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**Dame Jillian Sackler Distinguished Lecture: Contagion in the Era of
Globalization
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Featuring:

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DR. JO IVEY BOUFFORD: Good evening. I'm honored to have been asked to present the Dame Jillian Sackler Lecture, and I congratulate the Foreign Policy Association for its important and excellent programs that are geared to make the public, in general, and opinion leaders such as yourselves more aware of the importance of a variety of U.S. Foreign Policy issues. And I am particularly pleased to have the opportunity to talk to you tonight about health at such a critical time for our national and global health agendas. I want to thank Knoll [phonetic] and Jillian Sackler for the invitation.

As in most other areas of public policy, trade, communications, economics, defense, what the U.S. does has significant impact in the world. The area of health policy, either domestically or globally, is no exception. In fact, Secretary of State Hillary Clinton has emphasized placing the concept of soft diplomacy, which is an emphasis on health and science and technology as well as education, especially for girls, at the center of U.S. Foreign Policy. The U.S. is not alone in this emphasis. Such an emphasis really builds on an unprecedented period of both political and financial support for global health, which includes the realization that a healthy population is a critical element of successful national economic and social development. That link had really not been made terribly effectively until about a decade ago.

The UN Millennium Development Goals, which are familiar to many of you, are agreed targets for international cooperation to reduce poverty, disease, and death. Although only three of the MDGs are specifically health-related, reductions in

maternal and child mortality rates and infectious diseases, the other MDGs on education, poverty alleviation, agriculture are deeply linked to the root causes of death and disability. The recent UN review of MDG progress showed significant increases in country and donor investments in these areas but disappointing results in addressing the rather dramatic health disparities among and within countries, with many of the world's poorest countries actually moving in the wrong direction on the desired goals. The historical patterns, which this approach represents, of international investment and technical assistance focused on specific diseases or specific populations that have realized enormous successes in actual eradication of some infectious diseases, development of vaccines to prevent others, availability of affordable medicines, especially for HIV/AIDS which really permitted management of infected individuals and inhibited spread, and some targeted reduction of infant and maternal mortality and longer life expectancy in many countries.

There is still a real implementation gap between what we know and what we do on the ground, especially in South Asia and Sub-Saharan Africa. That becomes apparent in a table like this. This is a chart of life expectancy declining in the developing world. You can see the significant declines in Sub-Saharan African countries. Haiti's plateaued out. I don't know if that would look exactly the same at this point in time. Russia is an interesting country because it has had the actually largest decrease in life expectancy among men in the last several years, largely related to Heart Disease and associated alcoholism and smoking. It's a crisis like this people who have been looking at these big demographic patterns since post World War Two, some would indicate that we have some similar conditions in a number of countries.

The strategy for intervention has largely depended on provision of Western expertise from so-called developed countries to diagnose and treat problems happening over there, somewhere else. Donor investments in vertical programs actually often were inconsistent with national health goals. President Kagame of Rwanda noted that while 80% of his overseas development health budget was in HIV, he only had a 4% incidence of HIV in his country. The issue of reconciling that has resulted in a failure to build capacity in the countries to maintain the services and the educational research programs that may be developed. But can they continue when the funding cycle ends? It's a consequence of these current implementation problems for global health initiatives. A lot of the reason we haven't reached our global health goals have been the problem of weak health systems and inadequate numbers of health workers as well as local or regional higher education and research enterprise that really cannot generate knowledge grounded in the country itself to solve national problems.

Quick examples of some of these problems, about five years ago the Rockefeller Foundation began to look at the adequacy of the health workforce and asked whether given all the other things one could do on health systems and workforce, did it really make a difference? Was the number of health workers related to survival and/or better outcomes. Sudhir Anand and colleagues from Oxford and Harvard did this work. Controlling for effects of income, adult female literacy, and

absolute poverty, he did demonstrate at the global level that numbers of doctors, nurses, midwives, and pharmacists, which actually are the only ones we can count at the global level, do make a difference in the effectiveness of interventions for maternal mortality, infant mortality, and under-five mortality. The biggest differences are maternal mortality because we're at a point now where technical interventions are becoming the most important target for the work.

