lifetime of smoking forecast premature death -- and impotence -- in males.

America over the past few decades; and male life expectancy was around 60 in OAI and MEC, and around 57 in India.

A much more dramatic view of the significant gaps in male mortality between rich and poor regions of the world, however, is given in Figure 1, which shows the risk of male death within three age groups: birth to 15; 15 to 59; and 60 to 69. The excess risk of child death in Africa and (to a lesser extent) other developing regions is

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### WARNING: Smoking Causes Impotence

by Clive Bates, Director, and Jade Saunders, Researcher, Action on Smoking and Health, London

“Smoking causes male sexual impotence,” warned UK-based Action on Smoking and Health and the British Medical Association in a 2 June 1999 report calling on the UK government and the European Union to add such warning labels to tobacco products.

Smoking is the largest single preventable cause of male mortality worldwide, accounting for at least one-third of all male deaths. Yet, nearly 50 percent of all men smoke, risking not only death, but more than 25 tobacco-related, life-threatening conditions, including lung cancer, cardiovascular disease and stroke. Sexual impotence is yet another smoking-related health

risk that demands public attention and policy reform.

Impotence, or penile erectile dysfunction, is the repeated inability to achieve or maintain an erection. Few official statistics exist concerning the incidence of this condition, however a major study in the United States found that one in every 13 American men between the ages of 20 and 39 is impotent. This number increases with age, with roughly 1 in 10 adult males suffering from the condition worldwide. That's the equivalent of 2 million impotent men in the United Kingdom alone, estimates the UK Impotence Association. In approximately 75 percent of cases the cause

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# CECheck-Up

Male life expectancy is seven to eight years less than for females, almost at all ages and in all countries! The origins, causes, trends and potential remedies for this tragic gender gap are the foci of this issue of the *Global Health and Environment Monitor*. To examine these issues, the *Monitor* goes to experts at the World Health Organization in Geneva and around the globe and reveals their individual and collective wisdom in presentation, analysis and commentary on the data and trends and a new policy agenda to assure men around the globe the best chance for longevity and good health.

WHO's Alan Lopez opens the issue with an illustration of global male mortality trends, pointing out the causes, projecting the future and proposing three priorities for reversing the downward spiral. Clive Bates of the United Kingdom's Action on Smoking and Health follows with discussion on yet another health threat to males from tobacco – erectile dysfunction – and proposes special labeling of tobacco products to inform and motivate the public against tobacco use. In the *Insider's View*, Dr. David Zaridze of the Russian Academy of Medical Sciences relates the trends, causes and remedies for the low life expectancies confronting men in CEE/NIS, especially Russia. The *Centerfold* illustrates three major causes of male morbidity and mortality – cardiovascular disease and cancers of the prostate and esophagus – and highlights some of the *good news* on CVD. In *Policy Beat*, Dr. C. Gopalan of the Nutrition Foundation in India challenges governments in developing countries to adopt proactive, prevention-oriented policies to avert the projected high male death toll in that region. And, *CECHE in the News* features CECH's TV series *Elixir of Life*, which addresses lifestyle approaches to CVD prevention – the leading cause of male morbidity and death around the globe.

"The time has come to give priority to alleviating the causes of the substantially higher mortality in males compared to females," Dr. Gopalan appropriately notes. We at CECH are working to do our part to curb the gender gap and encourage better health – and longer lives for all humans – worldwide.

-Sushma Palmer, D.Sc.,  
Chairman

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## ... Mortality

clear: While a newborn male in EME has, on average, a 2 percent chance of dying before his 15th birthday, a male born in SSA has a 25 percent chance of dying – about twice the risk observed in India, MEC and OAI.

Higher death rates in SSA are not restricted to childhood, however. A male in SSA who survives to age 15 has an almost 40 percent chance of dying before he reaches age 60 – higher than anywhere else in the world, and about three times the risk (13 to 14 percent) of a male in EME. Communicable diseases, noncommunicable diseases and injuries contribute equally to the elevated risk of death of African males. Interestingly, the second highest risk of premature adult male death occurs in FSE, about twice the level of EME, with noncommunicable diseases and injuries the main contributors.

The alarmingly high death rates among adult men in FSE represent one of the major public health reversals of the 20th century. While male mortality has risen to some extent in most, if not all, Eastern European countries, the rise was most dramatic in Russia, where male life expectancy fell six to seven years between 1987 and 1994, according to McKee et al. at the London School of Hygiene. Subsequently, mortality has declined but still remains above the levels of the mid-1980s.

### Hopeful Signs and Forecasts

Since the 1950s, significant changes have occurred in the epidemiological pattern for men in countries where it can be reliably monitored. Perhaps the most impressive has been the vast decline in coronary heart disease (CHD) and stroke deaths. Following a brief rise in many countries in the late 1950s and early 1960s, death rates from these two major vascular conditions began to drop, first in the United States in the late 1960s, and subsequently in other industrialized countries. By the early 1990s, death rates from CHD and stroke, were, on average, 50 percent less than in 1950, and they have continued to decline.

