

**Inaugural Panel: *Achievements and Challenges of  
Public Health in the Americas***

December 2<sup>nd</sup> 2002, 2:00 - 5:00 p.m.

**Dr. George Alleyne:**

Dr. Brundtland, Dr. Adelman, Dr. Meyer, Dr. Frenk, Prime Minister Douglas, distinguished guests, ladies and gentleman; let me let me welcome you most warmly, especially ministers of health who are here with us. Let me welcome you most warmly to this symposium. You are all very distinguished but I wish to recognize especially those who have retired from PAHO, and have returned to reminisce and perhaps strengthen the bonds that bind them together. A special word of welcome to our retirees led most ably by Dr. Miron Ecmán and Dr. Hector Acuna.

I thank you all for coming to be apart of this celebration, this special day in the life of the Pan American Health Organization. I think it is fitting that we should celebrate this occasion with a Symposium of Partnerships for Health. Partnerships between parts of the state, the public sector, the private sector, and the non-governmental organizations; partnerships between the sectors of government, the health sector, the agricultural sector and all of the sectors. Partnerships between governments themselves, and partnerships between the institutions that make up an integral part of those governments; and especially the partnerships between all of the above and the Pan American Health Organization. No Symposium of this nature is easy to organize and I wish to thank Eli Lilly and the WK Kellogg Foundation for their invaluable support in the organization and preparation of this symposium. I also wish like to acknowledge the work of my own staff and particularly Dr. Irene Klinger. Dr. Klinger please stand. (applause)

I wish for you all a very productive Symposium and now it is my pleasure to introduce Dr. Adelman, who will be the moderator of this inaugural panel. Dr. Carol C. Adelman is currently a senior fellow at the Hudson Institute where she conducts research and writing on healthcare issues, international philanthropy, and economic development. She is also president of a management training company that focuses on leadership, communications and ethics for businesses and non-profits.

Dr. Adelman has had a long and distinguished career in the private sector, the public sector, and also as an author, haven written many articles for international journals and international newspapers. Dr. Adelman received her doctorate and her masters from that distinguished university Johns Hopkins, I see my friend (unclear) summer her so I had to mention that, and a Masters in Foreign Service from Georgetown University. It is my pleasure to introduce to you Dr. Adelman who will moderate this first session.

**Dr. Carol Adelman:**

Thank you Dr. Alleyne for a very nice introduction, and also to Dr. Klinger for all of your hard work in making this historic celebration a reality. I am honored to serve as chair person for the distinguished members of today's panel, which begins the two-day Symposium *Celebrating Partnerships: 100 Years of Health in the Americas*. Thank you Dr. Alleyne for your vision for this event. I salute all the Ministers of health here today who work on the front lines of health care throughout the world. I'd also like to particularly welcome the Prime Minister and Right Honorable Denzil Douglas, Prime Minister of St. Kitts & Nevis, and to the Centennial Board members who are here and to

the Public Health Heroes as well, and to the rest of you like me, who are public health professionals and other professionals who are working hard everyday to make this world a better and healthier place. I've had the pleasure of working with some of you and many of your excellent institutions over the years including INCAP and the CFNI in the 1980s. In addition to conducting my doctoral research in infant malnutrition in Lima, Peru. My work in Latin America gave me a great appreciation for the importance of developing local institutions to solve development problems.

Through the generous sponsorship of Eli Lilly and the Kellogg Foundation, this Symposium symbolizes the importance of cooperation with the private sector and this same cooperation has contributed to the astounding successes in Public Health, both globally and in the Americas over the last hundred years. The partnerships will be even more important in the 21<sup>st</sup> century. As international private investment and private philanthropy continue to exceed and outpace official development aid. The topic this afternoon, Achievements and Challenges of Public Health in the Americas, will cover global issues covered by Dr. Brundtland, regional and national priorities by Dr. Alleyne, the importance of innovation in health care policy by Dr. Meyer, health care financing and access to health care services in the context of globalization by Dr. Frenk, and finally health care and economic growth by Dr. Sachs who I am very delighted to see has just arrived. Welcome and we're happy to have you here.

This afternoon through these distinguished experts and opinion leaders will celebrate the achievements of eradicating entire disease from the face of the earth, remarkable increases in life expectancy and decreases in infant mortality, the growth of open markets and open societies that have led to higher income and better health. We'll also look to the panel members to remind us of the challenges of the 21<sup>st</sup> century. Its fitting that many of our panelists here today have focused on access, sustainable development and financing health care, since building lasting institutions in both public and private sectors is critical in so many ways in the 21<sup>st</sup> century. Strengthening local institutions as I mentioned and critical to deal with new issue of bio-terrorism and other weapons of mass destruction which challenge us in new ways in this century. Its also fitting that other panelists today will address innovation and the cost effectiveness of preventing the now more prominent chronic diseases. There are new preventive health challenges of improved diet and exercise, smoking cessation and therapeutic drugs that reduce cholesterol, blood pressure and clots as providing the low-cost interventions to hospitalizations and doctor's visits. And of coarse we'll here from panelists on the continuing challenges of infectious diseases with the emergence of new deadly viruses and the reemergence of ancient plagues. The format of today will allow each speaker to make remarks and there will be some power point presentations as well and then at the end of the presentations we'll entertain questions from the audience, so you can take notes because we'll do all the questions at the end. If time permits, we'll have some concluding remarks from the panelists, so without further ado, it is my great honor and pleasure to introduce Dr. Gro Harlen Brundtland, Director General of the World Health Organization. And as most of you already know, Dr. Brundtland is a medical doctor with a masters in public health from Harvard. During her 20 years in public service, 10 of these were in serving the Norwegian Public Health System and the other 10 as Prime Minister of her country. She's well known for her role in chairing the world commission on the environment and development, or what we all know as the Brundtland

Commission. She's completing her distinguished position as Director General of WHO having begun her service there in May of 1998. I've been impressed with her strong commitment to access to health care for the poor, along with her realistic assessment of health care systems and the need for government efficiency and accountability. SO with great pleasure I introduce to you today and present Dr. Brundtland (applause)

**Dr. Gro Brundtland:**

Thank you very much. Dr. Alleyne, Dr. Adelman, Dr. Meyer, Dr. Frenk, Professor Sachs, dear colleagues, ladies and gentlemen; we are gathered to celebrate a century of achievement in public health and there are indeed many reasons to do so. PAHO has overseen the most rapid increase in life expectancy humanity has ever experienced. Take Chile, for example, there life expectancy has increased for women by 46 years over the last century. Behind this increase lies a revolution in hygiene and sanitation, in economic development and in medical science. There also lies a long and relentless effort against a number of persistent diseases, Malaria, TB, Dengue Fever, Yellow Fever, Chagas Disease, Polio Small Pox, Leprosy, and children's diseases. Some of these battles have been won, some are showing great progress and some are still raging.

When it was created, a Pan American Health Organization was an ambitious and visionary idea. For many health officials in the many vast and barely fully discovered nations that make up such a large part of this continent, must have felt that their own countries provided more than enough terrain to cover. Yet, already then, experience had shown that diseases don't respect national borders and that countries can benefit greatly from collaborating and sharing experiences. 45 years later, the same basic ideas that inspired the creation of PAHO went global when countries from all over the world came together to form the World Health Organization. These ideas are as valid today as they were a century ago.

Polio is just one example of how the whole world is at risk of a disease as long as one person is infected. The Americas was the first region to be declared Polio-free and that achievement has already prevented tens of thousands of children on this continent from becoming paralyzed. But only when every child everywhere is vaccinated and there are no more cases anywhere in the world for three years can we draw a real sigh of relief, together with our partners, not least which is Rotary. Despite enormous gains a century after the creation of PAHO and a good 50 years after WHO came into existence, nearly half the world's population still does not share in the health revolution that has taken place.

In the World Health Report 1999, WHO spelled out the key challenges for this century. First and foremost, the need to reduce greatly the burden of excess mortality and morbidity suffered by the poor. Second, the need to counter potential threats resulting from economic crisis, unhealthy environments or risky behavior, and third the need to develop more effective health systems. Finally the need to invest in expanding the knowledge base that made the 20<sup>th</sup> century revolution in health possible and that will provide the tools for continued gains in the 21<sup>st</sup> century. To move forward and tackle these greatest unsolved challenges in global health, I believe that the only solution is to bring health much higher on the political and developmental agenda. The great inequities between and within countries will maintain the health gaps, affecting poor people in poor

countries but also poor people in middle income and even rich countries. Changes in trade and aid policy are essential. Changes present patterns of financing for development, safe guards and rights for poor countries within the intellectual property regimes as well.

The Commission on Macroeconomics and Health, which under Prof. Sachs leadership delivered its report a year ago, show how disease is a drain on development and how investments in health are an important prerequisite for economic development. Health systems providing 10 or 12 dollars per capita are not able to provide even the most basic health services. The Commission report calls for a six fold increase in health expenditure in the developing world. Not only is a dramatic scale up clearly needed, it is also feasible. Several countries already contribute their share to such a global solution. The Commission focused on a few key diseases and issues which, if tackled, could give a huge improvement in health outcomes to the poorest; AIDS, TB and Malaria, children's diseases and maternal conditions. As many as 8 million lives saved each year and a six fold return on the investment in terms of economic growth would be the result if we managed to channel enough resources into health for the poorest countries to achieve the Millennium Development Goals.

The public health community must reach out to other players, in finance, trade, foreign policy, and to the leaders of countries who are ultimately responsible for their people for safety, health education and for a sustainable livelihood. The evidence must be assembled, shared and advocated. It was to improve our ability to do this effectively, that the CMH was established. We must open up to alliances that can formulate shared goals and secure results. We need to strengthen institutions, the ability to monitor the efficiency of health systems, to inspire investment in people and in their essential infrastructure.

