Mr. Vice Chancellor, Pro Vice Chancellors, distinguished colleagues, ladies and gentlemen.

It is said that when we are young professionally, we are generalists, in the sense that we have a very limited and superficial knowledge about many things. As we grow, we become specialists and devote considerable attention to delving into the intricacies and mysteries of a very few specific areas or fields of knowledge. We may even be faintly damned as experts. Then, as we mature, we revert to something akin to our early generalism, but we apply our accrued expertise and specialization techniques to a wider range of subjects that tend, in general, to affect more people; better still, we bring a wider vision to bear on a few issues that are of fundamental importance to many. The challenge lies in walking the fine line between being a fully developed generalist or remaining forever a dilettante, flitting and dabbling from here to there. So, if I were accused of disciplinary deviance for dealing with a topic such as health and the national security, I would plead that I have grown and developed and am now in the third stage of personal development.

I assure you that this growth is ongoing and that none, or very few, of the important thought processes or attitudes acquired along the way ever go to waste. And so I tell myself that there is, indeed, a thread that connects the approaches involved in constructing Latin prose, plumbing the mysteries of renal biochemistry, and unraveling the broad issues that must be considered if one is to have some idea of how to address that most challenging of avocations, the care for the public's health.

I had no sudden epiphany to illuminate my interest in this afternoon's topic, but recent events in two of the more important Member Countries of the Pan American Health Organization provided me with food for thought. First, in December, after years of seemingly spectacular stability and economic growth, the Mexican economy seemed to go into free fall, and its currency suffered ever-increasing devaluations. I am not an expert in this field, but I was struck by how deeply the rest of the world experienced the aftershocks of the crisis, and I came to appreciate the fact that some fundamental aspects of a nation's well-being were not in its own hands. The national government and its attendant State apparatus were less and less able to control capital flows. In fact, international market forces determined the course of the domestic economy, apparently wresting from the government the control over one of the traditional ingredients of a nation's security.

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* Pan American Health Organization, Pan American Sanitary Bureau, Regional Office for the Americas of the World Health Organization.

** Distinguished Lecturers Series, University of the West Indies.
Then I read the Canadian Government's response to the recommendations of the Special Joint Parliamentary Committee Reviewing its Foreign Policy. The Canadian Government pointed out clearly that there were new rules for foreign policy: the threatening but predictable postwar period was over, and Canada needed to devise a new approach for protecting its security. The country's foreign-policy actions now would be informed by a concept of shared human security, as the world was too interdependent to retain a narrow view of national security. By the same token, the policies that other countries adopted in the fields of health and the environment also would affect Canadian security. As the Minister of Foreign Affairs said in the House of Commons:

*Mr. Speaker, the hostile environment of the Cold War kept us from concentrating our efforts on combatting other threats no less real. While the geopolitical upheavals of recent years have greatly reduced the immediate threats to our security, we must now, paradoxically, expand our definition of this concept. Today, security is no longer defined in terms of ideologies or boundaries. Environmental deterioration, massive, uncontrolled migrations, international crime, drug trafficking, AIDS, overpopulation and underdevelopment are the names of today's threats. Our security requires a deeper awareness of them.*

As you can see, these events caused me to reflect again on this changing perception of national security and the changing view of health in our world today.

There were, of course, simpler times and concepts. When Nicolo Machiavelli wrote of how the strength of all states should be measured, he advised the Prince that,

*he will not find it difficult to uphold the courage of his subjects both at the commencement and during a state of siege if he possesses provisions and the means to defend himself.*

And although the concept of provisions might have changed, the basic premise remained intact for centuries. Machiavelli was not far distant from the definition of national security that held sway even up to recent times. The Maginot Line and the Berlin Wall are but two modern-day examples of the thinking of nations in this regard. About 20 years ago, an author defined national security as

*the condition of freedom from external physical threat which a nation state enjoys; and this relative security derived from three conditions: First, the deterrent effect of the state's alliances, next the international environment that would deter an aggressor and finally the state's own intrinsic capacity to resist aggression.*

But, with the dramatic changes in the political landscape that occurred in the last five years, the concept of national security also changed, coming very close to the Canadian Government's pronouncement. As Robert Reich points out in his book, Work of Nations, in which he describes the growing interdependence of individual and commercial interests,

