THE SEVEN CONTINENTS: PREPARING FOR LONGEVITY AND THE TRIUMPH OF SURVIVAL

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The enormous power of the developed world and their special advantages of wealth and longevity may soon be matched in the developing world by the rise of China and India. Both are likely to emerge forcibly in the 21st century, this, our century already associated with unprecedented global aging and longevity. The impact on economies, culture, society and the individual will be extraordinary. It has been said, for example, that the developing world will grow old before it grows rich in contrast to the developed world, which grew rich before it grew old. HelpAge International says that the status of the world's older population is growing worse. Older people remain among the poorest and most vulnerable in many societies. Governments and the civil society have not prepared for the world's rapidly ageing population.

I share the belief of many that it is in the best interest of the developed world to assist the developing world in dealing with threats to longevity from global warming, flu pandemics, water shortages, terrorism and nuclear proliferation, and not least educational deficiencies and poverty. The developed world should also help the developing world adapt to population aging.

In this address, I want to emphasize that gerontology and the medical profession or more precisely knowledge of aging, economics, social issues, and health have special contributions to make in addressing the challenges of global aging. I also want to stress how much nations can learn from one another. Finally as important as it is for all of us to consider doing research to advance the lot of the developing and developed worlds, we should simultaneously become more politically active in promoting the interests of the developing world.

I. <u>The Longevity Revolution</u>

Longevity, once the privilege of few has become the destiny of millions. Combining both men and women, longevity in the developed world averages 75 years. In the developing world, however, life expectancy is nearly one third less, about 50 years. This has enormous economic, social and obviously personal consequences. Furthermore, disability-free life expectancy is worse in the developing world than the developed world. From the economic perspective, what I call <u>shortgevity</u> – in contrast to longevity – manifests itself in affected nations in lower productivity and less likelihood in the global economy to be able to produce, exchange, buy and sell products and services with the developed world.

There are 32 nations, 31 in Africa, and Afghanistan, with life expectancies of less than 50 years and disability-free life expectancies of less than 40 years <u>(Tables 1A, B and C)</u>.

Countries such as Russia and some of the former Soviet Bloc countries and Mozambique have lost life expectancy. It is unusual for nations to lose longevity once gained and this painfully reminds us of what is possible.

Not long ago, public health experts predicted the end of infectious diseases but in the developing world pulmonary and diarrheal diseases especially in children, tuberculosis (including the extremely drug-resistant (XDR) form), malaria and acquired immune deficiency syndrome (AIDS) remain common, debilitating and deadly. Even so, surprising to some, *chronic diseases- heart disease, strokes, diabetes and mental illness, commonly associated with Western nations, now outdistance infectious diseases in the developing world.* These so-called diseases of "affluence" also contribute to short life expectancies and economic burdens upon society.

Despite two U.N. World Assemblies on Aging (1982 and 2002) key policy makers still have not embraced the challenges posed to what otherwise is a great human achievement. These have been efforts to gain attention of governments. And some leaders within governments have recognized the need to address the issues. Such was the case of Dr. Ma Haide, for example, in 1986, when as principal advisor to the Chinese Ministry of Health, he invited me to spend two weeks in China to lecture government officials and medical centers that China already had estimated 100 million people over 60 and there would be over 240 million by 2030. China is aging rapidly, and this is complicated by its one-child population policy rule (1980-) however necessary it was to deal with recurrent national famines. Had China not adopted its population policy, it is estimated that its population would nearly equal that of the rest of the world today.

Japan, among nations, has devoted most attention to the aging society.

II. Challenges

Although the growth of population aging and longevity constitute a great human achievement there are obvious challenges, some exaggerated, some not – but each and all are answerable. We in gerontology and medicine need especially to accept the responsibility to educate society and decision-makers. Among the most common concerns or challenges that I have heard in travels around the world in over 50 countries are the following:

1. Can we afford older people?
2. Will old age bring about economic stagnation?
3. Will there be intergenerational conflicts?
4. Will gerontocracies develop?
5. Will old people crowd out children?

Effective adjustments have already been made to help meet these challenges, and they will continue with new vigor and new policies.

III. **Financing Longevity:**

Generally speaking, even individuals who can afford to do so, have not exercised provident thinking to best prepare financially and otherwise for their old age. This is due in part to their denial and fears about aging. More often in the world at large, it is also because billions of people live in poverty in both the developing and developed worlds. (There is enormous poverty in the developing world where two billion live on one to two dollars a day.)