Through the Global Alliance for Vaccines and Immunization, through the Global Fund to fight AIDS, TB and Malaria and a number of other alliances and partnerships, we have developed a new set of tools to turn resources into effective action. They respond to countries own priorities, they process funds rapidly, they reward results and they are transparent. So our experience is clear, we need private-public interaction. We need to address the challenges and tailor the solutions into projects that can be funded, technologies that can be developed, and local capacities that can respond. The creation of common public goods; national, regional and global that can reach people and help improve health indicators is one way we know works. In achieving elimination and eradication of disease in stimulating access to medicines and other health technologies, in investing in research where there is no current market.

Today, profound changes in lifestyles, in communication and movement of goods and people affect the way diseases and health risks are spread and contained. The recent numbers on AIDS world wide were unthinkable a few years ago. In Africa it makes up 22% of the disease burden. The numbers are a grave illustration of what can happen with an explosive epidemic when we intervene too late and they show we are facing a tremendous challenge to prevent the catastrophic spread of the disease in ASIA. Over the past decade there has been some progress in reducing the burden from infectious diseases. We have seen the power of simple and tried interventions such as oral re-hydration and mass vaccination efforts. Diarrheal diseases and measles are on the retreat and as a result millions of children's lives are saved each year. Unfortunately we have

not seen much progress against other leading diseases such as perinatal conditions, acute respiratory infections and malaria. TB is a continuous challenge and we see some diseases on the rise such as Dengue.

It is not only infectious diseases that spread as people and goods travel across continents. Changes in lifestyle and diet prompt an increase in heart disease, diabetes and cancer. More than anything, tobacco is sweeping the globe as it crisscrossed is by market forces. This is why we need to conclude international agreements to effectively contain a major threat to public health. Last years anthrax incidents here in the US have taught us how vulnerable even the most sophisticated societies are to the deliberate use biological and chemical agents to cause harm. But the wake up call has been heeded. WHO is working globally to improve awareness and to assist countries in building up their preparedness. Unlike most defense investments, disease surveillance and control has immediate civilian benefits since it improves protection against all disease outbreaks, whatever their cause. What is emerging today is a new and wider notion of national security, that of human security. The levels of ill health in countries constituting a majority of the world's population pose a direct threat to their own national and political viabilities, and therefore to the global economic and political interests of all countries.

Colleagues, in a major move to strengthen prevention as we look health issues, the theme at this year's World Health Report is risks to health. By looking at risks in addition to the traditional focus on the burden of disease, we can give a more complete picture of health service needs not only at present but also in the future. The report shows that the risks associated with underdevelopment are still exacting a very high toll. Unsafe water, poor sanitation and hygiene, unsafe sex particularly related to HIV and AIDS, iron and other nutrient deficiencies, and indoor smoke from fossil fuels, are highest on that list.

Other enemies of health are those associated with unhealthy consumption. High blood pressure and cholesterol, tobacco use, excessive alcohol consumption, obesity, inadequate fruit and vegetable intake and physical inactivity are risks; risks that are dominant causes of disease in all middle and high income countries and increasingly on the agenda also of the poorest countries. To sustain our efforts to reduce human suffering and to promote equitable development we will need better tools; the best that science can offer. New vaccines, new drugs and new diagnostics that are designed, developed and priced to respond to the health need of the poorest countries. The past few years have seen a tremendous leap in our knowledge about the human genome and related biotechnological discoveries. We have already seen that these advances can benefit the poor. Only a couple of months ago, the genomes of the most dangerous malaria parasite and the most important mosquito that transmits it were decoded. This is the first step to a whole new generation of technology to fight that killer disease. The potential of new biotechnology to bring benefits to human health is enormous.

We need to look ahead and think about the implications of these new advances. There are a number of questions, both ethical and in respect to equity and access that need to be raised. To what extent should the results of this research be considered as public goods? How do we harness market forces to ensure that both research and the technology that is the product of this research benefit all who need it? Friends and colleagues, I believe we know what our challenges are. In most cases we also know how we can meet them. International collaboration and partnership play a very crucial role

and definitely PAHO will be at the center of analysis and action as we join forces to secure better lives for future generations. Thank you very much (applause)

**Dr. Carol Adelman:**

Thank you Dr. Brundtland for that global *tour de raison* of health, that was excellent. I pleased now to present Dr. Alleyne who has just now told me that I am only allowed to give him a one line introduction. But I am going to disobey him here because I am going to have to give at least several more lines. He needs no introduction and I think that's why he probably asked for that. I think of how fortunate PAHO has been to have Dr. Alleyne at its helm to lead them into the 21<sup>st</sup> Century. This is the same gentleman who gives speeches entitled, "Advancing to our Past" in order to maintain the strong traditions of excellence of the past. It's the same man describes how his heart was racing when Frances Crick talked about the new vistas opened up with the discovery of the double helix.

He was born in Barbados, has studied and taught medicine at the University of the West Indies and done postgraduate studies in Great Britain and the United States and received numerous awards and distinctions, which I'm sure that he would not want me to mention, but they have been very, very distinguished. I have been especially impressed with his great respect for and leadership in health research over the years, both clinical and epidemiological. So I am sorry that was more than one line but you are definitely worth many more than that. And I'd like to introduce Dr. George Alleyne to everyone. (applause)

**Dr. George Alleyne:**

Thank you very much Dr. Adelman. Mr. Prime Minister, Ministers, Members of the parliament, ladies and gentleman, I would like to complement that excellent presentation of the global situation given by Dr. Brundtland with a *sub san* of what is the situation of the Region of the Americas and what is our vision for the future. I'll describe the perspectives on health for the Americas and we preface every presentation we make this year with that you say celebrating 100 years. I am going to discuss very briefly the past, and then I am going to dwell also briefly on what is the present situation as we see it, and then briefly on what are the future challenges and how we intend to meet them.

When our founding fathers met on this day 100 years ago, they had before them the resolution that was passed in Mexico earlier that year, and they said at that time that the things that should concern them were Cholera, Yellow Fever, Bubonic Plague, Smallpox and they were prescient in pointing out any other epidemic of a serious nature. And when they met they had before them information that was before them that as long ago as 1870 they had Yellow fever in Brazil, Paraguay, and Argentina and 15,000 deaths in Buenos Aires at the end of the 19<sup>th</sup> century. And Cholera was rampant in this country from the middle of the 19<sup>th</sup> Century up till the end of the 19<sup>th</sup> century. And at the beginning of the 19<sup>th</sup> century, in this country, there was an outbreak of Bubonic plague that killed some 122 people.

So I would characterize the health situation in the countries of the Americas when our founding fathers first met perhaps in Hobbsian terms as 'nasty, brutish and short' because the health was characterized by the presence of infectious disease such as Yellow Fever, Cholera Bubonic Plague, Smallpox and many children died before they saw their first birthday. And I point this out in this slide that was collected by Aristides Moll, one of the pioneers of this organization, who pointed out that the levels of infant mortality in the various countries of the world, of the Americas, and I put a line above Barbados when

the infant mortality rate in Barbados in 1920 just four years before I was born, was 130. And I'd like to say when I was born; I had a 1 in 3 chance of surviving to see my first birthday.

In 1902, 1952, 2002 we can see from this slide the change in life expectancy in the Americas. We can see in the Region as a whole, the United States and Latin America and the Caribbean there has been significant improvement over the last 100 years. And when we graph the increase in the last 50 years for Latin America and the Caribbean, you can see there has been a steady and constant increase in life expectancy in all countries, in a sense a tribute to the work our Ministries of health, our Ministers of health have done over the last few decades. You see how infant mortality rates have fallen and many of you here in this room have had a hand to play in this decrease in infant mortality rate. You will see here that two of the major killers, diarrheal disease and pneumonia, how they have changed in the last thirty years.

And here we point out, Dr. Brundtland mentioned the eradication of poliomyelitis and you'll see what happened over the course of the years in the Americas. And in the last 11 years there has been no child in the Americas that has suffered from poliomyelitis and that is one of the reasons I am so pleased to see Dr. Carlos Consecro who is president of Rotary International, the timing they had, the prescience and the foresight to join hands with us here and other institutions and agencies for the elimination of this disease.

And you'll see here another of the conquests of infectious diseases. I hate to use military terms, but perhaps it's the only term I can use, of measles. It was felt that measles could never be eliminated, could not be eliminated, it was such an infectious disease. But the Ministers of Health, the countries of the Americas have shown that it is possible to eliminate measles. One factoid that I always caught, last year there were 30 million cases of measles in the world and 800,000 deaths and in the countries of the Americas, there were 540 cases in all. For the last ten weeks there has not been a single case of measles in the countries of the Americas. As night follows the day, when infant mortality falls, fertility ratios fall. We see here the fertility ratios, children per woman, falling constantly in the countries of the Americas over the last fifty years. It is almost the law of the means that as child mortality falls, fertility will fall in its wake, producing a bulge in population which Professor Sachs will tell you is a kind of dividend which we should all take advantage of in our search for economic progress. Here you will see an increase in water and sanitation. And because all of us know that the improvement of water and sanitation is one of the measures that have led to the decrease in infant mortality and child morbidity.

Now given that past, what are some of the present and future challenges? I would characterize the health situation in the Americas as follows, it is characterized by a mosaic of diseases, infectious and noninfectious diseases, but with marked inequity in health, and I do not apologize for putting inequity in health in the same place that I refer to the mosaic of diseases that affect us. There is gross inequity in health outcomes, and obviously gross inequity in the determinants of such health outcomes.