Not surprisingly, worker density is associated with the GDP, which is important to overall health and development in most countries who have relatively low GDPs, have relatively low numbers of health workers. There are some exceptions, Russia, Philippines. Some of the other countries actually export health workers, so they produce them as an export good and have been turning out more. Then this is disparities by region. They're really huge, and it's estimated that 25 health workers per 10,000 population are needed to achieve the MDG health targets I showed you. Obviously, of the 46 countries in Africa, few achieve this density. The average is less than ten. Then we see the association, the dark red being low density of health workers and are also the areas in which disease rates and burden of disease are highest.

With some of this exploration on workforce, donors have begun to recognize the shortcomings of past models and really begun to try to invest in capacity building as well as in the resource at the results of their product. At the time when these shifts are happening, there are obviously a new set of challenges to human health arising. These are ones that I would argue are changing the way that we think about global health and how to improve it.

In the interest of full disclosure, you may have been lured to this lecture by the word contagion in the title. The recent blockbuster movie has only reinforced the historical emphasis of global health on preventing and controlling infectious diseases and preparing us for epidemics like flu or SARS or the risks of bioterrorism, like Anthrax and Sarin gas. They are still all very important, are getting a good bit of attention, and deserve to have that interest sustained. But the new global health challenges are emerging from an alternative definition of the word contagion, that you can find in the dictionary, that refers to the spread of influence. I think that is a really critical issue in the discussion for tonight, because this kind of influence is a fundamental result of globalization. The model for addressing health problems caused by these contagious influences really has to change.

As global public health expert Kelly Lee explains, globalization is not a new phenomenon. It's been around for hundreds of years. We know the explorers took diseases that wiped out entire populations in North and South America back in the 16th and 17th century and, ironically, also brought back something that it took a few hundred years to start wiping out the sending countries, which is tobacco. When you think about that exchange issue as an early example of this bidirectional nature of global health influences, the difference that Professor Lee identifies is the speed of globalization, this breakdown of economic, physical, and temporal

boundaries that really enhance the flow of goods and technologies, information, and people. This quickening pace of globalization has also led to the spread of ideas, like what constitutes a desirable and affluent lifestyle and where to go to find it. Those are elements of the discussion this evening.

The old pattern of tackling diseases that only occur somewhere else and to prevent them from coming here has shifted to focus on diseases and conditions of civilization that are both here and there. We all share them, and we all need to solve them together. But this is a huge shift in the mindset of traditional development and technical assistance.

In the need to act on broader determinants of health, beyond personal healthcare, there are three issues I wanted to talk about briefly this evening that are effecting globalization. One is the broader, determinants of health. Second is urbanization, and the third is aging. Let me take each of these in turn.

First of all, what factors have the strongest influence on health? There is increasing evidence that personal healthcare, the services to individuals to treat diseases, is not the major factor in achieving population health at the national level nor in global health. In 2008, 2009 the World Health Organization's Commission on Social Determinants of Health led by Sir Michael Marmot presented evidence for the importance for environment, education, economic development, and community cohesiveness to health and the importance of health in economic and social development strategies of countries. To complement this effort, the Robert Wood Johnson Foundation commissioned a similar group here in the U.S. and really confirmed the evidence in the U.S. context.

The U.S. spends more than any other nation per capita and a large percentage of our GDP on health, and the results of these expenditures are impressive. We clearly have the world's most technologically sophisticated healthcare system, personal care system, alongside a tremendously developed biomedical research system. But the combined effect of this investment in the overall health of the U.S. population has been disappointing. Among developed countries, the U.S. currently ranks 22nd in adult life expectancy and 47th in world infant mortality.

Why have our investments not resulted in higher levels of health? One reason is this issue of the importance of medical care, which is where most of our resources are invested. This is some work by Mike McGinnis and Bill Foege that estimates that for the U.S. less than 10% of premature mortality could be prevented through better access to healthcare. Some researchers say that could go as high as 30, but that assumes that all preventive services are in the doctor's office.