Despite dire predictions, the so-called welfare states of Europe – with higher proportions of older people than in the U.S. and elsewhere have maintained their basic core public pension and health care systems. These have been modestly modified but firmly secured over the last several decades despite economic, political and ideological pressures. It has been argued that the European Welfare states are less able to finance their militaries because of the costs of social protections. That strikes me as rather a nice idea and a goal worth pursuing.

Other global pressures exist. International Monetary Fund and World Bank requirements emphasize the free market, free trade and globalization and treat indebted countries to severe austerity programs, which have been especially punishing to vulnerable and marginal groups such as old people who are most in need of social protections.

The World Bank has received considerable criticism in its failure to fulfill its mission to deal with poverty in the developing world, for example, severely criticized for its neglect of agriculture in sub-Saharan Africa and for inadequately dealing with corruption and graft. The U.N. Convention Against Corruption makes an effort to make it harder for political leaders to park money in overseas banks.

Julia Alvarez, the former Ambassador to the United Nations for the Dominican Republic and an eloquent spokesperson for the old of the developing world, had said, "Social Security is not a problem in the developing world, it is a fantasy." With globalization of the economy, the free movement of capital has focused upon seeking cheap labor. Both to protect workers in the developing and developed worlds, foreign policy agreements should foster minimum and living wages, wage and unemployment insurance, training and re-training benefits, safety and health as well as the right to collective bargaining. Forced and child labor should obviously be forbidden. In 2007, U.S. trade legislation began to move in these directions. However, I fear the extent of poverty and the lack of workers' rights will remain problematic for some decades to come without truly transformative changes in the foreign policy of the developed world. It should be stressed that *protections of the workers of the developing world also helps preserve the social protections of the developed world since cheap labor undermines developed world economies and their tax base that support such protections.*

Experiments in privatization have not been successful. The most famous example is Chile. This is an important lesson for the U.S. which has yet to undertake necessary Social Security reforms.

Chile[1]

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[1] Gill, Indermit, Packard, Truman, and Yermo, Juan, *Keeping the Promise of Social Security in Latin America* (Washington, DC: World Bank, 2004). In 1999 the Work Bank issued a report, "Averting the Old Age Crisis," which called for personal retirement accounts and less dependence upon pay-as-you-go systems. By 2005, the Work Bank was less enthusiastic. Its new report "Old Age Income Support in the 21st Century" called for "enhanced focus on basic income provision for all vulnerable elderly," financed through general tax revenues, not workers' contributions. See *The Economist,* Pension reform, second thoughts on the third age, February 19, 2005, pp. 67–8.

Under General Alfredo Pinochet's dictatorial regime, in 1982 Chile introduced the world's first mandatory, fully funded, privately managed pension scheme. It was able to privatize reasonably easily because at the time it enjoyed a budget surplus and could provide substantial prior service credits and minimum pension guarantees.[2] Through tax revenues the government contributed to the transition from the governmental social security system to privatization. Pension privatization may have modestly boosted Chile's economic growth by improving both capital and labor markets, *but many workers remain outside the pension system altogether, and today, just over half of the labor force is covered*.

In Chile, total employee Social Security contributions amount to about 20.5 percent of taxable income: 10 percent of payroll for retirement; 3.5 percent for disability, survivor benefits, and administrative costs; and 7 percent for health benefits. But by 1997 about 20 percent of workers who should have been contributing were not doing so. Many others were not contributing on their full wages.

Aside from a mandatory one-time pay raise employers were required to give when the program was started, employers in Chile contribute nothing toward the old-age pension. The Chilean system does not insure against poor investment decisions, nor can the system guarantee a particular rate of retirement income, except for a minimum pension payment.

Although the Chilean experiment had annual returns averaging some 12 percent during the 1980's it has done substantially worse in recent years, and there are other serious problems, such as high administrative costs. In 1994, more than half of the funds incurred losses. Returns averaged 2.5 percent in 1995, and 1.8 percent between 1996 and 2001.

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[2] Rix, Sara E., *Chile's Experience with the Privatization of Social Security*, Issue Brief No. 23, AARP Public Policy Institute, August 1995.

Would Americans accept such a large tax burden and risk placed on its workers and taxpayers?

By 2006, the failures in the Chilean system became a major campaign issue and the new government under President Michelle Bachelet led reforms in which the government would play a greater role.