This is not a problem but a just fact that our population is aging. And you will see an increase in number of our populations over the age of 65 in all the countries of the Americas. In all the countries we see an increase in the older population, which brings with it a certain joy to many of us. It brings with it the necessity to adjust those services appropriately, and brings with it several of the other features of our society that have to be brought out, such that the presence of the older persons among is counted as a plus and not as a minus in terms of the progress of our societies.

What are the new epidemics that are coming from changes in social conditions that influence our behavior patterns? I site three of these epidemics, the epidemic of tobacco use of which Dr. Brundtland referred, the epidemic of alcohol use, and the new epidemic that is sweeping the Americas: the epidemic of malnutrition. But not

malnutrition that was present when our founding fathers first met, this is the malnutrition that produces obesity. We found here that some 14% of total illness in Latin America and the Caribbean is related to those illnesses caused by alcohol consumption. And when we speak of tobacco, I will not bore you with statistics about tobacco and the number of deaths, and the morbidity causes not only mortality, but I'd like to site that there were 1.1 million deaths a year in the Americas, of this total, 500,000 are in Latin America and the Caribbean.

Here is a trend for obesity for women 30 years and older in the Americas. This trend is not restricted to women 30 years and over, it is to both sexes and all ages that we see these increases in obesity. I show this picture from Botero, the artist from Colombia. I show it as a reminder to us all, that's not what we should all become in years to come. Hopefully the artists of Botero's ilk will show us all slim and svelte in the year 3002.

We cannot ignore the new presence of the scourges of infectious diseases, and this is just to point out the present situation of the AIDS cases, and it is no comfort to us that whereas in Latin America you will see a decline in the number of AIDS cases, in the Caribbean, the epidemic is still raging. And let me congratulate the Prime Minister of St. Kitts-Nevis for the leadership he's taken in this area in the Caribbean.

For our present and our future, all tasks will be tied to the Millennium Development Goals. And I cite four of those goals that have intimate relationships to what we do: eradicate extreme poverty and hunger, reduce child mortality, improve maternal health, and combat HIV/AIDS, malaria and other diseases. We are convinced that as we address these Millennium Goals, there will be a combination of factors and involvement of different sectors to address these goals. As Dr. Juan Carlos Mireles who is here will tell you, that probably one of the best ways that we will find one of the best ways to increase the economic output of our countries is through agri-business. That is why a program of veterinary public health, which involves foot and mouth disease and food protection, is an integral part of what we do in the Pan American Health Organization.

This is the situation of poverty. It is a blot on us all that in the year 1980 there were 136 million people in poverty in the Americas and twenty years later there are more than 200 million people who live in poverty. We in health have to be concerned about this, not only because poverty causes ill-health, but we believe and can show and demonstrate that attention to health is one of the factors that can relieve poverty, that can help people come out of the poverty trap. Professor Sachs Commission Report pointed out in very clear terms: the need to have poverty as a focus of health interventions, and the need to see the economics of poverty not only in terms as what Ministers of Economy do, but also to see the economic of poverty in terms of what the Ministers of Health do throughout the world.

This is a demonstration of some of the inequities that we face. This is indigenous poverty in Latin America and it shows four of our countries and the percentage of the population that is living in poverty. You can see that the indigenous populations are those that are more likely to live in poverty. We can show this for other groups as well that when we look at determinants of poverty, determinants of ill-health, you will find some of the marginalized groups, marginalized ethnic groups, suffering more from poverty than their fellow citizens.

This is a stark example of the difference that exists in our Region. I refer to the best country and the worst country, not with the idea of being pejorative, but just to illustrate the difference. If you look at the difference of infant mortality rate, the difference is 10 to 1. Life expectancy is about 20% difference. If you look at maternal mortality, I think that it is a scandal that in this region, maternal mortality in the country that is worse off is almost a hundred times worse than the country that is best. 100 times more mothers die in that country than die in another. And we contend that that should not happen. It is an insult to all of us in public health that that should happen. We as an organization are trying aggressively to deal with this particular problem. It is not rocket science to reduce the number of women who die giving birth.

This shows some of the inequalities that exist in our countries, when countries are divided according to economic groupings. You can see how infant mortality rate varies according to the economic grouping in which a country falls. And this very interesting slide that shows that although the infant mortality rates have fallen over the years, the difference between the top 20% and the bottom 20%, the richest 20% and the poorest 20% of countries has not really changed. So there has not been a gap. One of the things of which we have become convinced and speaking to Dr. Frenk and he is adamant with me on this, that Millennium Goals should now be cast as equity goals. Not saying that we shouldn't reduce the percentage or average number of infant deaths, but our focus should be on how we can reduce the gaps between those that are better off and those that are worse off.

What is our response? I would site but three. Our responses should be the same commitment by the countries of the Americas to improve health. This has been a tradition of the countries of the Americas to do this, and I think the response will be couched in terms of the manner in which the same commitment is given by these countries of the Americas to work together to improve health. And the response will be the same commitment by the Pan American Health Organization to work with them. And I trust and hope that it will be the same commitment of partners like yourselves to work with us in our work. Thank you very much. (applause)

**Dr. Carol Adelman:**

Thank you Dr. Alleyne for that really excellent description of the epidemiologic transition in the Americas and giving us an entirely new demographic profile with an increasing working age which does have tremendous implications for savings and investment, and an increase focus on the family, in terms of working age and the elderly, not just paternal/child health issues.

I am now pleased to present Dr. Jack Meyer who did his undergraduate work at the University of Michigan and his PhD in economics at the University of Ohio. He is the founder and president of research and policy organization called New Directions for Policy. His work over the years has focused on better understanding the forces that drive health care spending, something that we all focus on no matter what our health care specialty is. He has conducted seminal work for projects with leading foundations including the Robert Wood Johnson Foundation and the Kellogg Foundation. This work has focused on expanding health coverage for middle classes and the poor, and looking at innovative ways of providing health care to children and families.

As founder and President of the non-profit Economic and Social Research Institute in Washington D.C., he has conducted important work on the cost-effectiveness of the pharmaceutical innovation and an assessment of the strengths and weaknesses of managed care models for health care delivery. Also an interesting model that has been tried in many Latin American countries and has had mixed degrees of success. His work in pharmaceutical cost-effectiveness is particularly relevant to the challenge of chronic diseases now, both globally and in the Americas. So I am very pleased to present Dr. Jack Meyer.

**Dr. Jack Meyer:**

Thank you very much Carol and it's indeed an honor to help you celebrate the 100<sup>th</sup> anniversary and to be apart of this wonderful symposium and I'm pleased to be on this panel. I want to start by reviewing some key messages that I have for you today. The first is that many new drugs save money and improve health. These benefits may be realized in Latin American countries and Caribbean countries that hav with large needs pressing upon limited resources. Carefully targeted use of new drugs to manage chronic illnesses may actually help countries meet their tight budget constraints and foster growth. So that sometimes, a newer product or treatment that costs a bit more, or a lot more, may still be economical when all the benefits and all the costs are actually taken into account.

Now I start by noting that there are many differences among our countries and I am a US economist, I don't come here suggesting that what we do with our budgets is appropriate for your countries. The differences are acknowledged and I think that we can learn from each other. We can learn from your effort to build a viable public health system and from the wonderful progress that PAHO countries have made against infectious diseases. And we have problems here in the US. We cannot be smug. 41 million people in the US have no health coverage whatsoever. Costs are increasing enormously in our country and we have widespread inappropriate care and medical errors. All of these problems we're working on but we have much to learn from you in terms of early intervention and prevention, even as we hope to share some ideas of our own with you.

I want to emphasize that new drugs can lower health costs. According to one study of 1100 patients with congestive heart failure, a disease management program featuring new pharmaceutical for these 1100 patients, saved \$9.3 million. And it increased the ability of these patients with congestive heart failure, to perform the activities of daily living by 15%. Sometimes just something like a one-a-day dose compared to four times a day by increasing compliance can reduce complications and save money in the long run. New medications, if properly applied, and that's an important caveat that I will come to later, can increase life expectancy. In fact, some studies have found a direct correlation between reductions in mortality within certain diseases and the number of new drugs to treat those diseases, controlling for other things like new surgical techniques.

In fact over 45% of the variation in mortality across diseases in a study that ranged over two decades was explained by the extent to which new drugs were used to treat those diseases instead of older products. In fact the reduction in premature death that occurred was over five times greater within diseases that had the highest utilization of new drugs than for diseases with the lowest utilization of new drugs, 77% versus about

13 %. It's very important to find out which drugs, it may not be all, to help us manage chronic illness and manage disability as well as improve workplace productivity and reduce absenteeism.

And I guess my message today is that all the PAHO countries, including the United States, countries in Latin America and the Caribbean, can build on the same professionalism that this organization, and you the health Ministers, have brought to reducing infectious disease and carry it into the next frontier, which is learning how to manage chronic illness and disability. That is still a looming challenge even as we continue to address the remaining important challenges in the infectious disease front. Let me be a bit more specific about lowering health costs. I mean that fewer and shorter hospital visits for diseases where new drug use is the greatest, according to one piece of research, a \$1 increase in pharmaceutical spending yields a \$3.65 reduction in hospital expenditures.

My message is that we need a framework that incorporates all the costs and all the benefits. We can't just look at the price of the drug, although that's important. We have to look at how that pharmaceutical factors in to all the costs within the health care system, and even outside the health care system, particularly in the work place. So that if a new product, such as a medication that decreases depression, helps someone return to work and be productive. That obviously increases dramatically the person's quality of life, but it also reduces health costs in the long run. Not all products will pass that test and I'm not here to say that you should adopt them all within a very fixed budget. But you can look at each product one by one.

