

**Keynote Luncheon: The Challenges, Opportunities and Implications of the Demographic Aging of Societies: Perspectives from the Oxford Institute of Ageing**

**Presented by Kenneth Howse at the Living to 100 Symposium  
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Good afternoon. We have a condensed time frame right now so we want to just get started. It is my honor to introduce our luncheon speaker. Kenneth Howse is a senior research fellow at the Oxford Institute of Ageing, an editor of *Aging Horizons* and director of the James Martin Center for Policy Challenges of Population Aging. He joined the Institute for the Center for Policy on Aging where for several years he worked on a range of issues including health policy and the place of religion in later life. His interest in aging issues began in the late 1980s when he was a research fellow with the Institute of Medical Ethics and worked on rationing problems in health care and the ethics of psychiatric research. This background in applied ethics is reflected in his strong interest in the ethical and normative dimension of the policy implications of demographic aging. He manages the Health and Longevity Research team and his current research focus is intergenerational equity and ethical issues surrounding aging. He is currently working on problems of generational fairness and pension reform and the policy issues that are likely to revise as a result of the increasing prevalence of extreme longevity. It is my pleasure to present to you, Kenneth Howse.

**KENNETH HOWSE:** Thank you very much for the kind introduction and thank you also to the organizers for inviting me here. If you listened closely to the short biography, you will have noticed there were a couple of references to ethics. That's a clue that actually my background is in philosophy, so I'm not a demographer, I'm not an economist, I'm not an epidemiologist, I'm not an actuary at all; I'm a philosopher, so there's not really very much math in what I have to say. I also should say that this talk is not quite what's billed in the program, I think, which probably suggested to those of you who read the program that you were going to get some kind of overview or guided tour of the research program at the Institute of Ageing. Well, I'm not the right person to do that. The best person would be Sarah Harper, the director, who unfortunately couldn't come. So I'm here instead talking about this question, which I hope is still appropriate to the occasion. I will offer you a discursive, reflective overview of the issues and questions raised by the attempt to identify and assess the challenges of population aging for health policy.

But first I'll say a little bit about aging itself and this is actually a big news item in the United Kingdom last week. It actually came out on the 30<sup>th</sup> of December. One of our government departments, the Department for Work and Pensions, asked the Office of National Statistics to prepare a rather unusual set of life expectancy projections. These were cohort life expectancy projections, which are quite unusual in themselves, but also they would be focused on the probability of reaching the age of 100 or more. If you know anything about the United Kingdom, you'll know that 100 is the age at which the queen sends the lucky centenarian a congratulatory telegram, so a lot of the newspapers could tie this up with extra work for the queen. But what really grabbed the attention of the media in this is the estimate that nearly one in five (17 percent) of current residents in the United Kingdom will actually survive to be centenarians. This increase in longevity is, I guess, the most salient aspect of population aging. As you see, it certainly was enough to worry our pension's minister, quite opportune data really, because we're in the middle of a consultation process to reform our state pension system. I suspect that this data was released partly with a view to instigating a debate on this particular topic. But anyway, this isn't by any means the only aspect of population aging that should be of concern for health care systems.

What matters for the actual workload of health care systems are the numbers of people coming through the door with particular kinds of health problems. If you look at this graph, you'll see that the numbers of people in the age group 75 to 79 don't really increase too much over the next 50 years, but the numbers of people in the age who are over 85, really increase enormously and that suggests to everyone who looks at these figures that we're going to see some sort of significant increase in the numbers of people requiring help with activities of daily living.

Now, this increase in absolute numbers doesn't come, of course, only from the increase in longevity. It's also an outcome of the baby boom in the 1950s and the 1960s, that exceptionally really large cohort. And it's really the relatively low fertility of those cohorts born in the 1950s and '60s that contributes to this fairly standard way of measuring and comparing the progress of population aging in different countries. What I have here are three European countries, three Asian countries with the United States in between, and what you should notice, I think, is that the countries that really stand out in this graph are the ones which have low fertility, and South Korea in particular which has seen an enormous drop in fertility in recent years. It has this staggering increase in the relative size of its older population over the next 50 years.