By far, the vast majority are these risk factors of tobacco, exercise, diet, and alcohol abuse, many of which are influenced by the communities in which people live. So people who live in communities that don't give them the healthy choices to make in terms of the foods they could eat, whether they can exercise, whether they have safe streets, safe parks, and housing, tend to do worse in the behavior area, even when they have the information that they need.

Then, built and natural environment is about 20%, and genetic factors are another 20. By contrast, the U.S. investment pattern is most of the 99%, it's now about 97%, are in the personal healthcare system. Our investments are really out of sync if we want to get better health outcome for our health policy.

Another way to think about this is some work done by Dave Kindig at the University of Wisconsin. He looked at the broader determinants of health. These are county-level data. On the question of, what are the key factors associated with early mortality? He adjusted these by age and sex. What that means is if there is a lot of old people living in one place, that doesn't count here. If men and women have different life expectancy, that doesn't count here.

This first map shows the red areas are high mortality areas. The dark blue are low mortality areas, so living in the northwest is a good thing. Living in the south is a little bit of a problem. That triangle on the left is Nevada. That's going to show up in every slide. As I've presented these in front of health officials from Nevada, they just say, well we like to smoke and drink and gamble and have prostitution, so leave us alone.

At any rate, the second map adds to age and sex the issue of race and ethnicity. Watch the change in the lower right hand corner. We're now controlling for African American concentrations in the southern part of the United States, Latino concentrations in the southwest. You can begin to see how important the issue of race and ethnic composition is. If you add control for socioeconomic status, poverty, you virtually eliminate many of the disparities in this country.

It speaks again to the kind of analysis going on now at the UN on broader determinants of health. If you superimpose on this, the availability of healthcare, you see almost no difference if personal healthcare is added to this map. I think this is just a dramatic way to try to give you a picture of the broader determinants of health in the U.S. and in global health policy.

To tackle these we need a new paradigm. This schematic diagram is just to look. Across the bottom are different types of interventions starting in the lower left hand corner which is medical care, hospitalization, moving out into community-based practices, then some of the preventive activities like seat belts and helmets and no smoking, immunization. Then when we go over to this far right area where we start dealing with government policy change, on transportation policy, on housing, on education, on economic development, is when we see the biggest impact from individuals to community to society and institutions going from illness to health.

The point of this slide and the point of the conceptual framework is if we stay stuck in the personal healthcare part of global health intervention, we miss—and I'm not saying leave it—but if we stay there only, we miss the potential for broader impact. That's essentially the transition that is going on now in relation to UN activities on non-communicable diseases.

Such a strategy obviously cannot be done by government alone. This is a diagram from the U.S. Institute of Medicine Study a few years ago which really depicts all the people that have to be involved. You can see the business community, academia, media, as well as government need to really align their activities for health in order to make that a significant change over at this end.

Yes?

MALE VOICE: This is not based on data, this graph here?

DR. BOUFFORD: It's conceptual. It's a conceptual graph, yeah. But the data that I was presenting to you having to do with avoidable mortality from healthcare is data.

MALE VOICE: - - .

DR. BOUFFORD: Yeah, absolutely. No, this is a schematic to try to give you a sense of how you have to push the envelope out of the personal healthcare space.

Why we began to see, I think, in the recent September meetings of the UN General Assembly, the high-level meeting at the UN in September—it was only the second time that Heads of State had asked for briefing on health issues. The other time was in 1988 on HIV/AIDS. The reason is because in non-communicable diseases, the focus for the conversation was really Heart Disease, Cancer, Diabetes. Pulmonary Disease is the number one killer in the world now. They also are already the number one killer in upper-middle income countries and of course in high income countries, and the rate of growth in low income countries is increasing dramatically.

Some of the data that was presented to the Heads of State at the UN meeting really show lost output. This is work by the World Economic Forum and colleagues at Harvard. Looking at the total loss, is the yellow at the top. Then you can begin to see upper-middle income is the red. But the lower income countries are beginning to get that loss of economic output from the impact. The cumulative economic losses from these diseases as David Bloom has presented, that I mentioned, are over \$7 trillion at current levels of intervention. This is the equivalent of 4% of the GDP of most of these countries. It is quite significant, and I think it was a wakeup call for a lot of people seeing this data for the first time.

