THE GROWING BURDEN OF CANCER AND THE ROLE OF NGOs

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Cancer is among the most preventable and the most curable of the major chronic life-threatening diseases. Each year, nearly 13 million people develop cancer, and without intervention, the number of new cancer cases is projected to rise to 22.2 million by 2030. Much of the increase will take place in developing countries. Several factors account for this increase, including growing and ageing populations, tobacco use, poor diet and lack of exercise, overweight and obesity and exposure to infectious agents associated with cancer. Nongovernmental organizations (NGOs) play a critical role in addressing issues that are overlooked or ignored by government and industry. They help raise knowledge and awareness; they advocate for policy change and enforcement; and they instil moral urgency to neglected issues. In the developing world, there are currently a number of important opportunities for NGOs to support cancer control and prevention. Chief among these is advocating for policy changes across the cancer continuum from prevention to palliation. Tobacco control, early detection programmes, and access to high quality care, including essential medicine and pain control are areas that NGOs should prioritize in order to have the greatest possible impact.

Several factors account for the global cancer burden: growing and ageing populations, tobacco use, poor diet and lack of exercise, and exposure to infectious agents associated with cancer. The lack of public health policy to address many of these risk factors is a serious issue. There are large disparities in the capacity of health care systems, governmental programmes, and nongovernmental organizations (NGOs) to serve and protect their populations. Many low- and middle-income countries have few, if any, broad-based early detection and prevention programmes, and treatment options are often limited.

The growth and ageing of populations is particularly important because it represents both a remarkable public health triumph and the single greatest driver behind the increases in total cancer cases. In the past 50 years, growing wealth and economic opportunity, better nutrition and housing, safer food and water, improved hygiene and sanitation, changes in reproductive practices, and increased use of antibiotics and vaccines have led to reductions in childhood mortality, increases in life expectancy, and ultimately growing and ageing populations. In and of itself, more people means more cancer, especially when those people are older. Most cancers take years, even decades, to develop, so it is no surprise cancer occurs more frequently as people age. Between 2000 and 2050, the percentage of the world's population older than 60 is expected to double from 11% to 22% – that means a doubling of the number of people living to ages where cancer becomes more common.

Simultaneously, the forces of globalization and urbanization have facilitated broad and aggressive marketing of tobacco products, resulting in the growth of tobacco use (there are 1.25 billion smokers)[4]; increased consumption of high calorie foods, driven by a global food industry; and reductions in physical activity, caused by changes in the workplace. These last two factors are contributing to increases in overweight and obesity (with 1.4 billion people overweight and 500 million obese)[5]. The end result of these major trends is an increase in people with chronic (decades-long) exposure to cancer risk factors and an

increase in the number of cancer cases.

Chief among these risk factors is tobacco. Tobacco use is the single greatest reason for the continued growth in cancer incidence and mortality rates. Today, nearly a billion men and more than 250 million women are regular smokers – about 20% of the world's population. If current trends continue, tobacco use will kill about 650 million people living today, including as many as 325 million of the world's current children and teenagers[6]. Lung cancer and heart disease will account for the majority of these deaths. Of those who succumb to tobacco-related disease, half will die in middle age (ages 35–65), just when they are needed most to manage and support their personal households and local economies[7].

In many parts of the world, tobacco is the leading risk factor for cancer. Recent estimates suggest about 25% of all cancer deaths are attributable to tobacco use, and in some parts of the developed world, that number increases to a third of all cancer deaths[8]. In other parts of the world, the number of tobacco-related cancers is lower, but threatens to grow in the future. Tobacco use and tobacco-related disease and death are growing fastest in low- and middle-income countries. By 2025, tobacco will account for nearly 7 million deaths annually in these regions[9]. China alone predicts 2 million tobacco-related deaths annually by 2025[10].