*a nation sacrifices a bit of security when it becomes dependent on foreigners for anything. Complete security is equivalent to autarky. But autarky deprives a nation's citizens of all the advantages of economic interdependence with the wider world.*
The concern with national security is perhaps felt most acutely in small states because of their vulnerability, which is particularly true in the Caribbean. Griffith, in his analysis of security in the Caribbean points out that the military, political and economic dimensions are the most critical ones. But perhaps of equal importance is the internal political climate that can affect the national security. Of even greater significance is the growing realization that national security depends in great measure on domestic stability which is in turn heavily influenced by human development embracing economic, environmental, health and political concerns. This wider view of national security led Griffith to conceive of it as the protection and preservation of people's freedom from external military attack and coercion, as well as freedom from internal subversion and from the erosion of cherished political, economic and social values.

The importance of these social values has been considered in almost every high-level political meeting. At the subregional level, the Caribbean Heads of State have emphasized the importance of social issues on several occasions. At the Hemispheric Summit held in Miami last year, the Heads of State also underscored the need for a united approach in addressing social inequity. Although they were primarily concerned with commerce and economic development, they also gave special attention to health and environmental issues. And the recently concluded Global Summit on Social Development—to which I will refer again—focussed the world's attention on the main social problems that are important for national and global security.

One might attempt to outline here a very crude historical sequencing of the various issues that are perceived to affect national security. Early thinking gave primacy to a nation's ability to resist armed aggression, hence the dependence of states on armies and military readiness. In time came an appreciation of the importance of domestic freedom and ensuring that citizens could earn a decent living. More recently, the world has woken up to the need to preserve the environment and its biological diversity as ingredients of national security. Now, as the scourge of drugs has come to the fore, I wish to highlight health as another factor that is important for that security.

I refer mainly to public health, or the health of the public, although my original discipline will not allow me to ignore completely the problems of the individual. The historical evolution of concern for the health of the public is interesting, as it shows some of the cyclical phenomena that are almost a part of nature.

In the 1920s, the famous public health physician, C. E. Winslow, described three phases of public health concern and, to some extent, practice. The first phase spanned from 1840 to 1890, and saw the flourishing of empirical sanitation and the appreciation that diseases could be caused by a wide range of social and environmental conditions. Health was improved by building water and sewerage systems, constructing proper housing and providing adequate food. In Germany there was a particularly strong perception of the importance of these nonmedical factors in disease causation. The famous pathologist, Virchow, who was a member of a government committee charged with investigating an epidemic of relapsing fever that was rampant in Silesia, recommended as means of control,

*prosperity education and liberty which can develop only on the basis of complete and unrestricted democracy.*
But this approach to sanitation was not entirely altruistic. As Welch, who was one of the pioneers of American public health teaching, explained,

*merely from a mercenary and commercial point of view it is for the interest of the community to take care of the health of the poor. Philanthropy assumes a totally different aspect in the eyes of the world when it is able to demonstrate that it pays to keep people healthy.* [In his eyes,] sanitary improvement was the best way of improving the lot of the poor, short of radical restructuring of society.

The second phase, which is placed at the turn of the century, witnessed the introduction and acceptance of the germ theory of disease and the growth of bacteriology: the care of the public's health was viewed primarily in terms of disinfection and killing germs that might affect individuals or groups.

The third phase, which Winslow dubbed the new public health in 1923, emphasized personal hygiene and the medicalization of preventive care. Public health authorities in most countries were considered as poor relations within the overall health establishment family.

But over the last 25 years, the concept of what constitutes caring for the public's health has been intensely reexamined, the value of the health of the people has been reassessed, and a serious effort to tease out the determinants of that health has been undertaken. This has led to a reaffirmation of many of the principles developed and accepted 150 years ago. One might be rash enough to call this flurry of activity, the fourth wave.

The seminal work on these determinants of health came out of the United States of America and Canada, with the work of Blum and the Lalonde report on the health of the Canadian people being the most widely known. Further amplification by Evans and Stoddart questioned the relationship between health care and health status and showed how the public policy debate that focusses on the former needs to be modified.