Male mortality from motor vehicle accidents has also been dramatically reduced due to a variety of public health and legislative measures. Between 1950 and 1970, these death rates rose by almost 50 percent, but then began a sustained decline, with death rates in the mid-1990s 25 percent less, on average, than in 1950, despite a massive increase in the number of cars and distances driven.

In addition, the epidemic of lung cancer in men may be abating. Notwithstanding the substantial inter-country differences in lung cancer trends reflecting differences in national smoking patterns, male mortality

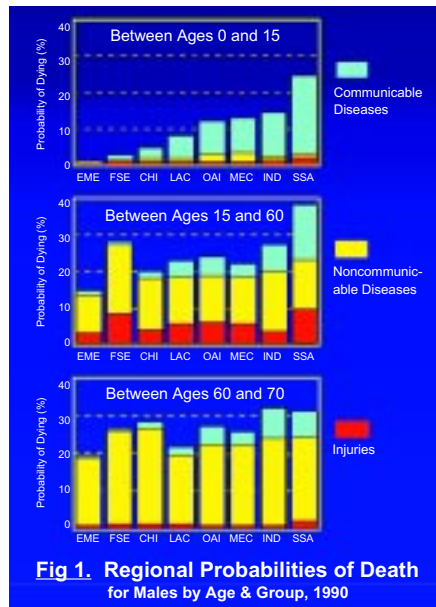


Fig 1. Regional Probabilities of Death for Males by Age & Group, 1990

from lung cancer seems to have peaked in many countries as older cohorts of heavy smokers are progressively replaced by cohorts whose prevalence is much lower. As a result, male lung cancer mortality, after rising 170 percent between 1950 and 1990, has begun to drop. Conversely, female lung cancer mortality is rising in all countries where it can be reliably monitored, and has jumped 300 percent since 1950, with little indication of a slowdown.

### Challenges and Priorities

Large differentials in male mortality between and within populations will undoubtedly persist over the coming decades unless public health action, coupled with social and economic development, is accelerated. Furthermore, three challenges to improving the health and survival of males worldwide require urgent and focused attention:

- Attending to the large, unfinished agenda of reducing the major causes of childhood deaths in Africa and other developing regions
- Averting the looming catastrophe of preventable tobacco deaths – which will continue to dominate male mortality patterns in adulthood for decades to come, killing an estimated 7 million people a year (mostly men) in developing countries by 2030, according to Richard Peto at the Radcliffe Infirmary at Oxford
- Reversing the alarming increase in SSA of HIV/AIDS, which now kills an estimated 1.8 million Africans each year, and is the leading cause of male (and female) death in the region.

Tackling these public health crises now could accelerate the recent gains in male life expectancy. §

# Russian Men Face Worst Health Prospects in World

by David Zaridze, M.D., D.Sc., Director, Institute of Carcinogenesis, Cancer Research Center, Russian Academy of Medical Sciences, Moscow



In 1994, a 35-year-old male living in Russia faced a 64-percent probability of dying before the age of 69. Today his chances aren't much better.

The life expectancy of Russian men began to fall in the mid-1960s. And despite a brief period of improvement in the mid-1980s which coincided with restrictions on alcohol production and sales in the former Soviet Union, it has remained low.

## Comparatively Speaking...

The World Health Organization and the World Bank estimate that in 1990, mortality rates from all causes in men 15 to 59 years old living in the Former Socialist Economies (FSE) were higher than in any other region of the world except Sub-Saharan Africa. The major culprits then were noncommunicable diseases and trauma — not infectious diseases, deaths from which were among the lowest in the world in FSE.

Mortality rates for middle-aged Russian men (35 to 69 years old) from vascular diseases, malignant neoplasms, lung cancer, chronic obstructive lung diseases and non-medical causes were also among the highest in the world in 1990 — and nearly double the rates observed in the United States and United Kingdom for men the same age. For example, deaths from vas-

cular diseases for Russian males in this age group numbered 925 per 100,000, while the corresponding rates in the United States and United Kingdom were 429 and 444 per 100,000, respectively. Death rates from all malignant neoplasms and lung cancer in Russian men 35 to 69 were 560 and 206 per 100,000 in 1990. Corresponding rates in American and British men were considerably lower: 348 and 358 per 100,000 from all malignant neoplasms and 139 and 124 per 100,000 from lung cancer. And American and British male mortality rates from chronic obstructive lung diseases (42 and 50 per 100,000) were less than half the Russian rate (122 per 100,000).

Non-medical causes, however, account for the most striking difference between Russian and Western male mortality rates. In fact, in 1990, middle-aged Russian men were six times more likely to die of motor vehicle and traffic accidents, intoxication, suicide, homicide, and other trauma and violence (310 per 100,000) than their British peers (50 per 100,000) and more than three times as likely to die of such causes than American men the same age (87 per 100,000).

## Why Life Expectancy Declined

The health of Russian males suffered as the Soviet Union collapsed. Mortality rates from all noncommunicable diseases (except cancer), non-medical causes and infectious diseases sharply increased, with dramatic jumps in deaths from vascular diseases and non-medical causes in men 35 to 69 years old. (See graph.) By 1994, male life expectancy in Russia had dropped to a low of 57.6 years.