In addition, some new drugs which are very cost-effective for their initial use are then applied inappropriately to many other kinds of uses and then become cost-ineffective. So that what we need is technology assessment to carefully target our investments to the appropriate uses that pass a very broad benefit-cost criterion when all the benefits are factored in. Other research has shown, and it looks like PAHO has been actively engaged in this, increased life expectancy boosts economic growth and certainly studies of the US have found that. Professor Nordhouse at Yale University and other scholars have certainly documented the importance of increased life expectancy which in part results from new medical research and innovation, obviously in part also, from improved sanitary conditions and improved lifestyles and reductions in infection.

One study showed an \$822 per year drop in medical costs when depressed workers were treated with newer generation and appropriate products and a reduction of nine days per year in their absenteeism. Indeed as a volunteer in the state Virginia on a community mental health board, we found people who had been in in-patient institutions for all their lives, people 40, 45, 50 years old who had severe mental-emotional disorders. When treated with third generation, they were able to come out of that institution, live in an apartment, get a job, full time or part time and get more dignity in their life. Although the new product costs considerably more than the old one, the savings from being deinstitutionalizing that person were great, not to mention the wonderful improvement in their quality of life. We know and have observed a 30% decrease in mortality from heart attacks over a 20 year period. According to a study by David Kutler and Mark Macluran, pharmaceuticals alone were responsible for 25% of the total reduction, by far the single most important factor.

Another important area where we've learned a great deal is that many patients who suffer a first heart attack can experience a dramatic reduction in the likelihood of another heart attack, a recurrence, if they're treated with beta blockers promptly following the first heart attack. You see the savings figures there, again not to mention the reduction of human suffering. And the use of beta-blockers is one thing that US companies and managed care plans are using, in fact many large businesses and coalitions in the US are holding the health plans with which they do business accountable for the greater use of beta blockers and taking that into account in determining whether to sign them up again for their work forces. This has led to a very sharp increase in the percentage of workers who have heart attacks who get beta blockers, as high now as 80%, compared to about 50% a few years ago. Other corporations are saying we want to look at your immunization rate, your mammography rate, your pap smear rate and if you don't increase the proportion of our members, our workers and their families who are immunized in case of the kids, or have pap smears in the case of women or mammography, we don't want to do business with you continually. This is a criterion for being able to serve our employees.

We live in a world as I say where chronic illness is taking over, in many cases for acute care episodes, as a leading driver in health spending. People with at least 1 chronic illness spend nearly 6 times as much on health care as those without any at all. We have observed in a recent report by the Institute of Medicine, just a few blocks away, that four priority diseases, cardiovascular disease, cancer, pulmonary disease, and diabetes account for some 3/4 of deaths in U.S. That's probably true to some extent with some variations in some of your countries. It may be another four, or maybe three of those 4 and a fourth one, but we need to target those diseases that account for the great majority, in fact the IOM study said that if you looked at 15 conditions, you would account for the great majority of all deaths in many countries. We can't throw our money at everything, we don't have enough. But these kinds of priority diseases are often also ones where pharmaceuticals play a vital role in their management and control, perhaps not cure, but controlling flare-ups and hospitalizations.

So I offer a strategy for Latin America and the Caribbean that involves identifying a few key areas where benefits of innovative drugs are clear and very large, making the front-end investment to make brand-name drugs in those priority areas available to all, not just those in the private system, but public and private alike. This will involve putting money up at the front end and I realize that is very difficult to do. But I think the payoff will be enormous in terms of hospital costs, emergencies, physician costs and many other costs in terms of neglecting the problems. We need to also incorporate compliance, because non-compliance with medication treatment can be very important. A good example of progress in this area, is I'm told the progress that has been made by Brazil over a number of years through antiretroviral treatment of HIV positive people where a large investment was made at the front end to bring the appropriate medications but this had a big payoff which far outweighed the cost of the treatment in terms of return to work and reduced hospital costs.

I get somewhat frustrated with the debate that it is either prevention or treatment. We need both. We critically need an HIV positive and AIDS populations; we need to stop it at the front end through all the wonderful measures that are being taken by this organization and by other organizations. But we also have access now to wonderful

breakthroughs in treatment, they're expensive, but we should not think that because we are investing in the prevention we should not be investing in the treatment. We need both with this terrible problem as with so many problems in our society. I get also so frustrated we have this debate here in the US over illegal drugs. Should we try to interdict them and prevent them, or should we put more money into substance abuse treatment? Quite obviously, we need both and anyone who is wrestling with that in their family know that treatment is important, and is expensive but also saves money in the long run.

I'll offer, but I'll briefly skip over, an example of new diuretics that cost more, but the old ones cause some patients to lose potassium. There is a lot of money spent in testing and retesting and titrating and it turns out that if you didn't have to do that because newer ones don't cause people to lose potassium. They may end up actually being a good investment

Let me mention briefly the case study of asthma that I offer you, where according to one study published in the US Journal Health Affairs, spending over a four-year period was driven primarily by volume. There was a dramatic increase, indeed over a 90% increase, in spending for asthma drugs, but it was addressing the under care. We found, our research in the US found that 54% of patients with diabetes, and we're finding the same thing with asthma but let me mention diabetes. 54% of people with diabetes never went to an ophthalmologist during the year. 84% never had their hemoglobin A1C checked. These are basic, elementary preventive measures. Among people with asthma, only 27% received an inhaled anti-inflammatory treatment. So that we observed in these studies that a large part of the increase in spending was actually getting these preventive measures treatment to people with asthma, the same has been found in people with diabetes. So the increased volume contributed directly to reduction in under-care, and also the studied documented, reduced emergency room visits and reduced hospitalizations. This may be a target for many of the PAHO countries. You can see here, and I won't dwell on this but would be glad to share these figures, a great number of drugs had big increases in total spending shown off to the right. Very little of that had to do with price in many cases and a lot with volume. That doesn't mean there isn't some debate over volume. We are having a debate over direct to consumer advertising and whether that is good or bad, but certainly we know to some extent it helps reduce under-care, although there are two points of view on that quite understandably.

As we have an aging population we will have to recognize that new interventions, new technology can play a major role in decreasing disability and chronic illness. About 15 percent of the U.S. population accounts for about 75 percent of total health care spending. I don't know the exact figures in your country. But what we don't know how to do very well is manage those long-term diseases and conditions and help people stay healthy and out of the hospital. This is a huge challenge and we need to learn how to make use of team based care where services are integrated, where nurses and nurse-practitioners work with social workers and pharmacists, and recognize that a combination of health and social resources are needed to address the emotional and physical needs of these patients.

I just want to present some results from one study but there have been a number of studies like this, that show the additions to life expectancy and this particular chart shows that the benefit to cost ratio as calculated in one study from achieving and extra

year of life through a pharmaceutical R & D approach. Obviously this is sensitive to the value of life that you use. If you used a value of life of \$50,000 instead of \$150,000, which gets into a lot of esoteric debates among us about what to count. You would get a lower figure so that figure would be 40 to 1 instead of 111 to 1. These are figures that are still enormous payoffs no matter what value you place on an extra year of life and much higher than achieving it through the general medical expenditure approach. Indeed looked at another way, we would spend about \$1345 per life year gained to a pharmaceutical intervention, compared to about \$11000 if we scattered the money throughout the health care system. So this is a great return on our investment. There are some cautions. We must put the money up front, as I mentioned before. We must also recognize that some of the gains are realized outside of the budget of those that had to make the front end investment. So we need to take a societal viewpoint and we still need to finance the front end investment. And as I noted earlier, not all the applications to which innovation is applied will be cost-effective so that there is a great potential to take something that starts out as a very good investment and overuse it and apply it where its inappropriate and not manage its use and in this case the gains will be greatly diluted and the costs will soar.

In conclusion, I offer you the following set of thoughts. We are moving from a world in which acute care episodes have been dominant, heart attacks, accidents and crises, and a world in which infectious diseases have been our greatest threats. These problems are still with us, they're not gone. But we are now entering an era in which an aging population, chronic disease, disability are driving up health care spending in the future. As well as inefficiencies in the health care delivery system and a system, at least in our country that is too often dominated by the traditional medical model and doesn't recognize the social determinants of health, in terms of poor air quality, poor nutrition and all the factors that Dr. Brundtland so well documented. Pharmaceutical innovation will not cure these problems but it can be an integral part of an effective disease management strategy to tackle this new challenge. Investment in these kinds of new products can generate savings throughout health care system. We need a better way to evaluate the cost-effectiveness of these products; each one has to be looked at independently. There's no magic bullet, but there are benefits from developing many of the new products which I suggest to you will frequently outweigh the costs. Thank you. (applause)

**Dr. Carol Adelman:**

Thank you Dr. Meyer for reminding us of the important concept of the total cost of a disease versus the approach of component cost management in treating diseases. I think also thank you for the very creative, targeted strategy you suggested for limited health care budgets in terms of looking at preventive strategies for chronic diseases and signaling out maybe a few of the chronic diseases. I should think that I know that the studies on cost effectiveness are very limited in the emerging economies and developing countries and most of the data that we glean on this is from the developed world. So its important to see that kind of research expand as well. Hopefully that will happen.