Poland also is of some interest, for those of you who don't know too much about Europe. The eastern European countries are exercising demographers and policy analysts quite a lot at the moment, because although they don't have terribly high life expectancy—on the whole it's not as high as Western Europe—they do have relatively low fertility and also quite a lot of out migration to the wealthier countries in Western Europe. So they're seeing fairly rapid changes in their population age structure as well.

Now, the relevance of this particular dimension of population aging to health care policy, as I'll show in a bit, is apparent in most of the attempts to estimate its impact on health care spending.

My main question is this: What are the health policy challenges of population aging? And I divided this question up into two sorts of sub-questions. Firstly, it's the social science inquiry into the power of population aging; its causal power to bring about changes that are relevant to the workings of the health care system and that generates a number of other questions, like what are the different causal channels through which population aging might have an impact on health care systems? Are the effects large enough to matter, by which I mean do they actually require a change in policy? It's one thing to give a quantitative estimate for the size of the effect. We still want to know whether it's large enough to matter.

And also, and of most interest to me in some ways, we want to know in what ways local circumstances other than demography might modify the health policy challenges associated with population aging in different countries. You will have seen from the previous graph that Japan has a very, very fast rate of population aging compared to the United States. Does the institutional design of the health care system in the United States make any difference to the ability of that system to handle population aging? Quite possibly, I think would be the answer. And there's a second set of questions I have here that are really normative questions, which is where the philosophy hat comes on, policy questions that we could always ask of health care systems. It doesn't matter whether there's population aging or not, we can always ask them, and various health care systems and governments associated with them answer the questions

in different ways, but we can still ask now whether or not population aging gives us any reason to revise our answers to these questions. I will look at some of those issues in the second part of what I have to say.

So I've phrased the social science inquiry like this: We want to know whether or not population aging, or to what extent population aging, challenges the ability of health care systems to achieve their objectives. The idea here of introducing the objectives is quite important because we really are interested in the effects of population aging only insofar as they're relevant to what they do. In other words, their objectives, so we have to agree on some set of objectives.

Now, what I've done here is simply adapt a set of objectives that were used by the World Health Organization when it prepared a set of comparative evaluations of health care systems in the year 2000. Don't think of them at all as set in stone. I don't at all, but I do think they're probably a useful starting point to ask about the health policy challenges of population aging. And I just draw your attention to the weasel words in the first objective, which are "satisfactory care" and "reasonable cost," since it is quite evident that we can all disagree about what constitutes satisfactory care and what constitutes reasonable cost. What constitutes satisfactory care and reasonable cost in China now is going to be very, very different from what constitutes satisfactory care and reasonable cost in the United States.

So how might population aging affect the ability of health care systems to deliver satisfactory care at a reasonable cost? And this is rather a peculiar diagram actually. It is intended to illustrate a very standard answer to that question, which is we say that population aging exerts pressure on health spending via its impact on population health. This is a representation of a model used by the European Commission to project health spending increases up to 2060, and I will quickly run through it for you. The pure aging effect, which is not very large, is determined simply by taking current prevalence rates for disease and applying them to a future age structure. You then have to correct that for the fact that proximity to death is actually a better predictor of health spending than chronological age, so you correct it and you take something off. Then you have to correct it again for likely improvements in health status over the next decades. We know people are getting healthier. But you have to inflate it then by the income elasticity of demand for health care. As we get wealthier we want more health care, we demand more health care. I was interested to note that the coefficient used by the European Commission here was actually 1.1—in other words, for every 1 percent in GDP, 1.1 percent increase in health spending.

Now, Robert Fogel, an economist at the University of Chicago, I think, did something like this, a very similar exercise for U.S. health spending. His coefficient for the income elasticity of demand was 1.6. Of course, if you run that over 53 years, you get a very, very big difference at the end of it, which is what in fact he did.