Four years earlier, Richard Peto of the Radcliffe Infirmary at Oxford and colleagues estimated that 52 percent of Russian men who were 35 years old in 1990 would not reach 69 years of age, and 21 percent of them would die from smoking-related complications. (By 1994, this figure had risen to 25 percent.) In fact, tobacco currently is responsible for as many as 96 percent of all deaths from lung cancer, 57 percent of all cancer deaths, 64 percent of deaths from chronic obstructive lung diseases, and 48 percent of all vascular deaths in middle-aged Russian men.

Poor nutrition is another source of high male mortality. The diet of the Russian people, especially in the north and Siberia,

has long been nutritionally inadequate. A lack of fresh fruits and vegetables, inappropriate food storage facilities, and an abundance of fatty foods and smoked and salted meats all catalyze high death rates from vascular diseases, gastric cancer (the second most common cancer in males) and other cancers of the digestive tract. Low consumption of fresh fruits and vegetables, coupled with the excessive intake of hard liquor, also increase the risk of smoking-related malignancies, including cancers of the oral cavity, larynx, pharynx, esophagus and lung.

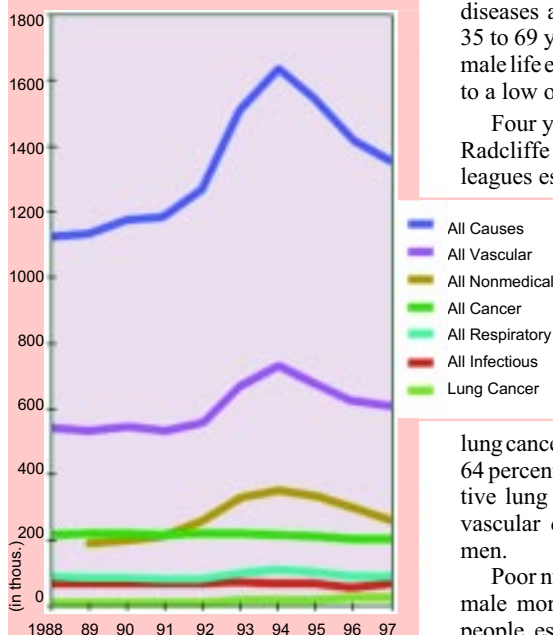
Common phenomena in Russian males, excessive alcohol consumption and binge drinking are primary reasons for the high mortality from non-medical causes — the third most important cause of death among Russian men after vascular diseases and cancer. A sharp increase in alcohol consumption and the easy availability of strong alcoholic beverages in Russia in the early 1990s immediately after prohibition helped “turn the tide,” leading to a dramatic increase in mortality from both non-medical causes and vascular diseases. Infectious diseases also surged, emboldened by the deterioration of the Russian public health system, namely the neglect of established vaccination practices by public health authorities and the dramatic decline in the socioeconomic status of the Russian population.

## All Is Not Lost...

Then, as 1995 approached, Russian male mortality trends seemed to do an about-face. (See graph on left.) And while male mortality from all causes decreased 17 percent between 1994 and 1997, the crisis of the Russian public health system, the transition from socialized, free health care to a market economy (which was not and still is not backed by an efficient social security system), and a decline in the quality of primary health care prevailed, contributing to relatively lackluster gains overall.

But the news isn't all bad, and one thing is clear: The majority of premature death in Russia — as elsewhere — is preventable. A major dent in the male death toll *can* be made. This requires political will, government commitment and, most importantly, active public support — which, with the help of public-health activists and medical personnel, is within both reach, and reason. §

**Trends In Russian Mortality**  
Age-Standardized Rates for Males, 1988-1997



# Three Male Health Challenges -

## CVD Mortality Declines, Points To Prevention in Developing Countries

by Peter W. F. Wilson, M.D., Framingham Heart Study, Associate Professor of Medicine, Boston University School of Medicine, Framingham, Mass.

Long established as the leading cause of death in American — indeed Western — men, cardiovascular disease is killing fewer and fewer males in North America and Western Europe. Declining death rates following a heart attack have been evident since the late 1960s in many industrialized countries; and a variety of factors, including hypertension control, improved care of coronary patients and better outpatient care of coronary survivors, contributed to such success. Recent studies continue to suggest that American victims of a heart attack in the 1990s experience better survival than in the 1980s. Furthermore, a series of longitudinal investigations from across the globe have demonstrated that preventive approaches can effectively lower cardiovascular disease (CVD) risks for modern industrialized societies, and that contemporary treatments can control blood pressure and abnormal lipid and glucose levels in diabetics — all CVD risk factors.

Despite this good news, CVD has emerged as the number one cause of adult mortality worldwide. In 1990 alone, ischaemic heart disease and cerebrovascular disease accounted for a total of 10.5 million deaths, more than one-third of all deaths from noncommunicable diseases for that year.

CVD is also a leading cause of male mortality, although global patterns vary. For example, among 170,000 people followed from the mid-1980s to the mid-1990s as part of the World Health Organization's Monitoring Cardiovascular Disease (MONICA) Study, men living in parts of Finland recorded 10 times the heart attack rates of men in Beijing.