Poor diet and lack of exercise, along with overweight and obesity, increases the risks of breast cancer (among post-menopausal women) as well as cancers of the colon, prostate, endometrium, kidney, and gallbladder among others. Altogether these risk factors account for up to a third of all cancer deaths in some countries[11]. Worldwide, more than 1.4 billion adults are overweight. Of these, nearly 500 million are clinically obese. The prevalence of obesity has nearly doubled over the last 30 years[12]. Although the number of overweight and obese adults is higher in the developed world, the developing world is quickly catching up. Tragically, a number of low- and middle-income countries are facing a double burden of malnutrition and rising obesity. The prevalence of obesity ranges from below 5% in China, Japan, and most African nations to greater than 75% in urban Samoa. However, even in countries like China where prevalence is low, obesity rates in some cities are almost 20%[13]. Perhaps even more troubling is the increasing number of overweight and obese children. Worldwide, 40 million pre-school children younger than five are estimated to be overweight[14].

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Increases in overweight and obesity reflect societal changes. With the global spread of consumer cultures originating in economically developed nations, people in low- and middle-income countries are increasingly adopting "Western" lifestyles and behaviours, including changes in diet and physical activity. It is estimated that lack of physical activity accounts for 9% of premature mortality worldwide[15]. Shifts toward less physically demanding work have been accompanied by the globalization of food markets and spreading of the fast food industry. Together, these trends have fed the obesity epidemic.

Infectious agents currently account for about a quarter of all cancers in low- and middle-income countries and 17% of all cancers worldwide[16]. Infectious agents associated with cancer include human papillomavirus or HPV (cervical cancer), hepatitis B and C (liver cancer), and *Helicobacter pylori* (stomach cancer), among others. In some of these cases, vaccination and early detection can significantly reduce the number of new cancer cases and deaths. Pap tests to detect cervical cancer and vaccination against hepatitis B to prevent liver cancer have already had a significant impact in many parts of the world. Other promising interventions, such as visual inspection for cervical cancer and vaccines for HPV, could further reduce cancer incidence and mortality rates.

Palliative care, especially pain relief, remains an important quality-of-life issue throughout the world and a particularly critical problem in many low- and middle-income countries. At present, a million people in these countries are dying annually with unrelieved cancer pain. By 2020, that number is projected to grow to two million. Cost is often less of a barrier to effective pain relief than are policy issues. For example,

India, a major producer and exporter of oral morphine, seriously restricts access to its use by cancer patients and others in critical need.

Huge disparities in the capacity of health care systems, governmental programmes, and nongovernmental organizations also contribute substantially to the unequal cancer burden. Many emerging nations have few, if any, early detection and prevention efforts, and provide only limited treatment options. Since far more cancers are detected at later stages in these countries, the survival rates are lower, even when effective treatment options are available. Currently, more than three-quarters of all health care expenditures are directed to patients in the developed world[17]. Disparities in capacity are also evident in the nonprofit sector. Most cancer societies in the developed world have significant resources at their disposal, while those in low- and middle-income countries often work with meagre budgets. Not surprisingly, the impact these smaller organizations can have on saving and improving lives is limited.

The American Cancer Society and our partners are working to slow the growth of cancer and bring it completely under control at the soonest possible time. We have made a major commitment to tobacco control through advocacy training, seed grants, economic and epidemiologic research, and information tools such as the *Tobacco Atlas*. We support programmes to prevent chronic exposure to cancer-causing infections and to detect and treat breast cancer and cervical cancers; and we support efforts to educate people about the dangers of obesity and sedentary lifestyles through publications like our American Cancer Society's *Global Cancer Facts and Figures* and the *Cancer Atlas*. We are working with our partners in the NCD Alliance to make sure cancer is featured prominently on the global health agenda, and we have developed several major collaborations with the Union for International Cancer Control, including the Global Access to Pain Relief Initiative, which seeks to eliminate suffering caused by cancer pain.

The decline in cancer incidence and mortality rates in developed nations is evidence that cancer can be controlled. However, without aggressive intervention, there is little likelihood that developing nations will realize similar results in the near future. We believe the NGO community can play a significant role in advocating for change and in implementing key interventions to accelerate cancer control throughout world. •

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