IV. **Health Creates Wealth: An Answer to the Question: Can We Afford Old People?**

Interestingly, the reciprocal relationship between health and wealth has only recently come to receive concentrated attention – from very diverse schools of economics, ideologically differentiated from conservative to liberal – at such institutions as the University of Chicago, Yale, Harvard, Belfast, the RAND Corporation and our own International Longevity Center. Traditionally it is understood that as nations become wealthier and, assuming benevolent governments, they provide greater health, pension and other benefits for their citizenry. But the reverse is also true. *As countries become healthier and more longevous, wealth is created.* See the work of Bloom and Canning (Chart 1). This relatively new idea speaks to the importance of investing in significant medical, behavioral and social research, and a variety of health care innovations throughout the world. I say this at this unfortunate time of flat budgets at the National Institutes of Health.

And how does health create wealth? By what mechanisms? First, consider the life history of an individual. Illustrative is the work of James Smith of the Rand Corporation. Healthy persons from childhood on tend to experience less absenteeism, better education, better jobs, larger incomes, greater opportunities to save and invest and are productively engaged longer in life.

The second mechanism focuses upon what the Japanese call the silver industries, and we call the mature or senior market. These industries are huge and include healthcare, housing, insurance, financial services, pharmaceuticals, hospitality and travel. Just as there is a youth market, there is a market for older people. Think Economics 101 – one person's health cost, for example, is another person's job, income, and asset. Industry is beginning to see the economic business opportunities due to global warming and has long since exploited financial opportunities by concentrating on health care. (See *Business Week* cover.) As the cover of *Business Week* in the Fall of 2006 noted only the health sector is generating new jobs.

The financial services industry is particularly notable. This industry depends on provident thinking, that is, to save for the future, including for financing family formation, one's home and retirement. In the U.S. the latter motivates the purchase of 401K's, IRA's, and other financial instruments.

That longevity and health creates wealth questions very seriously the notion that we cannot afford older people and that population aging saps national productivity.

Education, science and technology, of course, together with healthy citizens generate wealth and productivity. In 1900, it took 37% of the American population to feed the nation. Now less than 2%. It is productivity, not population size nor the "right" dependency ratio, that is necessary to create wealth.

The summary point – investments in health research and care will contribute to the wealth of all nations.

V. Health Care from the Lifespan Perspective

Since the 1970's in the United States and in many parts of the world concerns about health care have largely focused upon cost containment. Of course, there have been investments

in health innovation via drugs and technologies including medical devices. But discussion about health care has not devoted enough attention to structural reforms – how to organize health care by moving away from hospitals which, in themselves, are dangerous places, especially for older persons – to more community-based and home care, by greater investment in workforce development from caregiving at home and long term care. In-home paid caregiving and primary care medicine and geriatrics require major investments as do health-related research.

We can learn from Europe, Japan and Canada. It would make an enormous difference were we to eliminate the middleman in health care – the selling, marketing, handling of claims by the commercial insurers. Despite the economic value of the health care as an industry, waste is not desirable and putting as much as 20% of healthcare dollars into administration and profits does not deliver healthcare to people. Further, access to health care as well as education are fundamental to the concept of equal opportunity – both should be essential provisions in any society anywhere in the world. Arnold Relman's book *Second Opinion* favors salaried doctors in his health reform proposals. Health care financing could be based on multiple payers by individuals, states, employers, the federal government or on a simpler single payer system, in turn, financed by progressivity-based income taxes or value-added taxation, a VAT.

VI. New Research Paradigm

Aging is the ultimate risk factor for disease, disability and death. The basic biology of aging underlies the Gompertz Curve that observes that with the achievement of maturity, there is a logarithmic increase in the "force of mortality" (as Gompertz put it) every 7 or so years. We need to investigate far more the basic biological changes that occur with the passage of time, what it is in our bodies that occurs at the molecular and cellular level that predisposes us to death, why 80% of all cancer, for example, occurs after 50. We have usually pursued one

disease at a time, now it is time to go further. This is important for the developing and developed worlds.

There is only a modest investment in research on aging in the U.S. and the world at large – for example, the annual budget of the National Institute on Aging is approaching $1 billion – far less than 1% of the Medicare budget. Only perhaps $200 million is spent on the basic biology of aging. If 1% of the Medicare expenditures were set aside for enhanced research and development, it could more than triple investment in biomedical, socio-behavioral research and into the basic biology of aging and age-related diseases. Consider Alzheimer's disease, which I have called the polio of geriatrics, the nursing home the iron lung of geriatrics. Research brought polio to an end but the solution to Alzheimer's and other dementias is far more challenging because of the complexity of the central nervous system. Such an investment could have an enormous payoff. Moreover, the fruits of research serves the world at large since science is universal. The US is not first in many areas of care for the older population but it is first in research.