The health care system often bears little relationship to the perceived illness of people, being more related to the perception of the disease needs of individuals by health care providers. As these authors claim,

*The knowledge of these care providers derives from the triumph of scientific modes of inquiry in medicine. It has increasingly become defined in terms of that which emerges from the application of reductionist methods of investigation applied to the fullest extent possible in a Newtonian frame of reference.*

Under this approach, the body is viewed as a machine that can be fixed by increasingly sophisticated technology at ever-increasing cost. The health care system very often seeks to draw persons into it to satisfy the interests of the care providers themselves.

I must make it abundantly clear that I believe that there must be room for the application of care to those individuals who either have an illness or disease--in the sense of not having "ease"--or to those who are diagnosed as having disease because of the presence of a constellation of indicators that show some objectively definable malfunction. This is the pristine role of the healer and should
never be minimalized. Indeed, sound reasons have been given for the thesis that the individual care physician makes a significant contribution to the public's health, but that the effect and impact have been obscured by the lack of suitable indicators. Indicators currently in use have been designed by those who deal with people in groups.

But the current dominant argument is that, for reasons I will detail later, the public attention has been riveted on care, driving public policy and expenditure in this direction. And yet, in terms of the population, health care contributes only marginally to health conceived as the absence of disability and the state of ease, or even in the more lofty terms of well-being.

The determinants of health include the physical and social environment or ecology; biology, which includes genetic endowment; individual and collective behaviour; and health care, which is the least important. This search for the principal determinants of health status is not some abstruse, recondite philosophical enterprise. It is fundamental to the national understanding of how a large part of social policy is structured.

These broad determinants of health status are being examined further, and one of the more fascinating enquiries relates to social status and health. It has been known from time immemorial that there is some relationship between health and wealth. Now it is clear that there is a marked social class gradient in relation to health outcomes, and that this social gradient persists in population groups followed longitudinally, even though the causes of ill health and death may vary. It is simplistic to say that poverty causes ill health and that an attack on poverty would banish most of it. Eliminating poverty is a moral and economic imperative—and it is necessary but not sufficient in terms of eliminating the health manifestations of the social class differential.

The gradient for health outcomes shows up clearly even in strata that are higher than those that would, by any stretch of imagination, be called poor. It is all the more fascinating to appreciate that this social gradient may have expressions in biological responses that could themselves be health promoting or disease provoking. The universal finding that, in the context of the health/wealth relationship, the health of the population depends not so much on the average income but on the equality of income distribution in a country, is relevant to a point I will later make.

I cannot go into detail here on the mounting evidence of the impact of the other determinants on health status. I believe you will accept that the physical environment is important. The social environment is also crucial, and the domestic and family support systems are obvious contributors to health. You will be pleased to know, if you did not already, that marriage is good for a man's health! It is not so clear that it is so for women!

Having outlined some of the elements of national security and briefly sketched out some of the current thinking of what determines the state of the nation's health, let me try to establish the linkage between the two. First, the health of the population as a resource is essential for the domestic stability of the nation. Most obviously, a healthy population represents the human capital necessary for productivity. In any discussion of the human resources required for progress, health and education stand out as the two most important elements.
There was a time when the benefits of investing in education were quantified in economic terms, but the arguments for investing in health were cast as moral and ethical issues. There is now a growing body of empirical evidence that shows the economic return from improving health. In a seminal study on investing in human resources conducted for the Inter-American Development Bank, Behrman demonstrates that such investment can improve productivity and income distribution. Especially in poor countries, the economic gains from investing in health and nutrition may well be greater than those from investing in education. Let me quote directly from his paper:

*Although schooling is the most emphasized human resource, life expectancy is a better indicator of economic growth. The estimate means that, all things being equal, the recent gap between Jamaican and Bolivian life expectancy relative to the international experience will be associated with a difference in future real GNP per capita growth rates of 2.4 percent per year, a considerable effect.*

Life expectancy was used to characterize the health and nutrition experience. Behrman goes on to point out, however, that a country's epidemiological situation will determine where the investment must be made. It is now standard dogma that public investment should target areas with higher social benefits, and that those health interventions with the highest positive externality content should be the ones provided by the State. These include most of the activities of health promotion and disease prevention.

If governments accept that domestic stability is a matter of national security and that economic health is one determinant of that stability, if they accept the logic of the economic returns from health investments, and if there is no evidence to refute the demonstrated relative importance of the determinants of the population's health, then one can logically ask why governments continue to place resources predominantly in health care. Ministries of Health still concern themselves primarily with the care of the individual.

