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**Director, PAHO \***  
**12 June 2002**

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**ADVANCING TO OUR PAST**  
(Washington, D.C.)\*\*

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Mr. Chairman  
President Iglesias  
Ladies and Gentlemen

First let me thank the members and our guests for being present today at this opening of the 37th meeting of the Advisory Committee on Health Research (ACHR) of the Pan American Health Organization (PAHO). I wish to say a special word of thanks to President Enrique Iglesias for joining and agreeing to address us. I also wish to recognize the presence of three members of the Global ACHR. This is a special day for us as an organization, and a special day for me personally. This meeting is the first of the major regional events that are being organized to mark our Centennial and it is fitting that this should be so, as it gives due prominence to our role in PAHO to promoting research as a means of producing the data from which we derive the information that is so crucial a tool for our work. It is also the last time I will greet you as Director.

Please permit me to begin with the personal aspect and confess some selfishness, in that this meeting satisfies a special fondness I have for the ACHR that is this year celebrating its 40<sup>th</sup> anniversary. I have had a long association with this Committee that was perhaps directly responsible for my entry into PAHO. I became a member of this Committee in 1975 when my mentor and scientific guru, John Waterlow, was its Chairman. I became almost the permanent rapporteur for many years, then Vice Chairman, and then Chairman. I recall with exquisite pleasure my interaction with such eminent scientists as Abel Wolman, Hernando Groot, Guillermo Soberon, Jesus Kumate, Tom Weller, Fred Robbins, and persons of that ilk. Then Dr. Hector Acuña recruited me to be head of the Research Unit here, and I have a special debt of gratitude to Dr. Gabriel Schmunis who facilitated my transition from being Chairman to being a PAHO functionary and secretary of the Committee.

When I became Director in 1995, I reestablished the annual meetings of the Committee, not only to indulge my pleasure in being with you, but also to receive your advice on our modest research effort and expose your select group of scientists from different disciplines to our programs. In addition, the meetings give some of our staff the

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

\*\* **Presented at the 40<sup>th</sup> Anniversary of the Advisory Committee on Health Research (ACHR). Washington, D.C., 12 June 2002.**

opportunity to interact with you. We have held some meetings in our countries to let you have an opportunity to get a flavor of some of the work and problems of researchers there.

Over these years we have seen a consolidation of the approach that was begun by my predecessor, Dr. Carlyle Macedo, in that the focus of our support has shifted away from small grants for the traditional investigator-driven research. There has properly been more attention paid to developing research capacity on a modest scale in our countries, technical cooperation to research councils or analogous bodies, and stimulating the difficult multi-center research that involves our own programs. We have also tried to target certain areas that we think are more important in terms of the health conditions in the Americas. Here I must recognize the sterling work of Drs. Alberto Pellegrini and Rebecca de los Rios, and also Dr. Juan Casas, Director of the division in which the research program is sited. Alberto and Rebecca have been tremendous, and have been ably supported by and supported a long line of distinguished Chairmen whom I must also thank for their work. I must also thank our own Internal Advisory Committee which does a superb job in vetting the various proposals and initiatives before I see them.

During the course of my years as Director, I have reviewed all of the proposals for the various kinds of support that have been provided and it is against this background that I can now reflect on whether or not we are fulfilling an appropriate role. I have always accepted that we cannot be a major funding source for research and our support has to be catalytic. Almost 300 billion dollars was spent in 1999 on research and development in the Americas with 85% coming from the USA. It is clear that we in PAHO have to be careful in establishing our niche.

One of our roles is to keep a watching brief on the major currents and advances in research in areas that affect health, and advocate for the kinds of research that will bring most benefit to the people as a whole. I agonize, however, on what we can do to ensure that our scientists particularly in Latin America and the Caribbean have the possibility of participating in these advances which we read about. There are clearly limitations in terms of human and financial resources, and I know only too well from personal experience the frustration of a scientist in a developing country knowing that ideas and basic intellectual or organizational capacity are not geographically distributed.