VII. Caregiving

Caregiving is a worldwide challenge. The twin disasters of old age – dementia and frailty are everywhere – in the poverty of middle India, the Chinese countryside, urban Europe, the Argentine Pampas and the American prairie. The demands and the toil can be unendurable and sap the energy of families and society.

Dignity and resources must be given to the caregivers. New technologies must be introduced to assist in the caring process. Investments in research must be advanced to reduce the extent and duration of the caregiving burden. Long term care must be incorporated within systems of health care.

Paid in-home health aides or direct caregivers should receive decent pay and benefits. They do not today. We often exploit minority and immigrant women.

Consequently, the turnover rate is high and training and certification often uncertain with a large gray labor market.

At the same time, we have a growing nurses shortage, which we try to solve by importing nurses from overseas such as the Philippines – to the detriment of the Philippines.

VIII. Geopolitics of Aging and Longevity

There are striking inequalities of longevity around the world. Humans work to preserve what they already have. For example, farm subsidies in Europe and America are in competition with poor third world farmers. Ironically, Care, the global charity, has stopped selling subsidized American farm products to poor African countries because the program was inefficient and actually undercut local farmers. But we will reach a point where the privileged developed world cannot continue to impose its will. There is already growing anti-imperialism, anti-Western thinking and, in recent times, intensely hostile anti-Americanism.

New imaginative steps are underway to assist the developing world. Note the Nobelist economist Mohamed Yunis, who created micro-finance and the Gramean bank which have especially helped poor women. Note also the growth of intrusions into sovereignty in Bosnia and Kosovo through military actions, international courts and conventions. It is hard to believe that the concept of state sovereignty nearly 400 years old is up-to-date. How can sovereignty continue in a world that is increasingly interconnected and where many multinational corporations are wealthier and more powerful than many individual nations. It is time to find new ways to eliminate poverty and advance the general welfare of all nations and peoples. Post-colonial history has proven unrewarding. The IMF charged with guaranteeing to stabilize global

currency markets and the World Bank, created in 1944 only modestly help. The prospects of personal health and economic prosperity remain constrained by tariffs and other trade policies and inadequate donations and investments to improve the lot of those living in the developing world. The U.S. has not been in the lead in contributing to the developing world compared to the Scandinavian countries and the Netherlands.

IX. Threats to Longevity

Global warming, the expanding ozone hole, the prospects of nuclear annihilation and the reality of newly emerging and re-emerging infections pose grave threats to longevity. Not only AIDS but the likelihood of a A(N5H1) mutation resulting in an avian killer flu might outdistance that of 1918. At that time, 2 percent of those affected died, but so far some 50% affected by the present bird flu die. Scientists believe that the question is not "if" but "when" the bird flu will erupt – due to a mutation resulting in human-to-human transmission. International cooperation is essential and thanks to the WHO and CDC much is in place. But the costs to Asian and African farmers culling their chickens, old-fashioned methods of vaccine production and the shortage of veterinarians are notable obstacles.

It is necessary for foreign policy and diplomacy to aggressively factor in health and disease, an idea that was certainly not current a hundred years ago.

X. The Challenges: Reprise

There is no evidence of intergenerational conflicts according to both French and American studies but the media drumbeat fostering the idea continues and could be successful. But there is evidence that young populations contribute to social tensions, crime and strife. Population Action International suggests such a relationship since 80% of civil conflicts that

emerged in the 1970s, 1980s and 1990s occurred in countries where 60% of the population was under 30.

I do not foresee extension of the fundamental maximum life expectancy in the very near term, but we do anticipate more survivorship into exceptional ages – centenarians are the fastest growing age group.

Will there be a gerontocracy? Will there be room for children? The real issue is the relationship between population size and available resources as nations live longer and population aging advances – related to health, education and wealth – birthrates fall as populations age, as seen in Europe and Japan. With smaller families, more resources are available to children, as John Stuart Mill noted to be an advantage in the 19th century. This is a favorable outcome.