It's now my privilege to introduce Dr. Julio Frenk, the distinguished Secretary of Health from Mexico. His career is remarkable renaissance as I read it. In his broad experiences, he's served in international organizations at the WHO in charge of evidence

and information for policy. He has been a leader in his own national government, having founded Mexico's Center for Public Health Research in 1984 and its National Institute of Health in 1987. Dr. Frenk has also served in the private, nonprofit sector as executive vice president of the Mexican Health Foundation. He rounds out this impressive background as an adjunct professor at the School of Medicine of the National Autonomous University of Mexico and was a visiting professor at the Harvard Center for Population and Development Studies. He is a prolific writer having published 28 books and monographs, and written numerous articles. He has the unique training and experience I believe to really help improve access to services for the poor, yet maintain the quality and safety that is so important and the recognition of consumer preferences in health care. I think he deserves a special round of applause because he just flew in last night and was on a plane for twenty hours coming in from Kazakhstan. So I think we should give him an especially loud round of applause, Dr. Frenk.

**Dr. Julio Frenk:**

Muy buenas tardes a todas y a todos. Muchas gracias a la Dra. Adelman. Espero que en esta presentación no se noten los efectos de las veinte horas de vuelo. Dra. Brundtland, Dr. Alleyne, distinguidos panelistas, honorable Señor Primer Ministro de St. Kitts y Nevis, estimados colegas y Ministros de Salud, miembros del Consejo del Centenario, muy admirados héroes de la salud pública, funcionarios actuales y pasados, estimados colegas. El día de hoy nos reúne un acto histórico: la conmemoración del primer siglo de existencia de la Oficina Sanitaria Panamericana. Rendimos hoy homenaje a la visión de aquéllos que nos antecedieron. Son estos actos de justo reconocimiento al pasado son los que alimentan el espíritu para construir un futuro mejor. La constatación retrospectiva de los grandes logros de la OPS imprime a este momento un carácter irrepetible. ¡Qué afortunados somos de podernos reunir, 100 años más tarde, en el mismo día cuando se puso en marcha una de las grandes historias de éxito del siglo 20!

Pero la verdadera celebración no se está llevando a cabo aquí adentro. La verdadera celebración se realiza allá afuera, en los cientos de miles de vidas que han sido salvadas y enriquecidas gracias a la labor de la OPS. No voy a repetir ante ustedes la lista de logros de la OPS a lo largo de estos 100 años. Me limito a compartir con ustedes la sensación de humildad, privilegio y compromiso que surge de sabernos herederos del valioso legado que hemos recibido de los fundadores de la OPS, de sus sucesivos directores y de los miles de funcionarios dedicados que han servido a la salud de las Américas. Todos ellos y ellas han acompañado a las generaciones de médicos, enfermeras, sanitaristas y otros trabajadores de la salud que, en cada uno de nuestros países, han forjado las grandes hazañas de la salud pública continental. A todos ellos y a todos ustedes, a los que están aquí y a los que ya no nos acompañan, les brindo un reconocimiento emocionado.

A Sir George Alleyne le agradezco su gentil invitación a participar en esta ceremonia tan significativa, donde celebramos lo mejor del espíritu humano. Sir George ha conducido una brillante carrera como investigador, como pensador y como servidor público internacional. En este último papel, él ha sabido llevar a nuevas alturas la labor de una línea distinguida de directores de la OPS, labor que estoy seguro seguirá siendo enriquecida en el futuro, ahora que la OPS empieza su segundo siglo. Dije antes que esta

ceremonia nos permite celebrar lo mejor del espíritu humano. Y justamente se encuentra aquí una líder que es emblemática de ese espíritu: Gro Harlem Brundtland. Ella ha construido un valioso legado a favor de la salud y el desarrollo globales. Todos tenemos hacia la Directora General de la Organización Mundial de la Salud una profunda deuda de gratitud.

Por todo lo anterior, es para mí un honor compartir este foro con ustedes. Se me ha pedido que aborde los logros y desafíos relativos al financiamiento y el acceso a los servicios de salud. Sería pretencioso de mi parte intentar una revisión completa de este tema. Me limitaré a delinear las varias generaciones de reformas que han ido configurando los sistemas de salud en nuestra región, especialmente en América Latina. Posteriormente revisaré los principales retos que se presentan sobre todo con relación al proceso de globalización.

En este esfuerzo, quisiera yo dejarles dos mensajes centrales: Primero. En el campo de la salud siempre somos víctimas de nuestros éxitos, de manera que los avances del pasado contienen ya el germen de los desafíos futuros. Esto es lo que da a la salud pública su dinamismo y lo que hace tan interesante la vida de quienes nos dedicamos a ella. Segundo. Hoy, como nunca, la salud nos ofrece un ámbito concreto para enfrentar los retos de la globalización dándole un rostro humano que promueva la seguridad y el desarrollo.

Permítanme pasar a una muy breve reseña del desarrollo de los sistemas de salud. Estos 100 primeros años de vida de la OPS coinciden con una de las revoluciones más profundas en la historia de la humanidad: la revolución de la salud. Esta revolución ha tenido dos dimensiones fundamentales. Por un lado, el cambio radical en el perfil de enfermedades expresado a través de las transiciones demográfica y epidemiológica, a la cual ya se refirió de manera elocuente Sir George Alleyne. Por el otro, cambio en los sistemas de salud mismo, en la respuesta social organizada ante los problemas de salud. No existe una relación lineal y directa entre estas dos revoluciones; no todos los cambios en los sistemas de salud han alimentado a los cambios en el perfil de enfermedades, y ciertamente este cambio de perfil ha tenido muchos otros determinantes. Aún así, esta segunda revolución, la revolución de los sistemas representa una de las más profundas transformaciones sociales del siglo XX. De haber sido, por a lo largo de casi toda la historia de la humanidad, una actividad indiferenciada que se llevaba a cabo, en el seno, sobre todo de instituciones como la familia o la religión, el cuidado de la salud pasó a ser un sector altamente especializado que absorbe una creciente proporción de recursos humanos, financieros y recursos de conocimientos. Sin duda, esta es quizá una de las revoluciones sociales más profundas del siglo XX.

En esta transformación tan radical podemos identificar en nuestra región, particularmente en el área Latinoamericana, tres grandes generaciones de reformas. Y uso esta metáfora, porque así como las generaciones de familias coexisten los abuelos, con los hijos y nietos, también los elementos de estas reformas no son sucesivos, sino que coexisten en muchos puntos en el tiempo. Cuando todavía persisten elementos de una generación, arranca ya la segunda, y en un momento dado, coexisten las tres. La primera gran generación consistió en la constitución de las instituciones fundamentales de la salud en nuestra región. El nacimiento de la OPS coincide, como lo señaló Juan César García, con el desarrollo de las primeras instituciones especializadas en salud en las Américas. Este proceso se profundiza en la posguerra mediante el

establecimiento de un ministerio de salud, de institutos de seguridad social y de otros mecanismos especializados y dedicados de manera exclusiva a prestar o financiar los servicios de salud.

Entra después una segunda generación, motivada por el agotamiento del modelo inicial y por un verdadero cambio de paradigma hacia la atención primaria a la salud (APS); un cambio que tiene raíces mucho antes pero que ciertamente se acelera a partir de los 70. Esto se acompaña en muchos países de los primeros esfuerzos serios de modernización administrativa y de descentralización de los servicios de salud. Sin embargo el movimiento de APS no es sólo un cambio en la organización de los servicios, sino también una transformación en la relación del sistema formal con la población. Es entonces cuando se empieza a reconocer el carácter que la atención a la salud tiene como derecho humano fundamental, cuando se pone un énfasis en la participación comunitaria y cuando arrancan los grandes proyectos de promoción de la salud.

Finalmente a partir de los 90 empieza a nacer una tercera generación, que construyendo sobre los logros anteriores empiezan a adquirir preeminencia nuevos temas, entre ellos, el tema del desempeño. Ante la constatación de las enormes variaciones que hay, y de la forma tan diferente en que distintos sistemas utilizan el mismo volumen de recursos, y de los resultados que obtienen de esos volúmenes, surge este tema. No sólo en el aspecto técnico de la atención sino también en el aspecto interpersonal. El tema de la calidad en el trato digno a las personas empieza a adquirir una prominencia especial.

Un segundo gran tema de esta generación de reformas es el de la Sustentabilidad financiera. En la mayoría de los países la transformación epidemiológica impone una limitación estructural a los esquemas financieros convencionales. Aquí es donde se ve claramente como los sistemas de salud son víctimas de los éxitos. Empiezan a surgir padecimientos mucho más costosos. Además de la preocupación con estos problemas estructurales financieros viene el tema del rediseño organizacional para lograr una alineación de los incentivos hacia la promoción del buen desempeño técnico y el buen desempeño en el sentido de responder a las expectativas legítimas de la población. A esta generación, si le pudiéramos dar un lema, este sería: más dinero para la salud y más salud por el dinero.

Sobre estas tres grandes generaciones, sin duda se han construido instituciones, se han desarrollado recursos humanos; nuestro sistema de salud tiene una presencia, los logros en materia de salud pública están a la vista. Pero sobre esos avances del pasado persisten sin embargo nuevos retos. En el marco dentro del Programa Nacional de Salud de México tres son los grandes retos que tenemos aún que enfrentar para seguir construyendo sobre los avances del pasado: equidad, calidad y protección financiera.

El reto de la Equidad proviene de la constatación de que han persistido las desigualdades por región y grupo social. Esta es nuestra gran asignatura pendiente en la región de las Américas. El reto de la Calidad surge por esa heterogeneidad tan marcada donde coexisten instituciones o unidades de atención de excelencia y algunas que dejan mucho que desear. Esta enorme variación que vemos ante el mismo volumen de recursos en la obtención de resultados tanto en los aspectos técnicos como en el trato digno a las personas. El tercer reto a la Protección Financiera emerge por la enorme inseguridad que tenemos en esta región ante los gastos excesivos, la cobertura limitada de los esquemas de seguridad social que ha dado lugar a un estado de inseguridad de muchas personas que se ven obligadas a pagar por su atención con su dinero y donde se ha subrayado la

necesidad de fortalecer el financiamiento público y solidario de nuestros sistemas de salud.