As developing nations gain control over the scourge of communicable, maternal, perinatal and nutritional disorders, however, they seem to face the challenges — and CVD risk factors — of modern society: inactivity, obesity, higher cholesterol levels and hypertension. Hence, a recent update from the MONICA Study revealed an increase in coronary events and coronary mortality in Eastern Europe and Asia, including Beijing, while showing a drop in coronary mortality in many parts of the industrialized world, including North Karelia, Finland.

Both a predecessor and peer of the MONICA Study, the Framingham Heart Study (FHS) has been examining CVD patterns and risks for over half a century in more than 10,000 adults in Framingham, Mass. Launched in 1948 and ongoing, the FHS identified high blood pressure and cholesterol, smoking, obesity, diabetes and physical inactivity as CVD risk factors, and it unveiled the effects of related factors such as age and gender on CVD. In 1987, for example, FHS data revealed that high blood cholesterol levels correlate directly with the risk of death in young men. And, recently, based on the experience of male FHS participants, researchers estimated the lifetime risk of CVD. At age 40, for example, the lifetime risk of a heart attack for Framingham men was 49 percent. This risk declined with age, but even in 70-year-old men free of CVD at entry, the risk was 35 percent.

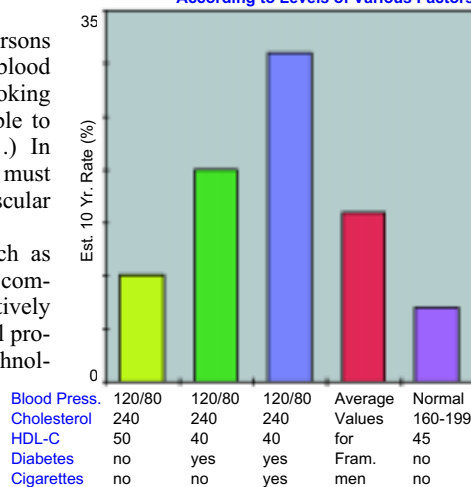
These estimates forecast an extremely heavy societal burden for the prevention of CVD. Because the overall impact of CVD decreases only modestly as persons from industrialized nations advance from middle to old age, preventive programs must favor low-cost, population-based strategies.

CVD prevention is already the target of several initiatives. In the United States, three programs have emerged from the National Cholesterol Education Program and Joint National Committee on Hypertension, and the guidelines of the European Society of Cardiology and European Atherosclerosis Society are gaining wide acceptance. The cornerstone of these approaches is the development of evidence-based consensus statements directed to primary and secondary prevention and designed to avert initial and recurrent CVD events in adults.

Meanwhile, the modern approach to identify and treat persons at risk for CVD must be multifactorial. For instance, if age, blood cholesterol level, HDL-cholesterol level, blood pressure, smoking habits and diabetes mellitus status are known, it is possible to estimate a man's risk for a first heart attack. (See Figure 1.) In addition to screening for these risks, prevention programs must consider the importance of family history of premature vascular disease and other factors.

Contemporary technology and acute interventions such as thrombolytic therapy, angioplasty and bypass surgery — commonly used in CVD care in Western countries — are prohibitively expensive for developing countries; however, multifactorial programs currently in development employ lower levels of technology. Transfer of these new approaches, low-cost technology and Western experience in combating CVD to regions that are developing their own preventive programs is achievable — and necessary. §

Estim. 10-Yr CVD Risk in 55-year-old Man According to Levels of Various Factors



## Esophageal Cancer

by Dongxin Lin, M.D., Cancer Institute of Medical Sciences

**W**anted: Male, preferably Asian, impoverished, poor dietary habits. Death wish required.

Esophageal cancer needs no publicity. It is the eighth most commonly occurring cancer in the world, esophageal cancer occurs more often in men than women, with a male-to-female ratio of 2:1; in 1996, for example, 320,000, or 66 percent of all cancer deaths in men. Most victims live in the "esophageal cancer belt" of central China westward through Central Asia to northern Africa; for about half of the world's cases — 250,000 — esophageal cancer incidence occurs in the developing world, according to the World Health Organization. Once diagnosed, survival rates for esophageal cancer are poor: 50 percent of patients die within a year, and five-year survival rates are less than 10 percent.

Rare over larger tracts of China, esophageal cancer incidence is high in certain demarcated areas of the country — where the incidence of cancer reaches considerable heights. In Linxian County in Henan Province, the incidence of cancer from the disease is as high as 160 per 100,000. And in Linxian, esophageal cancer in low-risk areas in China has markedly decreased over time (dropped by more than half between 1972 and 1989), suggesting a changing among the indigenous populations of high risk.

Large differences in incidence within small geographic areas and changes in incidence over time suggest that socioeconomic and lifestyle factors play a predominant role in the etiology of esophageal cancer. In high-risk groups, for example, are at a higher risk for the disease (due to lifestyle factors). Among lifestyle factors, smoking and alcohol consumption are major factors. In addition, consumption, particularly when combined with cigarette smoking, increases the risk as much as a fourfold increase in risk.