This angst comes home to me more often now as I read of the advances in molecular biology which are taking place. I was privileged to listen to Francis Crick when I was a young man and my heart raced as he described in typical laconic British understatement the vistas opened by the discovery of the double helix. Medical genetics was coming into vogue and in the Caribbean we had our own common genetically determined disease in sickle cell anemia. I published my first scientific paper from the Caribbean on the occurrence of hematuria in persons with the sickle trait. At that time, it was rather exciting to appreciate the widespread effects of the apparently simple substitution of valine for glutamic acid in the beta chains of hemoglobin to produce the sickling phenomenon.

But that is now petty stuff, as today the mapping of the human genome is bringing home to us possibilities in genetics that were unheard of only a few short years ago. The relation of the genome to the chromosomes and the attached genes that express for proteins is now the material for popular science. And since our Chairman pointed out to us the possibility of engaging our thinking in the new area of proteomics, I now need to understand how the structure and function of proteins, some yet unknown, and their post-ribosomal modification fashion their action and their interaction. These advances, and the accompanying bio-informatics, are likely to unlock the mysteries of human life. There is speculation that future generations of physicians will no longer be able to depend on the clinical method that has been hallowed from the days of Sir William Osler, but diagnoses will be made from computer chips with our genetic makeup, as symptoms and clinical signs as expression of physiologic or metabolic dysfunction will be irrelevant.

I reflect on these advances and whether PAHO as an organization can influence these currents, perhaps through providing exposure of some of our young scientists to them and providing a mechanism to permit the development of joint or common protocols that may facilitate the possibility of funding from other sources. In Latin America and the Caribbean, our only hope of at least keeping abreast is through the formation of networks. In this way, we may play some role in reducing the gap in advance in these kinds of research that undoubtedly exists in our hemisphere and shows signs of widening.

But there are deeper considerations for an organization like ours. The great advances projected for medicine in this brave new world are essentially for the cure or treatment of individual disease. The emphasis is highly individualistic and fiercely reductionist. There is, of course, nothing intrinsically wrong with an individual focus in medicine and health. This has been the orientation of physicians from time immemorial but we all have to be concerned that the systemic approach to health is not swamped by this new reductionism.

This generation and persistence of enthusiasm directed to the disease or diseases of the individual is perhaps nothing more or less than a reflection of the ineffable tragedy of the human condition. The challenge of the inevitability of death and the finiteness of individual life is a powerful force for trying to unravel the deepest mysteries of the human existence with a view to understanding and prolonging it. It is doubtful whether the drive for this research is basically any different from the yen for applying new life – extending technologies at any cost and regarding death as a failure of man's technological genius.

The power that derives from this new knowledge is awesome. Francis Bacon's famous aphorism that knowledge is power from his Sacred Meditations, has never been more relevant. The purists will say that there is no barrier to the acquisition of this knowledge –the information is in the public domain. The most serious gap may indeed not be in the acquisition of the knowledge but in the capacity to apply it, and I am brought again to the old problem of whether developing countries can ever separate the need and capacity for generating information about their unique problems from the

capacity to apply it. Will the power that derives from the knowledge that comes from modern advances in research be exercised mainly for the benefit of the individual good in areas related to health or will there be benefit for the common good as well?

I have been comforted somewhat by the recent WHO Report on Genomics and World Health, which was written principally by David Weatherall. A convincing case is made for WHO to be more involved in the field, but there is a clear caveat that the current applications for modern clinical practice are limited and remote, and care must be taken that developing countries are not left behind. A major advocacy role is envisaged for WHO in seeking a balance between genomics and more traditional clinical and epidemiological research; ensuring that the medical advances from genomics are accessible to developing countries and seeking increased investment in genomics research and development directed at the health problems of developing countries.

It is in relation to the common good and the possibility of stimulating research that relates to the common good of populations, especially in developing countries, that I find more ease of mind. I never tire of reading and re-reading Geoffrey Rose's seminal paper "Sick Individuals and Sick Populations." I knew Geoffrey when he and Gerry Morris, that brilliant epidemiologist and health service researcher, would come to our research meetings in the Caribbean and sometimes not so subtly try to convince me that unraveling some recondite aspects of renal biochemistry, that was a large part of my research, was interesting but almost irrelevant.