Estos son retos que cada país enfrenta con proyectos de reforma, con experiencias de innovación. A ellos se suman ahora nuevos desafíos derivados de la globalización. A ellos me refiero brevemente para concluir. Sobre la compleja dinámica que se da al interior de cada uno de nuestros países se añade una segunda capa que proviene de la interrelación creciente llamada Globalización. Un fenómeno creciente que ha acompañado este proceso es la transferencia internacional de riesgos a la salud. Es una gran diversidad de riesgos que se transfieren y se mueven sin respeto por las fronteras. Están ahí los cambios ambientales globales. Está de manera muy central el movimiento de personas. Esto no es nuevo *per se*. De hecho, el primer caso documentado de una epidemia transnacional fue la plaga ateniense de 43 a.C. La Muerte Negra de 1347, que terminó con una tercera parte de la población de Europa, fue consecuencia directa del comercio internacional. En el siglo XVI, la conquista de los imperios azteca e inca constituyó un ejemplo temprano de una guerra bacteriológica involuntaria con la introducción de la viruela en una población que no se había expuesto a esta enfermedad. Más recientemente, la pandemia de influenza de principios del siglo XX provocó más muertes que la Primera Guerra Mundial. Así que el movimiento de personas por la migración, el comercio, la guerra o el turismo, no es nuevo. Lo que sin duda es novedoso, sin embargo, es la escala del llamado “tráfico microbiano”. El crecimiento explosivo de los viajes en el mundo produce a diario miles de contactos potencialmente infecciosos y los aviones han abreviado incluso los viajes intercontinentales más largos hasta hacerlos menores a los períodos de incubación de cualquier enfermedad infecciosa humana.

Para complicar todavía más las cosas, no es solo la gente, los microbios y los bienes materiales los que viajan de un país a otro, también lo hacen las ideas y los estilos de vida. Tenemos una difusión de estilos de vida que tienen su expresión en los riesgos emergentes ligados al sobrepeso, la obesidad, a la inactividad física, a la hipertensión y nuevos riesgos emergentes. El comercio en sustancias peligrosas es también parte de esta constelación de riesgos internacionales. Sustancias peligrosas, sean legales, como en el caso del tabaco, o sean ilegales como en el caso de otras drogas adictivas que también constituyen redes globales de comercio. Existe otra forma de transferencia indirecta de riesgos que son las diferencias en los estándares de salud ocupacional y ambiental que a veces promueven el movimiento o la instalación de fábricas en aquellos lugares donde los riesgos ocupacionales son mayores.

Por si todo lo anterior fuera poco, tenemos ahora el fenómeno del Bioterrorismo. Esta transferencia internacional de riesgos ha creado la paradoja de la soberanía. En nuestro mundo, donde la unidad política con los estados/naciones soberanas, la salud de cada población sigue siendo la responsabilidad de cada gobierno. Sin embargo, cada gobierno individual carece de los instrumentos de política para influir una gran cantidad de determinantes de esa salud de la que ellos son responsables. ¿Cómo resolvemos esta paradoja? La solución está en buscar y diseñar nuevas formas de cooperación internacional. Formulas que movilicen la acción colectiva internacional por medio de las agencias especializadas en salud como la OPS y la OMS.

Estas nuevas formas de cooperación deben basarse en las tres “E’s”. la primera son las experiencias compartidas. Necesitamos nuestras agencias especializadas para facilitar el aprendizaje compartido entre los países. Cada reforma y cada innovación es

una experiencia que no debe perderse. La información se vuelve un bien público global. Pero para que esto sirva, debe basarse en la segunda “e”, las evidencias. Necesitamos estimular los análisis comparativos de los sistemas de salud y la difusión de las mejores prácticas. Esta es la base para dar credibilidad a esfuerzos por promover mayor inversión en salud. Uno de los grandes méritos del informe de la comisión de macroeconomía y salud fue justamente que le ha dado una base de credibilidad a la argumentación a la abogacía a favor de una mayor inversión en salud.

Pero al ejercicio de la razón debemos sumar una tercera “e”, que también puede enriquecer la cooperación internacional en salud en el siglo 21: la empatía.

El filósofo británico Isaiah Berlin propuso el estudio comparativo de las culturas como antídoto contra la intolerancia, los estereotipos y la peligrosa ilusión, por parte de individuos, tribus, estados, ideologías o religiones, de considerarse los únicos poseedores de la verdad. En el centro de esos estudios debe estar la empatía, esa característica que nos permite participar emocionalmente en una realidad ajena, comprenderla, relacionarnos con ella, y al final, valorar los elementos que nos hacen a todos miembros de la raza humana.

Esto me lleva a mi mensaje final: el valor especial de la salud para neutralizar los efectos negativos de la globalización. Al lado de los efectos positivos actuales y potenciales que ha traído la mayor interconexión global, no podemos soslayar sus riesgos. Sin duda, la exclusión y la desigualdad son un lado oscuro de la globalización. La insensibilidad hacia las culturas locales es otro. Juntas explican una dolorosa paradoja de nuestros tiempos: precisamente cuando la tecnología ha acercado a los seres humanos más que nunca, estamos siendo testigos de la reaparición de la intolerancia en sus terribles ropajes de xenofobia, limpieza étnica y opresión.

Y con la intolerancia, como un gemelo siamés, viene el terrorismo, tradicionalmente el instrumento de minorías fanáticas ofendidas que se niegan a creer en el valor de la persuasión. En esencia, el terrorismo es la peor forma de la deshumanización, pues convierte en blanco de sus ataques a personas inocentes.

Para enfrentar estos procesos destructivos, el reto es construir un orden mundial caracterizado por la paz en medio de la diversidad. En lugar de afirmar nuestra identidad rechazando o destruyendo lo diferente, debemos tratar de suavizar los enfrentamientos, equilibrar las demandas y hacer concesiones para llegar a acuerdos. De este modo podremos tratar de vivir de acuerdo con lo que el presidente de la República Checa, Vaclav Havel, ha llamado un código básico de existencia mutua.

En su reciente “Despedida de la política”, el Presidente Havel nos deja esta profunda reflexión: “Si la humanidad ha de sobrevivir y evitar nuevas catástrofes, entonces el orden político global debe estar acompañado por un respeto sincero y mutuo entre las diversas esferas de civilización, cultura, naciones o continentes, y por esfuerzos honestos de su parte para buscar y encontrar los valores o imperativos morales básicos que tienen en común, para así construirlos en los cimientos de su coexistencia dentro de este mundo conectado globalmente.”

La salud puede contribuir a esta búsqueda pues implica valores que unifican a todos los seres humanos. Después de todo, es ahí, en el nacimiento, en la enfermedad, en la recuperación y finalmente en la muerte, donde todos encontramos nuestra humanidad común.

En momentos críticos para el mundo, la salud se ha mantenido como una de las pocas aspiraciones realmente universales. De hecho, gracias al desarrollo de agencias como la OPS, los asuntos de la salud se han convertido en un elemento constructivo de la diplomacia. En nuestro mundo globalizado, la salud nos ofrece de nueva cuenta una oportunidad concreta de reconciliar el interés propio de cada país con el interés común de todas las naciones. Ahora más que nunca la salud puede constituirse en un puente para la paz, en un punto de encuentro, en una fuente de seguridad compartida. Hoy que celebramos 100 años de logros, debemos también asumir un compromiso de renovación para enfrentar los desafíos del nuevo siglo.

Al comprometernos con este proceso de renovación, haríamos bien en recordar las palabras de Martín Luther King, ese hombre universal cuya obra a favor de la paz, la justicia, la igualdad y los derechos humanos alcanzó un punto culminante justamente en esta ciudad de Washington. King escribió en 1968: “En realidad, las cosas se reducen a esto: que la vida toda esta interrelacionada. Todos nos encontramos atrapados en una red inescapable de reciprocidad, entretejidos en la vestimenta de un destino común. Lo que afecte a uno directamente, afecta a todos los demás indirectamente.”

No tengo duda que en sus siguientes 100 años, la Organización Panamericana de la Salud seguirá realizando su aportación insustituible a ese destino común que nos toca a todos tejer juntos: el destino de una mejor salud para la humanidad entera. Muchas gracias y muchas felicidades. (aplauso)

**Dr. Carol Adelman:**

Thank you Dr. Frenk for that interesting and stimulating and very inspiring speech. After 20 hours on a plane you exceeded our expectations. Thanks for taking us through your evolution of health care systems, decentralization, moving to performance issues, and especially the new health risks of globalization. Thanks for talking to us about the paradox of sovereignty and the new forms of cooperation that we are going to desperately need as we now are in the 21<sup>st</sup> century. Well I am very happy now to introduce our last panelist, Professor Jeffrey Sachs, who is well known for his chairmanship of the Commission on Macroeconomics and Health at WHO. He’s also been appointed by Secretary General Kofi Annan as his Special Advisor on the Millennium Development Goals.

I want to tell a little story that I know about Jeffrey Sachs that he may well have forgotten. When I was in charge of our foreign aid program to Central and Eastern Europe in the late 1980s for the US Agency for International Development, I was in Poland, where we were starting up our first programs. I was in my hotel room when I got a message that a Mr. Saaaxx had a message for me and that he wanted to me to come down and talk to him. And I said, well what does he want to talk about. And they told me that it was something “shocking,” that was the message. So I went down to the mezzanine to see whatever this shocking thing was, and there was Jeffrey with his band of workers all typing away, all doing what was of course shock therapy. Which was not shocking but shock therapy, or otherwise helping to jump start Poland’s economy and I think the rest was history and Jeffrey would follow me around to every country that I would go to. He was on my tail, always demanding and pushing for more money and more resources. So anyway, I enjoyed meeting you then and so did all the AID folks who got to meet you as well.