Other etiological factors most likely include: diet low in fruits, vegetables, micronutrients and bioactive compounds; consumption of pickled vegetables containing mycotoxins and nitrosamines; and consumption of citrus fruits, as well as green, yellow and leafy vegetables, which are associated with esophageal cancer.

The hypothesis that nutrient deficiencies increase the risk of esophageal cancer is supported by large-scale intervention studies among high-risk populations. For example, because populations residing in these esophageal cancer belts have low intake or low plasma levels of vitamins A, C, beta-carotene, and other elements such as zinc and selenium. Other studies have followed 30,000 adults to study cancer incidence.

Another trial in China studied 3,300 individuals in Linxian who received either a placebo or a multivitamin. The incidence rate of esophageal/gastric cardia cancer was significantly lower in the group compared to the placebo group. Furthermore, the incidence rate of esophageal cancer was also lower.

So far, intervention trials have not demonstrated that lifestyle changes can affect the development of esophageal cancer. However, to identify both specific risky lifestyle factors and susceptibility to the cancer, and to monitor and prevent the disease. Meanwhile, endoscopy for screening and treatment of precancerous lesions appears useful and necessary. Such screening may also permit a focus on high-risk areas and opening the door to prevention in China and around the world. §

# - The Good News and The Bad

## Prostate Cancer Looms Large; Prevention Crucial, Complicated

by Edward Giovannucci, M.D., Sc.D., Channing Laboratory, Department of Medicine, Brigham & Women's Hospital and Harvard Medical School, and Departments of Nutrition and Epidemiology, Harvard School of Public Health, Boston

### Favors Men, China

Institute and Hospital, Chinese Academy of Sciences, Beijing

associated with smoking and/or drinking problem and diet.

China already has plenty of people by the throat.

and the fifth most common cause of cancer deaths in

males than females, at a ratio of about

all esophageal cancer cases, occurred

er belt," which stretches from north-

northern Iran. In fact, China accounts

each year, and 85 percent of the total

d, according to the World Health

esophageal cancer are poor: 75 percent

al rates are only 5 to 10 percent.

ancer occurs mainly in a few sharply

incidence and mortality rates rise to

an Province, for example, mortality

although the incidence of esophageal

decreased (for example, rates in Shanghai

), there is little evidence that rates are

high-risk areas such as Linxian.

geographic confines and sharp changes

and environmental factors may play

carcinogenesis. Lower socioeconomic

disease (possibly because of diet and

ing is an established cause of esoph-

ancing evidence that excess alcohol

igarette smoking, is responsible for as

ets that are monotonous and lacking

e compounds; and moldy food and

rosamines. Alternatively, tomatoes

vegetables, appear to protect against

esophageal cancer risk has prompted

populations in China. This is relevant

ancer risk areas often have a low

-carotene, riboflavin and other trace

one such double-blind randomized trial in Linxian

incidence and mortality. Five years of supplementation

al combinations, however, showed little impact on

individuals with esophageal dysplasia who randomly

n preparation for six years. The cumulative mortality

was 8 percent lower in the nutrient-supplemented

out the difference was not statistically significant.

geal/gastric cardia cancer was similar in both groups.

monstrated that the nutrient supplements studied to

al cancer; however, increased efforts are underway

practices or environmental exposures and genetic

tor populations for early indicators of the disease.

and early detection of esophageal cancer and its

increases the potential for early treatment and cure.

on prevention, targeting high-risk individuals with

or to new techniques to reduce the current death toll



Chinese men -- at high risk for esophageal cancer -- and Indian males -- at low risk for prostate cancer -- are both threatened by poor diets and smoking.

It's difficult to detect and has few established risk factors apart from being older and male; yet prostate cancer is the fourth most commonly diagnosed cancer in men worldwide and the seventh most common cause of malignant death in males.

Incidence of prostate cancer varies profoundly, with an almost 70-fold difference between the populations with the lowest (the Far East and Indian subcontinent) and highest rates (Western Europe, Australia and North America). Based on a common age standard, the annual incidence of prostate cancer in the late 1980s was approximately one per 100,000 men in China compared to 62 and 82 per 100,000 for U. S. Caucasians and African-Americans, respectively. Mortality rates also vary widely; in Japan four out of every 100,000 men die annually of prostate cancer, whereas in Canada, France, Germany, the United States and the United Kingdom, the annual mortality rate ranges from 16 to 18 men per 100,000. In fact, with about 40,000 deaths annually, prostate cancer is the second leading cause of cancer death in American males.

Prostate cancer incidence increases exponentially with age at a faster rate than any other cancer. Relatively few men under the age of 50 die from it; in the United States, the average age of death from the disease is 77 years. Because it is relatively old men who die of prostate cancer, the disease ranks low among cancers for potential life-years lost, even in high-risk countries; however, the threat of prostate cancer rises as a population's life expectancy increases.

Unlike most cancers, prostate cancer often remains latent or undiagnosed. In the past decade, however, the use of prostate-specific antigen (PSA) level as a screening test has greatly increased the number of cases diagnosed in the United States, where prostate cancer now accounts for almost 30 percent of all cancers diagnosed in men.