The answer is complex and I will touch on only two of its aspects. First, health, as such, does not rank high on the public agenda. National governments that, quite properly, are the result of a political process, react to the popular agenda, and this agenda does not perceive the health of the public as a positive resource for its living. It sees health primarily through the eyes of traditional care givers, who for the most part are wedded to the mechanical model of care and repair. Contemporary social forces, including the media, react to the perceived deficiencies in individual care, and are often supported by having influential persons "wave the shroud." This phenomenon paints governments as hard-hearted villains if they do not provide one or other facility that will prevent individuals from dying unnecessarily or prematurely.

The second and thornier aspect is that the discussion about investment in care often centers on the perception that it is the salaries of health professionals that drive expenditure in care. This introduces class arguments that are seldom helpful in trying to fashion logical national policy.

There is one other facet of health expenditure and national security that is of increasing importance to all countries. As the cost of the health establishment rises, we see much of the debate in the United States of America, Canada and other OECD countries framed in terms of the increasing fraction of the national wealth that is being spent on health care. For example, the data
for the United States show an expenditure of 14% of GNP and rising. Most countries now accept that they cannot sustain increases in health care expenditure that rise faster than the rate of inflation. The consequences of this over the long term for the national economy and internal stability are obvious.

I will end this section by referring to one aspect of national health that is important for national wealth. Travel is one of the world's fastest growing businesses, and tourism has become vital for the economic survival of many countries. There is now very good evidence that the health both in physical and environmental terms of the people and their place is a major factor in drawing visitors to a particular spot. We have examples of epidemics or fear of epidemics that have devastated the economies of tourist areas.

Many countries have been riven and rendered insecure by the ill health, poverty, poor environmental conditions and general social marginalization of large segments of their people. The specter of these four grim, galloping horsemen galloping frightens the rulers of many of the countries; the fact that the horsemen ride in unison is an even greater source of fear. Ill health is linked with poverty, as I have mentioned above. And environmental degradation, ill health and poverty are interwoven. Proof of the vicious circle of poverty and the destruction of the physical environment comes from every corner of the world.

History offers us plenty of examples of how ill health can lead to a nation's fall--my favorite example is the conquest of the Aztec empire by the Spaniards. As I wrote in an article about the interface of the two worlds in the area of health, which I called "Of Measles and Men,"

> History showed disease as the fifth column of the Spanish conquest. It was germs and not guns which made Tenochtitlan fall before Cortes: in spite of his technological advantage he was on the verge of defeat until a massive epidemic, probably of smallpox, decimated the Aztecs, and he entered a capital city reeking with the stench of death his musketeers and bowmen had not caused.

National security also depends on a state's alliances, on how it treats and is treated by other states. It is a foreign-policy canon that these alliances are driven by interests, and health and concerns about health represent one of these mutual-interest areas that bring states together. The history of my own Organization shows that the countries of the Americas have acted in concert to address common health problems. Joint efforts in disease control have given brilliant results, the most recent of which have been the elimination of smallpox and now the interruption of transmission of the poliovirus in the Americas. But there is one example that comes closer to the popular concept of national security--the success of the use of health concerns as a platform for peace and understanding among peoples. We believe that the Health Initiative of Central America--which was called "Health, a Bridge for Peace"--was a major factor in reducing tensions and conflict in that troubled area. The national security of those countries was strengthened or enhanced by the peace that was, in some measure, favoured by the non-conflictive interactions that took place in the name of health.

I began by referring to Canada's perspective that national security had to be seen in relation to global security. Futurologists differ about the scenarios that will unfold, a difference that is,
course, intrinsic to their discipline. There is no shortage of neo-Malthusianism. In 1972, the Club of Rome, as it sought to determine the conditions that would limit growth, declared itself pessimistic about mankind's predicament. More recently, Kaplan, in a widely quoted article, predicted global decay and a world "riven by disease--with increased erosion of nation states and international borders."