He is now as you know the Director of The Earth Institute and Professor of Sustainable Development at Columbia University and a Research Associate of the National Bureau of Economic Research. Prior to that he was Director of the Center for International Development and Harvard Institute for International Development. Taking into account his well know views on increasing health care resources, massive foreign aid transfers and also in sustainable development, I thin we look forward to hearing today how these types of massive foreign aid transfers can be absorbed effectively and how the international health community can create successful institutions so we get true sustainable health care development. I know that Jeffrey will not fail to meet our expectations so I now introduce Professor Sachs. (applause)

**Professor Jeffrey Sachs:**

Thank you very much, it's wonderful Carol that you remember all that badgering with a such a smile on your face, because sometimes its not remembered in exactly those terms, but USAID did a great job in helping Poland and its nice that we're about to celebrate Poland's admission into the European Union which is a mark of the success of that transformation.

We're also here to celebrate a wonderful accomplishment, the 100<sup>th</sup> anniversary of this remarkable institution. I think there are very few things that you can say in the world to be unmitigated triumphs, and certainly PAHO is one of them, one of the very few. You don't say well on balance maybe it did better than its costs, maybe you know it probably did alright. This is a triumph that is rarely seen in human history. It's a special privilege to be able to join the celebration of this triumph with so many of the great leaders in this Hemisphere and in the world that have helped to make that triumph possible. Especially on the panel, I'm reminded that if you ever want to have some success as a chairman of anything, the first thing is make sure you pick you're leader who picks you right, and I was absolutely privileged to work for and with Dr. Gro Harlen Brundtland whose been one of the great world leaders of recent decades not only in her role as director general of the world health organization but in setting us on the path of sustainable development itself from the Brundtland Commission. And as I'm asked every day these days by reporters what does sustainable development mean? I am so pleased that I can tell them that I chose professor of sustainable development as my new title at Columbia University because this is a concept that is so right and so much due to this wonderful world leader.

One should also choose one's mentors very well in addition to that and I had two spectacular mentors in this project. One who helped to conceive this project in Geneva is Julio Frenk. We all wish that after a full night's sleep that we could have about a quarter of the eloquence that we just heard after a 20 hour flight. Julio is one of the outstanding leaders in global public health and a tremendous asset for the whole world and he was one of the inspirations of the whole project and one of my guides through the project. And of course my second mentor is one of the people who we celebrate at this conference, Sir George, who is an absolutely remarkable person, a remarkable human being. I am so thrilled to say a dear friend of mine, someone I admire enormously, and someone who has provided such fantastic leadership for this organization for so many years. He was a masterful guide in many ways through the substance and through the politics of public health which for me was a new word and a very fascinating world.

We can celebrate of course this organization but more importantly, I think that I am roughly paraphrasing Abraham Lincoln and I don't mean to do so. We can learn from the lessons of the triumph as well and rededicate ourselves to those lessons and to the purpose of the organization. I think that the successes of PAHO, of the Pan American Sanitary Bureau and later of PAHO teach us a tremendous amount about the challenges that we face today in the world. First, the whole concept of the organization was purposeful investment for human betterment. It was a realization which was not a small thing that good things don't happen by themselves but come about through a tremendous effort of collective will and collaboration. And since we live in a time when the market economy is glorified and where the invisible hand is glorified so much, it's important for us all the time to remember that the invisible hand must be matched by the collective effort and the purposive effort that markets can't provide for us. And so we always have to balance the market forces with the collective determination that organizations like PAHO represent. Second and relatedly, this is an institution of public health, not private health and not just health, it's really about public health. And not just in the sense that we're talking about the public and the population rather than individuals, in the sense that the underpinnings of public health itself is the belief that one has to attend to the whole population collectively and not just individuals as individuals. And there are deep lessons in how we organize our public health efforts to achieve success therefore. But again the market mania that health itself needs to be fully privatized is a huge misunderstanding of the very essence of what the lessons of an organization of public health teach us. There's room for private health but there is an absolute necessity for public health as well.

And then finally this is an organization from the beginning that is Pan American and that's important. It is essentially multilateral. We are not here to celebrate the US Health Organization or the US Sanitary Bureau. We are here to celebrate in this case a hemispheric will because as early as 1902 it was understood and I'll return to it later, that the health in any individual country depended on the solving the health of all the countries in the hemisphere collectively. That was not just figuratively true as a nice thing to do but it was quite literally true to get control of the epidemic diseases like cholera, or yellow fever or small pox or bubonic plague that Sir George just reminded us of just a few minutes ago.

I am a macro economist and therefore a little bit of an interloper to this field, and I have to say that I came to it honestly, not as a conceptual experiment or because I thought it would be a nice and interesting new thing to do but because as a development economist and a macro economist as I increasingly worked in poorer and poorer countries and increasingly came face to face with disease and death as I never had growing up in a comfortable world where life expectancy had already expanded so dramatically and where the pandemic diseases had been eliminated. It was an overpowering sensation at first and then a lesson of research and a lesson of the Commission on Microeconomics and Health itself. That that disease was not just a human tragedy although that would be enough to address it but it was fundamentally a societal tragedy in every way; in the human cost, in the emotional cost, in the destruction of families and livelihoods, but also in imposing enormous and indeed in some places in the world still, particularly in Sub-Saharan Africa, fundamental barriers to economic progress.

Disease burden has long been one of the great shapers of economic success or failure in the world and it remains true today that in many of the poorest place in the world, its not going to be the extra mission to fix the exchange rate or to fiddle with the tariff policy, its going to be the solution to the pandemic diseases which will help the countries break through the current trap of impoverishment and the downward spiral of disease and poverty in which they find themselves today. We had four kinds of lessons form the commission that I'd like to share with you briefly.

First we did find that the economic benefits, the returns to this purposeful investment in health are not only enormous but in general much larger than our conventionally estimated. I was already as an economist facing a bit of paradox. The paradox was that when you look at the burden of disease like malaria, for example, which is a burden enough because it takes up to three million lives per year and causes perhaps ½ billion or more clinical cases per year, one could say that burden is a heavy load on an economy but when estimated statistically seemed to be a moderate but not *per se* a crippling cost to the society. Traditional estimates had suggested that perhaps malaria took away between 1 and 4 percentage points of GNP of a high malaria endemic region. Now that's a lot to be sure but if you're thinking about a country in Sub-Sahara Africa for example or malarias regions in this hemisphere in Central America or the Caribbean or parts of South America. If you're at \$300 per capita as the most impoverished countries are, and you lose one, two or three percentage points, maybe that's going to take away \$10 per year of income. 3% of \$300 would be \$9 per year. It doesn't seem that eliminated malaria would solve the problem of poverty. And yet at the same time, you could observe another striking phenomenon and that was the countries with wholly endemic malaria, do not achieve economic growth.

So it's not as if they're just losing a certain fraction of income in a given year, they seem not to be able to get onto the cycle of positive economic development at all. And still today if you look back over the past 20 years, the endemic malarious regions of the world, those are the Sub-Saharan African countries are crippled not just in the level of income but the inability to generate growth. The Commission looked into this discrepancy of the micro and the macro perception of the burden of disease.

We found that the burdens of disease are not only large as we would all acknowledge, but much larger than commonly understood. Why? First of course is the conventional understanding which is not to be dismissed or ignored for a moment. Disease of course cripples productivity of workers, disease cripples children so that they can't complete school and can't reach their cognitive or scholastic potential, those life-cycle effects of individuals are large enough. But the societal effects of a high disease burden, the public health aspects, are also enormous and not so readily understood or accounted for.

Sir George showed a slide for example of how reduced infant mortality rates were followed as he said night by day by reduced fertility rates and that is indeed the overwhelming evidence. For countries to achieve a demographic transition from high fertility and high mortality to low fertility and low mortality requires soling the disease burden problem. And I can add as a macro economist, if you are looking at a society that has not succeeded in making that demographic transition you are probably looking at a society that has not made the breakthrough to rapid and sustained rates of economic growth.

The reason is pretty clear. Poor families that have five or six children can not afford to educate those children. They can not afford to invest in the health adequately of those children, to provide adequate nutrition. So when high disease burden leads to high fertility rates continuing, that leads to underinvestment in the wellbeing of the children. Maybe only the son, the older son gets the education that one needs for the 21<sup>st</sup> century and the other children suffer as a result. The lesson therefore is reducing the disease burden does more than simply helping to achieve the productivity of the individual, it allows the economy to push through the demographic transition which itself is a prerequisite for sustained, modern economic growth.

There is another thing that reducing the disease burden does of pivotal importance. It helps an economy to integrate into the world markets. It helps an economy to build the infrastructure, to attract the investment, to build the tourist industries, to build the manufacturing base that allows for sustained economic growth. Countries with high disease burdens, especially high infectious disease burdens, do not attract foreign investment. Malaria regions do not make good tourist sites. Today regions with AIDS prevalence do not get foreign investors coming in. We're seeing in Africa, the continent being shunned by foreign investors. Even the mining companies where you say, they go anywhere. They're not going into the high disease burden regions because of the profound cost of the disease on their workforce, on their productivity, on the risks to their workers as well. So when we added those factors up, the individual productivity benefits, the demographic transition, the spur to trade and investment through disease control, then we can account for why it is health through improved life expectancy has so regularly throughout modern history been followed by massive bursts in economic growth and why high disease burden has been so crippling in preventing countries in breaking out of that disease burden.