While diagnostic techniques have improved, methods of treatment for metastatic prostate cancer remain poor. Prevention or early detection could therefore have a sizable impact on the disease; however, knowledge is limited. Nutritional and lifestyle factors are likely to have a significant effect on the development of prostate cancer, but specific risks or protective factors remain elusive. Generally, a diet high in red meat, dairy products and animal fats is associated with a high risk of prostate cancer. In addition, certain micronutrients, including selenium, vitamin E and lycopene, a compound found in tomatoes, may reduce the risk. Unfortunately, it is unclear when in a man's lifecycle these factors are most crucial. While some preventive public health guidance can be based on present knowledge, firmer recommendations about nutrition and lifestyle must await more research.

Early detection with PSA screening is also a quagmire. Only a small proportion of untreated prostate cancers become clinically apparent, and an even smaller number prove fatal. In fact, approximately 60 percent of men in their 70s, 50 percent of men in their 60s, and 40 percent of men in their 50s are found to have prostate cancer on autopsy when they die of a non-cancer cause. Hence, although PSA screening can be used to detect tumors, it is unproven that it substantially reduces mortality from prostate cancer; meanwhile, radiation or surgical resection produce substantial morbidity, including urinary incontinence and in many cases, impotence. Widespread screening, however, would place a burden on health care systems that would have to be balanced against other national health priorities. In Europe, for example, five clinical trials are underway to study the issue, but mass screening remains uncommon, and widely discouraged.

Moving forward, research targeted to early detection and preventive strategies is one high priority. Furthermore, the medical community would be best advised to direct attention to improving the methodology for distinguishing among men with detected but indolent prostate cancer who do not require treatment, men whose cancer has progressed beyond curability, and men who would benefit from treatment. To do so would be a major — and welcome — breakthrough. §

## CECHE Launches March of Dimes' Healthy Pregnancy Program in District of Columbia

CECHE recently launched the first phase of a healthy pregnancy program at Garfield Elementary School in Ward 8, Washington, D.C.'s poorest district. Titled the Positive Pregnancy Peer Advocate Program (PAP), the two-part project will train low-income African-American mothers to encourage healthier pregnancies in at-risk communities. Mothers who take part in the program will be between 15 and 44 years of age and have children in the D.C. public school system. They will learn to conduct workshops and other activities as part of after-school programs within the public schools.

With funding by the local March of Dimes affiliate, PAP aims to increase the birth weights of babies and prevent birth

defects, top March of Dime priorities. In interactive, school-based workshops, women of childbearing age will be taught to avoid low birth weights by improving their nutrition and avoiding other risky practices, including the use of alcohol, tobacco and other drugs. Educators believe that D.C. public school children will also adopt healthier lifestyles and avoid risky behavior as a result of their parents taking part in the project.

In Phase One of the program, CECHE and Garfield Elementary School organized a series of weekly meetings with parents, the school nurse and the Title V coordinator. Together, they developed a *PAP Action Plan* to address the March of Dimes' priorities. Mothers played a key role in the

process, since the program targets women like themselves. They discussed how the action plan could best mesh with their attitudes, practices and knowledge of health issues, and suggested how program initiatives could change risky behavior. PAP's organizers hope the parent planners will go on to become the first peer advocates in Phase Two of the program.

Phase Two will put Phase One's planning into action over a three-year period. Participants will develop a detailed peer advocate leader's guide, test the materials developed, recruit and train peer advocates, and implement and evaluate the project. Most of all, CECHE hopes that Phase Two will create a new crop of healthy mothers and babies in Southeast D.C. §

## Viewers Praise *Elixir*

CECHE's television series *Elixir of Life* earned high marks in a recent study of television viewers in the Czech Republic. Funded by USAID, US foundations and Czech TV, the 10-part program on health issues aired on Czech TV's Channel 1 from November 1998 to January 1999. Each 28-minute program features quiz segments, interviews, field reports, and cooking and exercise demonstrations that encourage viewers to adopt healthier lifestyles — nutritious diet, physical exercise, avoidance of smoking and excess alcohol. By encouraging healthier living, CECHE hopes to reduce cerebrovascular and cardiovascular disease, two major killers in the Czech Republic.

To assess the program's effectiveness, 230 people from the Czech Republic were invited to a special screening of the entire series. Women comprised 84.8 percent of the audience. Health professionals made up 55.2 percent of the group, suggesting that evaluators knew more about health issues as a whole than the Czech population. Sixty percent of the viewers had finished secondary school.

Following the screening, Dr. Lumir Komarek of the National Institute of Public Health in Prague and Dr. Fiona Chew of Syracuse University's Newhouse School of Public Communications asked viewers to evaluate certain aspects of the program on a scale of 1 to 5. In two open-ended questions, Komarek and Chew also asked viewers what they liked and disliked about the show.

*of  
Life*

The viewers consistently gave *Elixir of Life*

high marks. In editing and artistic value, the program scored a 4.26 out of a possible 5, the highest score of all evaluation categories. "General series impression and clear illustration of topics" followed with a 4.13, and the audience rated professional quality a 3.83. No one ranked any aspect of the program below a 3.