I mentioned global, so let's go back home for a minute. New York City's experience with these issues is pretty much the same. These are the incidents of the causes of death in New York City. You can see Heart Disease, Cancer, Pulmonary Disease in the third and fifth slot, and Diabetes. New York's experience in tackling these issues was a very popular part of the meetings surrounding the high-level forum. The NCD Alliance convened over 200 NGOs here at NYAM, working on these four big killers. The reason they have a coalition is because their risk factors are the same for all four of these things: diet, exercise, tobacco, and alcohol. They had an alliance that really stood up. The panel with Commissioner Farley was clearly the high point of their meeting during the day. Why? Because he could demonstrate the interventions and the results.

Just two examples, this is the challenge I think we all face for tackling this agenda. This is work they've done on tobacco. You can see the timeframes over the various interventions on tobacco control in New York City. They can really relate the different interventions to the decrease in the number of smokers. This is now down to 14%, which is pretty remarkable really for a city like New York. The prevented deaths are estimated to be half a million through these efforts.

Another nice example of the data and the intervention that they presented is reduced air pollution. These are maps largely having to do with emissions from fuel oils in buildings as well as cars in the winter. They've measured these by sensors--you may not notice them, but they're all over the city—and have really looked at the intervention of controlling new rules for fuel oils. Everybody will have to phase out of the old sludgy one in the next two years and start new ones.

This is the kind of data that healthcare people resonate to, because it saves cost of healthcare policy members. They put in this form--it's not by accident—so that they can present it. The overall result is these Active Design Guidelines. Many of you, I know, have either been threatened by or seen the bicycle lanes. They're very important. The Active Design Guidelines, which were put together by urban planners in New York, are now an international model. I was in a meeting in Brazil, and this guidance is everywhere. It's one of the first cities that's ever done this. This is the result. New York City's life expectancy is higher than in the United States and has shown an increase in the last number of years with the actions that have been taken, among others.

Back to the UN for a moment. The declaration that was passed by 82 countries and 35 Heads of State, really brought attention to the importance of, what I might call, governance, of bringing together. The political leadership in a country or in a region or at a city level really has to be involved, because they have to bring together agencies from different parts of the government as well as nonprofits, that bubble diagram that you saw. Many people won't come to a meeting unless the boss tells them to come. This is a different notion, and it clearly can't farm this out to Administer of Health. This is called Health in All Policies. You can see this notion of intersectual action in the health plan. A lot of European countries have done a lot of work on this. The approach really invites segments of government as well as nongovernment to look at the health impact of decisions that are being made anyway on what they're doing.

As an example, if you're exporting tobacco to low income countries because you have bans in your own country, obviously there's a bit of a tension there between economic return and the impact on the receiving country in terms of smoking and death. A really interesting example of world bank investment, big transportation programs. Bogotá, Colombia, really focusing on mass transit, bicycling, pedestrian activity. Karachi, Pakistan, twice as much money, only building ring roads and flyovers in the city, which of course increases the utilization of cars, pollution, and others. These were clearly loans given by the bank that might have been different if the health lens had been in place.

The Obama Administration calls this Health in All Policies approach place-based strategy, and they've been doing this since actually the second year of the Administration. In this instance, multiple agencies, HUD, EPA, and Department of Transportation, are the first ones that have joined together on programs including mixing funding streams, which if you've ever in the federal government you know is just anathema. It's amazing that they've done this, and everybody's really excited about it. The focus is to do joint programming in a geographic community. New York State received seven of these, so-called sustainable, community grants. The Healthcare Reform Act also creates a national commission on public health prevention and integrative medicine, which really brings together 17 federal agencies, chaired by the Department of HHS, who are charged with developing a national prevention agenda and trying to coordinate better the activities across these agencies to get to health. You can see that this approach is really fundamental to what Mayor Bloomberg has been doing in transportation, education, environment, and others.

This brings me to the next two factors. One is the issue of urbanization. In addition to the spread of non-communicable diseases, the growth of cities is a major global phenomenon. We talked about the contagion of the ideas of the kind of lifestyle you want and where the opportunities are. Most people believe they're in cities. The question is, why does this really matter? The answer is the majority of the world's population is in cities. That crossover turned in 2007. There are major disparities in low and high income countries. Much of the growth is rapid unplanned, resorting in slums and informal settlements in very large megacities in Africa with really outpacing any kind of formal infrastructure that develops.