XI. Human Rights

The idea of human rights of man intensified with the U.S. Bill of Rights and later the French Declaration of the Rights of Man and the Citizen. The modern notions of human rights evolved in part from prior discussions of natural rights and have been largely expressed in the negative, that is protections from oppression. It has been suggested that concern for the body (versus torture) and empathy spawned the "invention" of human rights. Sir Isaiah Berlin differentiated positive from negative rights. He was concerned that positive rights to health, pensions, etc. could be too attractive to coercive governments which might use them to empower themselves. He was living during the period of European communism and fascism. In any case, socio-economic and cultural rights covered by the United Nations, have not been widely adopted, and where they have, they are dependent largely upon the availability of resources. But as we move forward in the 21st century it seems clear that political pressures will intensify

concerns for such rights as workers' rights in trade agreements, property rights for the dispossessed, who may be encouraged to lay claim to the land they work, the rights of women, and the rights of minorities all of which while destabilizing, will hopefully lead to the improvement in the daily lives of people who need economic security and jobs. Such progress is opposed to inequality in general and inequality in longevity. Contrary to the thinking of many in the human rights movement, I believe the ultimate foundation of human rights must be – certain positive rights – that all children should have equal opportunities through access to the finest of education and of health. The International Longevity Center is working with Professors James Silk and Robert Burt at the Yale University School of Law's Human Rights Clinic to move forward with both a Declaration and a Convention on Human Rights of Older Persons at the United Nations.

XII. Where Do We Go Now?

We gained 30 additional years of life for the developed world in the 20th century. It is likely we will have further additions in the 21st as a result of genomics and regenerative medicine – and other unanticipated innovations in health, for example, from the pursuit of research in the basic biology of aging.

Those of us in gerontology should extend our reach and undertake comparative international studies. Those in geriatrics must help lay the foundations for health and education in medicine. We need a coalition of institutions, foundations, longitudinal and epidemiological studies to share our growing knowledge. We must adopt a new paradigm for research involving the mysteries of aging itself. We must emphasize health in our foreign policies. We need global strategies to address global challenges – a global health strategy, global water strategy, global education strategy, healthy aging strategy. We have much to do.

It is not enough to say, "more research is needed." At the same time, we must do what we can do right now.

We need to support many active efforts already underway. Our perspective should be lifespan. These are only illustrative:

1) Save the Children which is an effort of former Senator Bill Frist, Republican of Tennessee, campaigning against bottle-feeding and for immunization for measles and mosquito nets. The global battle against measles via vaccination is said to have saved over 2 million lives since 1999.

2) The United States Agency for International Development or AID should be greatly strengthened.

3) We need to support the efforts of those who have contributed so much to international health including former President Jimmy Carter who has successfully dealt with many neglected tropical diseases and the Gates Foundation which has focused on Malaria, TB and AIDS.

4) The Millennium Development Goals set by the U.N. to deal with poverty, disease and the environment need continuing and expanding support. The MDGs are promoted by Jeffrey Sachs, the head of The Earth Institute, Quetelet Professor of Sustainable Development at Columbia and leading development economist. He has said, "Terrorism has complex and varying causes and cannot be fought by military means alone. To fight terrorism "fight poverty and deprivation as well…………"

5) We need a new movement for health equity exemplified in the work of Sir Michael Marmot who heads the WHO Commission on Social Determinants of Health. The main determinants are SES that is poverty and race.

6) We need non-profit pharmaceutical companies.

7) We need a major NGO movement to push national governments and the U.N. The Civil Society is vital to the transformation of the developing world.

8) We must further implement the Tobacco Treaty for diseases due to smoking are the most preventable of all diseases.

9) We must call upon older persons to take major roles. Former South African President Nelson Mandela has assembled a "Council of Elders" made up of leading statesmen and Nobel laureates such as former President Jimmy Carter, Bishop Desmond Tutu, former U.N. Secretary-General Kofi Annan, former Norwegian Prime Minister Gro Harlem Brundtland, former Irish President Mary Robinson and the micro-credit pioneer Muhammad Yunus from Bangladesh.

10) We have Doctors Without Borders. We need scientists and scholars – gerontologists too – without borders.

XIII. **In Conclusion**

Why should we care at all? Because we face common challenges such as a possible flu epidemic, globalization, climate change and poverty, all of which profoundly affect us. Our National Academies have strongly asserted America's interests in its publication *America's Vital Interest in Global Health* (1997).

We must be wary of pessimism, cynicism and skepticism. Remember in the 1880s Europe was very poor.

Idealism now is perhaps the only practical cause left to us. It has been said, "Crisis is a terrible thing to waste."

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