An overwhelming majority of the audience (95.6 percent) ranked the series as "stimulating" or "very stimulating," educationally speaking. About 30 percent of the audience said the series featured new and practical information — an encouraging finding, considering that more than half the audience worked in health professions and that health campaigns are common in the Czech Republic!



Dr. Rudolf Poledne debates healthy eating on the show with host Marcela Hoffmanova.

Viewers particularly liked getting practical advice about health improvement, such as in-studio cooking and "model situations and demonstrations, (e.g., replacing high-energy foods with low-energy ones, improving dietary habits, choosing fats, and exercising)." They said the series was "ingenious," comprehensively designed and packaged, and approached topics from many interesting aspects. In addition, they valued the expert advice, liked the studio setting and participatory environment, and found the presentation of topics to be instructive and entertaining.

When asked about ways to improve the series, viewers had few comments, apart from wanting more such programs and recommending briefer episodes. §

## ... Smoking

of impotence appears to be physical rather than psychological.

### Tobacco Use Increases Risk

Smoking increases impotence risk by about 50 percent for men in their 30s and 40s. A 1994 study of 4,462 US Vietnam war veterans between the ages of 31 and 49 bears this out, revealing an 80-percent increase in the risk of impotence among smokers compared with men who had never smoked. Even when adjusted for confounding factors (characteristics that may be more common in smokers, but are not directly attributable to smoking), the findings revealed a 50-percent increased risk.

Not surprising, then, that smokers go to impotence clinics more often than non-smokers. In fact, among 1,290 men treated for impotence in Massachusetts, smokers were more than twice as likely as non-smokers to become impotent -- 56 compared with 21 percent. Cigarette smoking also poses a much greater likelihood of complete impotence in men with high blood pressure, heart disease and arthritis.

Diabetes, high cholesterol levels and drugs used to treat high blood pressure are also important risk factors for impotence, and there is strong evidence that smoking compounds the effects of all physical factors. Based on these risks and the prevalence of smoking in the United Kingdom, Action on Smoking and Health (ASH) and the British Medical Association (BMA) estimate that up to 120,000 UK men in their 30s and 40s are impotent as a direct consequence of smoking. (And this does not include impotence due to previous smoking in men who have quit.)

### Smoking Impairs Erectile Function

During an erection large quantities of blood flow, under pressure, into the penile arteries. This swells the penis and causes the veins which drain the penis to become compressed, preventing the immediate outflow of blood. Smoking can significantly impair this process, reducing or restricting arterial blood flow into the penis by causing:

- atherosclerosis — the long-term build-up of fatty deposits in the pudendal and common penile arteries. Every “pack year” (one pack of cigarettes per day for a year) increases a smoker’s risk of atherosclerosis of these arteries by 2 to 3 percent. More than 20 percent of impotent smokers have abnormally low penile blood pressure — many as a result of atherosclerosis.

## Specialists Speak Out...

“...impotence may be a precursor or an indicator of oncoming cardiovascular disease, so rather than dismissing it as just simply normal aging and nothing to get alarmed about, we’re beginning to take this very, very seriously.”

— *Dr. John McKinlay, New England Research Institute, United States*

**“If men realised how smoking affects their performance, I’m sure many more would find the determination to give up.”**

— *Deidre Saunders, Sun Newspaper Problem Page*

**“Smokers with impotence usually suffer in silence with the knowledge that the condition was totally preventable.”**

— *David J. Ralph, B.Sc., Ms FRCS (Urol), Institute of Urology, University College, London*

- acute vasospasm — rapid contractions in penile tissue resulting from nicotine stimulation in the brain.
- venous dilation — impairment of the valve mechanism that traps blood in the penis and results from nicotine in the blood stream. Excessive venous outflow from the penis can reduce the size and longevity of any erection achieved.

Research also links smoking to reduced volume of ejaculate, lowered sperm count, abnormal sperm shape and impaired sperm motility. And smoking is associated with pyospermia, a condition in which the testes become swollen, with excess white blood cells (pus) present in ejaculate.

### Public Awareness is Low

Despite the medical evidence, a poll commissioned by ASH in March 1999 shows shockingly poor public awareness of the impact smoking can have on male sexual health: 88 percent of UK smokers surveyed (87 percent of the men and 89 percent of the women) did not name smoking as a cause of impotence. Even when prompted with a list of possible contributing factors including smoking, more than two-thirds of the respondents (65 percent of the men and 70 percent of the women) did not identify smoking as a risk for impotence.