People who are working on urban health, one of the questions are, what is it? It's so general. How would you engage on the topic? These are the characteristics that most experts agree are somewhat unique to the urban environment: the size and scale, the density of people, the diversity of individuals that are there, and then the complexity of the systems that have to support them. These are the issues that are dealt with again through this intersectual approach. This a little bit on the growth over the next 20 years or so of the number of people living in cities. This shows you the urban-rural population activity. The urban representation crosses over the rural, actually did this past year. The growth of cities is actually higher in many low income countries, especially growth is in smaller cities, less than 500,000, not in the huge megacities which are the image that we have. It creates perhaps a more manageable challenge in some instances.

Cities are not either good or bad. Down the side are size, density, diversity, and complexity. Obviously the positive and negative, I'll just use the question of density. Density can make it easier to deliver services, because you can plop a clinic down and take care of a lot more people in a city. Or if there's too much overcrowding, then it really becomes dysfunctional from a health point of view. The infrastructure is tacked, etcetera. People are beginning to parse out these areas and find their way toward an urban policy.

2010 was world health day on urbanization in health. These are the five points that came out of a report that was issued with WHO working with habitat of the UN system. The real message is we've got to recognize that in most countries most people live in cities already, and very few countries have an urban policy. The United States does not have one. I remember in the Clinton Administration there was an effort to draft one, and it was really political. It's very politicized in the sense that cities are kind of left, and non-cities are not left. That political dimension is quite present in many other countries. An interesting question is, how do you position this in an interesting way? Also the challenge of this participatory urban governance, many people in the smaller cities and large cities are developing models where citizens can tell you what needs to happen.

Then on to aging, the world is aging. Global populations are up very dramatically. This, again, is an area where low income countries are aging faster. The rate is now increasing faster than high income countries, and they're doing it before they have the wealth to cope with these increases. This demographic pattern is going to have a profound effect on a number of health policies. Obviously it already does on the cost of the healthcare system, which is where most of the policy focuses now. There are also issues of sustainability, social insurance systems, economic productivity, and ways in which we provide social supports to older persons.

Again, a paradigm shift is underway. This is quite well demonstrated by the World Health Organization's Age-Friendly Cities Initiative. New York is one of the growing groups of age-friendly cities around the world. We at NYAM have been running this program with the mayor and the speaker for the last three years. What this model does here is to say that there is something called a Life Course Approach to Aging, that the kinds of insults and illnesses and problems that people have, the environments that may damage them, the impact really starts in utero. It often starts with the mothers before they become pregnant, the nutrition levels and others of the young women. Then the idea is, how do you reduce by prevention? We've talked about these insults so that you can maintain the highest level of function as far into older age as you can. At some point the medical realities are set, and you need to start working on the environment. That's really what Age-Friendly Cities tries to do.

These are the domains of the age-friendly city. You'll see that health and social services is actually a very small dimension. The purpose of this is to deal with broader environmental issues in which older people live and work and enjoy themselves. The driving pattern on age-friendly is that older people themselves tell you what the issues are in their community, what makes it easy, what makes it hard for them to live there. This is a global pattern, and that information is used to inform the policy interventions. This is the work that was done in New York. We launched this program three years ago with the mayor, the speaker, and the New York Academy.

You might ask yourself, why would a politician care about this? 'Cause I always think about that, 'cause it's policy. Right? Here's some data, growth of New York

City, 65 and over population. In 2020 there will be more people over 65 in New York than there will be school children. This is a wakeup call for anyone who's planning services as well as potential environmental changes, other ways of addressing the problem. The characteristics of these populations, this will be one of the most diverse older populations in the United States. A hundred percent increase, not big numbers, in Asian Pacific Islanders. Nearly 50% increases in black and Hispanic population. Again, the degree to which we have culturally competent services in others is a huge challenge.