Geoffrey points out what is perhaps obvious; that the nature of enquiry into the health of populations needs different mind-sets and different tools. And by tools he would not have been referring to better computers or abstract mathematical formulations. The tools were mainly conceptual. There is a fundamental difference between the causes of cases and the causes of incidence. The causal relationship of cigarette smoking to lung cancer would never have been discovered if everyone smoked. It is only through the determination of incidence in populations with different smoking habits that the relationship of cigarettes to disease can be uncovered. As he writes "clues must be sought from differences between populations or from changes within populations over time." Geoffrey argues cogently for what he calls "the radical population strategy" in which there must be changes in social norms such that the underlying cause that makes the disease common will disappear. In a sense we are coming full circle. We are advocating that the fundamental approach to the many problems of population health lies in social engineering. Whereas 100 years ago we lauded sanitary engineering we now must dedicate even more of our research thinking and resources to social engineering which, in general, is extremely weak. How pleased Rudolf Virchow would be! We must advance rapidly to our past roots in public health!

There is, of course, no intrinsic hierarchy of importance or value to this kind of research and that to which I referred above. But I believe that it is this latter that must have more operational attraction for an organization like ours. Information about what is upon the people and the approaches to reduce the burden of illness have to be where we devote most of our attention. As pedestrian as it may sound, it is an enormous research

challenge to acquire these data that must be subject to the normal canons of good research. It is a matter of faith for us that this measuring of what is upon the people must involve establishing firmly that it is not only the average situation but the distribution that is of critical importance. I feel satisfied with our effort in PAHO to advance conceptually and operationally in this area, and I only trust that it will grow in both directions.

But let me express a mea culpa in terms of the things I wish could have been done in the past seven and a half years. I wish we could have ignited more interest in what I continue to believe is an important area. In spite of some promotion, it has not been possible to have more research in the relation of health and the formation of human capital to the other aspects of human development. We have been fortunate with our partnership with the Inter-American Development Bank in this area, but there is still a tremendous amount to be done. Perhaps if Dr. Julio Frenk had stayed at FUNSALUD we might have done better, as I know he shares my enthusiasm for the possibilities of work in this field. We still have too few data or strong explicatory formulations on the contribution of health to economic performance and poverty reduction. The work of the Commission on Macroeconomics and Health, and particularly the report of the Working Group on "Health, Economic Growth, and Poverty Reduction," just scratched the surface. And conversely, the mechanisms whereby poverty and uneven distribution of basic social capabilities impact on health are still to be explored more fully.

I wish that I could have seen more research into the application and possible results of the strategies of health promotion for promoting health and not simply preventing disease. I believe that regardless of the situation of a country in the epidemiological mosaic that characterizes the Americas, the basic strategies of health promotion are valid, and I wish I could have seen, for example, more research into the mechanisms for fashioning of healthy public policy, and once fashioned, how effective it is in producing change in one or other metric in health. I suspect that part of the reason is that many of us in health are not really aware of the essential theoretical framework behind the formation of public policy and the complexities of policy making in governments in which the bureaucracy is in large measure the gatekeeper for policy formulation and execution.

I am also disappointed that it has not been possible to advance in the concept I articulated in our meeting in Havana—that of stimulating a mechanism similar to the Consultative Group in International Agricultural Research (CGIAR) in health research in the Americas. This group of 16 research centers that was formed in 1971 has been such a success that a recent high-level review stated that “investment in the CGIAR has been the most effective use of official development aid—bar none. There can be no long term agenda for eradicating poverty, ending hunger and ensuring sustainable food security without the CGIAR.” The system of Collaborating Centers has not provided the mechanism for this collaboration that needs more mutuality of interest than currently exists among the Centers. Perhaps the secret will lie in narrowing down the area of health research for the kind of collaboration and possible funding that will see the evolution of a CGIAR –like model. It is interesting that the world views the need for

cooperative research in agriculture with more favor than a similar venture in health. Perhaps the time has just not yet come.

But enough of mea culpas!

I am looking forward to the presentations in the panels that have been developed, and I must thank the members of the Committee who have taken such an active interest and participated so fully in their preparation. The panels were selected along the lines of the functional division of work in PAHO. These divisions represent my concept of the best way to organize the technical cooperation of an organization that has to give effect to the two overarching principles of equity and Panamericanism, and at the same time address the major groupings of health problems. Your presentations and the discussion are bound to be a rich testimonial to our Centennial and will surely be brought out, dusted off, and read with appreciation when PAHO celebrates its Bicentennial.

I thank you again.