To bridge this knowledge and awareness gap, ASH and BMA have called on the UK government to demand new warning labels on cigarette packs and other tobacco products on sale in the European Union. The proposed warnings include:

- **WARNING: SMOKING CAUSES MALE SEXUAL IMPOTENCE**
- **WARNING: SMOKING DAMAGES SPERM**
- **WARNING: SMOKING MAY DAMAGE YOUR SEX-LIFE**

Warnings about smoking and impotence are already in use in Thailand and under consideration in Hong Kong. Impotence warnings would be an important breakthrough in communicating the risks of smoking to males, especially young men. They also might deflate some of the macho mystique associated with smoking — built up and effectively used by tobacco advertisers worldwide to entice young males to light up. §

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# How Can Health Policies in Developing Nations Avert Threat to Male Mortality from Noncommunicable Diseases?

by Dr. C. Gopalan, President, Nutrition Foundation of India, New Delhi

“A century of remarkable progress has revolutionized the health conditions of most of humanity,” claims the 1999 *World Health Report*. Yet over a billion people, mostly in developing countries as the report documents, will enter the 21st century without sharing in these gains; their lives remain short, scarred by disease and plagued by the looming epidemic of non-communicable conditions. Most at risk are men – the primary breadwinners in developing countries and the persons on whose health and productivity most women and children depend heavily.

## Rising Death Toll From Noncommunicable Diseases

To date the major targets of public health policies in developing countries understandably have been women and children and the eradication of communicable diseases and adverse maternal conditions; but the time has come to give priority to alleviating the causes of the substantially higher mortality in males compared to females.

Chronic degenerative diseases such as obesity, cardiovascular disease (CVD), type II diabetes mellitus and malignant neoplasms have been the leading causes of morbidity and mortality in men in industrially advanced countries; but now developing countries are witnessing a progressive escalation of these same diseases. In fact, today these diseases account for over 40 percent of the mortality, and a rising proportion of the morbidity, among adults in the developing world — and once again, urban middle-class males are their main victims.

A recent study by the Nutrition Foundation of India showed that 39 percent of urban upper-middle-class males in India were overweight (Body Mass Index >25) compared to 1 percent of males in poor rural communities. South Asians, more so than populations in Europe and the United States, may be predisposed — perhaps genetically prone — to the deleterious effects of abdominal obesity, which can lead to CVD, hypertension and type II diabetes mellitus. If present trends continue, excess weight and obesity could become the most challenging public health problem in South Asian adult males.

Meanwhile, CVD has already emerged as the dominant disease of adult males in developing countries — causing three times as many deaths in 39- to 69-year-old males

as parasitic and infectious diseases combined. Epidemiological evidence suggests that lifestyle, including sedentary occupations, poor diet and possibly stress, make relatively affluent South Asian men more vulnerable to CVD.

Similarly, Asians are more susceptible than Europeans and Africans to type II diabetes mellitus, which is rapidly increasing in developing countries, and afflicting more males than females in India. This triad of obesity, CVD and diabetes — known as syndrome X — appears to relate in part to intrauterine growth retardation and low birth weight, both of which are common in the developing world.

Cancer mortality is still low in Asia: well below 50 per 100,000 in most countries except Japan. The World Bank projects, however, that the proportion of deaths from cancer will double in developing countries between 1995 and 2015 and that lung cancer, currently less common in South Asia than in Europe and the United States, will become the leading cause of cancer deaths in Asian countries, especially as more young people light up.

About 40 percent of cancers in Indian males are related to tobacco chewing, and cancers of the oral cavity, oesophagus, stomach and lung are the most common. High salt intake, dietary nitrates and nitrites, and diets deficient in micronutrients and antioxidants exacerbate the situation; coupled with tobacco use, they make the age-specific incidence of cancers in Indian men exceed that in women in the 25 to 55 age group.

## Developing Countries Face Policy Challenge

The changing profile of diseases in Asian men, characterised by a rise in chronic degenerative diseases, carries highly disturbing, far-reaching implications for health policies in these countries. These emerging chronic diseases are far more expensive to treat and yield far less rewarding results than the eradication of acute communicable diseases. Coupled with increasing demands for elderly care, chronic diseases will soon make the overall cost of health care in developing countries prohibitive — a far greater economic burden than for industrialised countries.

In fact, Western Europe, North America, Australia and New Zealand have documented a remarkable reduction in CVD since 1970. This experience tells us that



Asian men increasingly risk CVD, obesity and cancer in the face of unhealthy lifestyles.

primordial prevention at the population level is the most effective strategy for lowering CVD incidence. More recently, males in some Western countries are also experiencing reductions in lung cancer mortality, most likely because of a decline in smoking rates.

Can the experience of Western nations help avert millions of premature male deaths in the next half-century in developing countries?

- First and foremost, reducing the burden of excess mortality (and morbidity) in men will require major shifts in government health policies in developing nations. A focus on prevention is the first priority. Policies must proactively counter looming threats to male health resulting from economic crises, unhealthy environments and risky behaviors, such as tobacco use.
- Second, outdated health systems in many developing countries must be renovated to remove institutional barriers that hinder peak health-sector performance necessary to cope with present demands and future challenges. Identifying and targeting interventions that can achieve the greatest health benefit for males within available resources is a necessity.
- Third, government bodies must translate health policies into practical action by health professionals and the public, including men.
- Finally, policy-makers must invest in expanding the knowledge base on the causes of male mortality to ensure that the 20th century healthy revolution will continue to provide gains in the 21st century.

Developing nations are learning that the price of “development” is high; but this price could be considerably reduced and the rewards of development greatly enhanced by timely preventive measures based in policy reform. §