Now the second thing we found also relates to something Sir George said a few minutes ago. He said, I don't quite want to use a military analogy, he said, when talking about conquering disease. But actually a lot of great public health has been a military episode, has been a campaign like a military campaign to eradicate disease, or to get malaria under control or to rid Brazil of the anofelis gambi, which temporarily invaded in the 1930s. It has been like a campaign and of course it's often been run by generals, who have been very successful indeed in battling mosquitoes in a military manner.

This is important; this is one aspect of the lesson of this organization, that the targeted interventions, the targeted disease control efforts, the focused efforts on malaria, on small pox, on yellow fever. These have played a pivotal role in success. As a new comer to this field I got enmeshed in what is one of the favorite sectarian schisms in public health. Are you a horizontalist or a verticalist? I didn't even know what it meant at the beginning. My answer is I am decisively both, which is probably a safe position to be in. But we need targeted interventions against disease and since we're facing new and devastating pandemics, especially the global AIDS pandemic, we need to fight this like a military campaign as well and we need the organization and we need the focus that has been so much part of the success in so many of the leadership campaigns of this organization.

A third aspect that we put great stress on which was also mentioned by Dr. Meyer, was universal access. He said provide the drugs, but for everybody and that was the philosophy of the report as well. We found that the constant either privatization of the

health system, or even the well meaning but often unsuccessful attempts to target the basic interventions by making most pay and trying to help just those who can't pay, have not ever done as well as the universalized access to the essential health interventions. I became and remain a believer in universal access publicly guaranteed to the essential lifesaving interventions. The spillovers across rich and poor are so powerful. The practicalities of targeting are often so difficult, the equity issues of denying access to the poor because they don't have the money are so overwhelmingly devastating and wrongheaded, that the notion again of public health and of public service of universal access to life saving interventions is a corner stone of our report. Of course we noted that middle income countries in general would have the wherewithal by an large within their own budgets to provide that kind of access, whereas the poorest countries of the world will not have the means themselves out of their own domestic resource availability to do that and that's where the global partnership becomes so essential.

This hemisphere has of obviously had such wonderful accomplishments summarized for example by the rise in life expectancy we saw from the beginning of the century to the end from around 40 years to around 70 years today. But the challenges remain profound. You know them, you've heard them, I want to very briefly mention a couple. First, we have some desperate countries in great need and I want to underscore the urgency of giving Haiti more help than it has been getting from the rest of the Americas in the past two years. We are I believe doing a terrible disservice by the freeze of foreign assistance to the poorest country in our hemisphere which in my opinion has been provoked, in significant part by the attempts of some in this country just to wish away a government that they don't like, but which happens to be a popular government within the country. It's becoming less popular as the freeze of foreign assistance leads to utter desperation within the country and it would be terrible if that freeze on spending led to the kind of political catastrophe that some apparently seem to be wishing for, but would be a profound tragedy for this hemisphere. So the first, I would like to say, that for the most urgently needed country in the world, we have to break through this barricade on assistance that has gone on now for far too long and is of great danger, I believe, to democracy and to the stability in the Caribbean and to the rest of the hemisphere.

We've also seen that there are still major areas of deprivation, not only in income but also in health throughout the hemisphere. It was noted the high disease burden of indigenous populations. It remains true in Bolivia, a country that I love and have worked in now for 17 years continuously and many of its neighbors, that there is an urgent need to face with increasing investment and fortitude some of the great health challenges. One must say the same about much of Central America today which is suffering under the increased onslaught of climatic change, draught and hunger which together with impoverishment is intensifying disease burden enormously.

Of course one must add to the list what's on everybody's mind, which is the emergence of AIDS as the greatest pandemic in modern history, and the reemergence of many other diseases, notably malaria, through drug resistance, pesticide resistance, and a faltering of some of the control programs, as well as other vector-borne diseases like dengue fever. There is a lot of work to do. One of the conclusions of which I'd like to highlight the CMH was the urgency of every country planning at a scale of 5 to 10 years on the horizon a health care system which can ensure universal access to essential health

interventions. We urged every country to undertake the local epidemiology, to work together with PAHO, with WHO, with other institutions, to formulate a national commission to identify feasible means to achieve the goals that were laid out.

I'm delighted that the Gates foundation recently provided a grant to the WHO to enable any country that is interested in establishing a national commission on macro-economics and health, to get financial support to do that locally and then to be able to avail itself of help from PAHO, WHO, I would say our team as well because we continue with this project, so that each country can take the basic lessons of the importance of investing in health and turn them into something feasible and real, dependent on the local circumstances of the countries.

Let me say finally a word about the centennial. Will we find the will which we have not found during the last 20 years to fight AIDS in an adequate way at the global scale? Will we find the will to battle the resurgence of Malaria? Will we find the will to finish the job which WHO brilliantly started and PAHO has championed of bringing effective TB therapy throughout the poor communities of the world through the use of dots? Will we find the will? Some people say it's hopeless, and yet maybe the most important lesson of this centennial is that on occasion, the will is found to do exactly that.

In 1902 the countries of this hemisphere found the will for this kind of purposive, high aspiration investment in human betterment. It's interesting to ask why? I'm not the historian I need to be to give an answer. I can only give a couple of guesses. One is that in 1902, probably the United States, more immediately face the challenge of Yellow Fever and Malaria and Hookworm and so forth, because it was endemic in the US south, and of course it was understood that a number of the major epidemics that reached the US south came from Latin America and probably vice-versa.. So the notion that one had practically to get together if any individual country was to solve the problems was in a sense a more immediate and dramatic understanding. Second of course, this was just four years after Ross had first elucidated the transmission pathway of malaria, suddenly the notion of vector-born disease was upon us, there were new opportunities scientifically so technology no doubt played some role.

Third the US was engaging in its great expansion of the flag and of commerce in the region and it was entering into malarial regions to grow bananas or to grow tropical crops and no doubt it wanted effective measures as part of that. And fourth of course of course was the aspiration that had been delayed during the preceding 25 years of attempting to complete the Panama Canal, the first effort of which most famously had been killed not by lack of money but by the mosquitoes themselves carrying yellow fever and malaria. And here was the chance to complete that task as well. So those were all good reasons.

We're in 2002. Do we have the means to find similar reasons today? Can we also draw analogies and find reasons why our host country of PAHO, the richest country in the world, might similarly step up its own investments in the cause of global disease control. I think the answer is emphatically yes. First, one big difference between 2002 from 1902 is that we are so much more phenomenally rich than could ever have been guessed a hundred years ago, and our technology is so much more effective, that the effort it would take for the rich countries to help the poor in disease control is absolutely negligible compared to the efforts that it took 100 years before.

Our commission concluded as Dr. Brundtland noted earlier, that for about \$25 billion a year, it should be possible if the money is used responsibly, to avert about 8 million deaths a year, from the infectious diseases, and from the pandemic infectious diseases in particular, AIDS, TB and Malaria. What is 25 billion? It's a bit of change for us I admit. But the rich world is now a \$25 trillion annual income world. And that means that the \$25 billion is just 10 cents for every \$100 of rich world GNP. That's what we're talking about in terms of the scale of financial efforts to get these diseases under control. We heard, and I think it's heartening in a way to know that the United States would have no financial difficulty defending itself if there were tragically a war in Iraq, which is estimated to be \$100 billion over a year or two. Well, that's four times our annual bill. That's about 30 million lives saved.

In other words, we could do it. And when the treasury secretary said that would not be a problem for the US economy, he was speaking macro-economically absolutely correctly, and neither would an effort to save millions of people every year and finally do the job of controlling AIDS, TB and Malaria that we know is within our technological and organizational reach. But it's not just our income and our wealth, it's also our need. As in 1902, we are an interconnected world and we heard that eloquently just a few moments ago from Julio. Our interconnectedness in many ways is greater than ever before. There isn't a place in the world that doesn't directly affect us and our interests. I think everyone would acknowledge if on September 10<sup>th</sup> we were asked, what's the place in the world least likely to do us any damage? We would have put the pin in the middle of the map in Central Asia. How could the remotest place in the foothills of the Himalayas, a place like Afghanistan, do us any harm? Or if we think about the attacks in Mombassa two days ago, which now the evidence seems came from Somalia perhaps. These are places you wouldn't imagine could do us harm.

There isn't a place in the world that we're not directly connected to. The lessons are absolutely clear. If we allow disease to fester, if we allow the impoverishment that comes with that, the state failure, the collapse of economies that goes along with that, we imperil ourselves every bit as directly as we imperil the rest of the world. The CIA no less has made that clear. Its taskforce on state failure over the last 7 years found that two of the three great predictors of state collapse, which are often followed by US military intervention, are infectious disease burden leading to high infant mortality rates, and failed economies. And these two factors help to predict the collapse of states and the collapse of states, and the collapse of states helps to predict lots of future problems for us. So you don't have to take it from some woolly headed academic, you can take it from our hard headed security officials. That letting these problems formulate, fester, spread across borders, directly imperils our security, it certainly imperils our humanity if we simply stand by and watch all of this enormous death and suffering.

I am in general, not just in general, I think always in specific a deep optimist. But I also have to say I can't be more optimistic and proud to be saying it at the centennial of this remarkable organization which has really taught us an enormous amount about the success of the human spirit. Thank you very much. (applause)

**Dr. Carol Adelman:**

Thank you Jeffrey for that call to action and for reminding us of the healthier is wealthier debate. I think that is a good introduction and segue into the remaining part of our program today and that is participation from you. We hope to have questions, more in form of questions. If you need to precede it with a few short comments that would be appreciated.