He predicted a complete collapse of national security. One of the frightening consequences of such a scenario for developed countries was the prospect of hordes of immigrants from the overpopulated, decaying nations pressing upon their borders. Not everyone shares that apocalyptic view. I believe we can show substantial progress in many areas such as health, and that many of the models predicting societal collapse do not take full account of the world's social and human resources. But this general concern has been strong enough to spur the convening of the World Summit on Social Development, which met earlier this month in Copenhagen. It was billed as a summit of hope and commitment; the words of the opening paragraph of the Declaration set the tone:

*For the first time in history, at the invitation of the United Nations, we gather as Heads of State and government to give social development and human well-being the highest priority both now and into the twenty first century.*

As the debates, discussions and documents showed, the people's health must be at the center of that well-being and must be one of its major determinants. The attention to health and well-being will be key for ensuring the global security that is essential for the security of modern states. It is a concern that goes beyond that engineered by the ever-present threat of rapid spread of communicable disease from one country to another.

I have deliberately not presented the case for health in terms of the benefits that might accrue to the public if money currently spent on arms as a means of ensuring national security were diverted to the health sector. Experience has shown the futility of such arguments. Even if expenditure on arms were reduced, this money would not necessarily go to health. Swords are turned neither into ploughshares nor scalpels: There is simply not a strong enough public constituency for this approach. The evidence that the health sector is not protected when there is general reduction of government expenditure would indicate the level of indifference to the concept of health as an essential public good.

I wish to deal briefly with a question that might still be troubling you. Why should the Pan American Health Organization be concerned with health and national security?

PAHO has a constitutional responsibility to assist the countries of this Hemisphere in their efforts to combat disease, lengthen life and promote the physical and mental health of the people. We were created out of a desire of the nations of the Americas to try to work together to solve problems that might be common. When one looks at the mosaic of problems that affect the health of our people, one is struck not only by the diseases themselves, but also by the inequalities that exist among and within countries. This inequity has its expression in disease burden and in the access to the means to promote health and prevent disease. Inequity in health is only one facet of the inequity in other spheres that threaten national security.
Over the years, many approaches have been pursued to solve the health problems of the Americas, and we can cite several successes. There have been various plans and policies and we, like the rest of the world, embraced the great cry for "Health For All" and tried to put in place the elements of the strategy of primary health care that was seen to be the most appropriate approach for tackling the basic problems.

In September 1994, at the XXIV Pan American Sanitary Conference that elected me as Director, the assembled Ministers of Health approved a set of Strategic and Programmatic Orientations that should steer our work. There are five such orientations: Health and Human Development, Health Systems and Services Development, Health Promotion and Protection, Environmental Health, and Disease Prevention and Control. Our technical cooperation with our countries will be guided by these orientations and the countries and the Bureau will monitor what is done over the next years. As I said in my inauguration address, we must seek allies in our efforts to give health its proper place nationally and internationally.

Certain requirements must be met if health is to be recognized as important to well-being and if this acknowledgement is to be reflected in the public agenda. First, we need an informed citizenry. The current public understanding of health is inadequate. We inevitably link health with expenditures, when in reality most of the costs in the system involve repair and rehabilitation. I have begun efforts to have Heads of State dedicate time to discuss health in their Cabinet deliberations, so that government can be seized of the real importance of health to the body politic. The Minister of Finance and the Minister of Culture must understand and appreciate their roles in securing the public's health.

Perhaps the allies whose help I need most of all are those in my own profession. Paul Starr, in his book on the social transformation of American medicine, describes the foundation of the authority of the medical profession based on its scientific knowledge and its peculiar relationship to people in their most naked state. He writes:

The dominance of the medical profession, however, goes beyond this rational foundation. Its authority spills over its clinical boundaries into arenas of moral and political action for which medical judgement is only partially relevant and often incompletely equipped.

I would like to see the profession take the lead in advocating a new vision of health, a vision that is framed in the context of health being a positive resource, a resource at the very heart of well-being. I would like to see my colleagues promote fearlessly the discussion about the kind of public policy and people involvement that would guide national resources into those channels that are most appropriate for promoting and maintaining the public's health. It is a worthy effort--and one that is critical to the preservation of national security.

My Organization and I personally will do everything possible to stimulate that debate--part of our technical cooperation must be driven by these concerns. But apart from being a responsibility of my work, I get pleasure out of promoting these lines of thinking. Sometimes I think, as Shaw says,
This is the true joy of life, the being used for a purpose recognized by yourself as a mighty one; the being thoroughly worn out before you are thrown on the scrap heap; the being a force of nature instead of a feverish selfish little clod of ailments and grievances, complaining that the world will not devote itself to making you happy.

I wish for all of you the same joy of life and the same prospect of being happy.

I thank you.