We use GIS, Geographic Information Systems, to demonstrate to city council people where seniors live in their councilmanic districts. If you're red, you ought to be paying attention to what's happening to older people, because they're your voters. This map probably had more to do with the engagement of the city council in some of the hearings and some of the engagement that you saw than anything else. I think the data that was gathered resulted in this findings report. We gave this to the city. Deputy Mayor Gibbs, with the mayor's permission, convened 22 agencies across government to look at what they do and how it could be more age-friendly. Having been in government, I had the same reaction they did when we were asked to present with the Deputy Mayor is, we don't do aging. Right? We just don't. We have an agency that does aging in New York. We do parks. We do police. We do education. The second one is they want my money.

Once they were relieved of both of those worries that we were really looking for them to examine what they were already doing or planning to do and how they might do it differently. Because we know there's no money. The announcement of this initiative happened on the day that Lehman Brothers failed, so it was a very clear message. Although, the mayor did show up for their press conference. Anyway, they then generated a report of 59 recommendations, and we have something called, these are the principles, which really is top, down, bottom, up. Most of the changes are lower, no cost, and you need to keep moving and get early winds and build the momentum.

We had a meeting of the Age-Friendly Commission this morning here at 9 a.m. It's just almost become viral, the opportunities. We're doing age-friendly businesses, age-friendly neighborhoods, schools, universities, and colleges, age-friendly professions. What are the characteristics of an age-friendly lawyer, an age-friendly librarian? These are all things that are being developed and new work with a group of older persons on technology. Again, this intersectoral health in all approach focused really on aging.

There's a lot of unfinished business in the traditional Global Health Agenda of Infectious Diseases in Women's and Children's Health. I do not intend to deflect the need to continue investing there. We know there are limited funds for new investments. ODA, certainly in the United States, is pretty much already committed to this agenda of the MDGs. Some countries, U.K., Nordic countries, are actually shifting a little bit more to focus on non-communicable diseases. I think

countries in the Pacific, based in Japan and Singapore, that are facing huge explosions of older persons are in fact taking more of a national approach to this.

The first annual Age-Friendly Cities meeting just occurred in Dublin last week, and there were 400 individuals from 40 countries. Deputy Mayor Gibbs signed the Dublin Declaration committing New York City to action in this area. By contrast there is a group called the International Society for Urban Health, of which we are the secretariat, that just met in Brazil last week. There were representative from about 50 countries, governments, NGOs, academy, business. The Panarecord Health Organization launched its Urban Health Agenda for the region of the Americas. But I think it's fair to say very few countries have an urban policy and really know. Because it's a cross-agency issue, very few international agencies are really taking it on.

Progress in all of these agendas will require this intersectual approach that I've tried to outline. I think the Heads of State that are on the line in their recent high-level meeting have two years to try to deliver on this agenda. There's going to be a lot of work to help them do that.

World Bank and regional development banks should be approached to consider the health impact of these large infrastructure and economic development projects that are in the pipeline or in the planning stages. In some initial conversations people have been pretty receptive to health impact and to the aging lens. The question of could the bank, should the bank really begin to help countries develop an urban policy or think about what that looks like?

There are other significant opportunities at the global level coming up. Rio+20 meeting in June to measure progress on social and environmental development. What are the next steps? Could urban be in? Could aging be in? Could environmental notions of the NCD Agenda be there? The revision of MDGs in 2015, preparation for that will probably start next year and try to integrate these issues there.

Finally, I think one of the hardest shifts is going to be the vision and understanding of donors, because this is really critical. Much of the development paradigm to date is a rural one dealing with vertical programs. Shifting to a focus on urban or a long-term capacity building is very complicated. I've actually been at review sessions for grants where the reviewers just walked away from urban proposals and said, this is too complicated. These people must not know what they're doing. Well in fact they did know what they're doing, which is why it was complicated. It's beginning to introduce this paradigm. This shift is going to be an important one, but I think these are not agenda items owned by the health sector and cannot be adequately addressed by the personal healthcare delivery system alone. The development of a more balanced portfolio of global health investments and domestic health investments is both a challenge and, I believe, the opportunity for achieving significant improvements in global health.

Thank you.

[Applause]