Still a further increase to deal with the fact that health care is a very labor-intensive profession, so productivity gains in health care tend to be lower than in the rest of the general economy. And then in gray (deliberately in gray) we have new medical technologies costs that are regularly introduced, and it is very interesting to note that the European Commission decided not to put a number on this. They felt this was not easily predicted. They couldn't really say. All they could say was, this is going to be big, probably bigger than anything else, probably swamp any other effect, but we're not quite sure.

So anyway, they run that sort of computer and they have what they call a reference scenario, a set of central assumptions. At the end of that period we have an extra 1.5 percent spending on GDP as an average across the EU 15, which are the old European countries, the richer ones, which is really not very much at all. So the conclusion the policy makers will take away is this is really not a problem. We should downgrade this threat, and the most probably we should say about population aging is it might add a bit to the main source of pressure on health care spending, which is going to be the introduction of new technologies.

So that's the first demand side factor, I guess you could say. But it's not the only demand side effect from population aging.

There's quite a lot of concern in Europe about the electoral implications of population ageing, the idea that our aging electorates might get some stranglehold on policy making and particularly that these changes might be quite important for society's expressed preference on social spending. We might end up spending more on health care consumption than investing in the human capital of the younger generation. Not a good thing.

The point I want to make here is that population aging can have an effect on health spending quite independently of its impact on the need for health care. The pressure in this case would be exerted through the political system rather than through the responsiveness of the health care system to epidemiological trends.

What conclusion might we draw from this if we're worried about this at all, if you take it at all seriously? I would suggest that we shouldn't take too much reassurance from the projections that I showed you in the last slide, which suggest that population aging will make a relatively small, independent contribution to the increase in health spending. This is what really matters: the net resource implications for an aging population of a continually expanding repertoire of new medical technologies for alleviating the consequences of age-related morbidity. So we should expect health care systems and again societies to come under considerable pressure to spend more resources increasing the effectiveness of the care they provide for people with age-related chronic disease.

I don't know if you can see this graph, but this just shows the change in the size of the working age population in six countries indexed to 1950. The six countries fall very neatly into three pairs: the United States and Australia will see continuing strong growth in their working age population over the next 50 years because they have relatively high fertility and they have relatively high levels of inward migration, especially Australia. Japan and Germany, on the other hand (especially Japan), are right on the cusp of a decline in their working age population. The United Kingdom and France are going to trundle along in a relatively safe, stable way for the next 50 years. Well, so what? Whatever the impact of population aging on the scale of the need for care, there's a separate challenge arising out of its consequences for society's capacity to provide the care to people who need it; it costs money. A weak economy is going to find it much harder than a strong one to pay for the high quality medical care that will be demanded by a growing older population. So the problem is the population aging may actually act as a drag on economic growth, and this is one of the mechanisms by which it might occur. I've already said I'm not an economist, so take what I say with pinches of salt, but this is one of the ways in which it might occur. And at least it's not unreasonable to suggest that the continuing growth in the working age population of the United States and Australia will give their economies an impetus that the German and Japanese economies are going to lack. They're

going to miss it. So the question that arises from this is whether or not, if the main challenge posed by population aging for health care systems actually lies outside the system altogether, but there it could be left to take care of itself largely provided we get these other structural challenges in the wider society and the economy right.

I'll shift now to my second objective, which was protecting and maintaining health. I want to ask briefly, and again in a sketchy way, what are the implications of population aging for this? Really I think it boils down to the implications of extended survival—that's the dimension of population aging that we're interested in here, for protecting and maintaining the health of individuals. What kind of new priorities or challenges does it generate?

And I have two quotations for you; I won't read them out unless I'm wrongly requested to do so. The first one comes from the director of Medicare giving testimony to the U.S. Senate in 2003. Have to have a major priority on disease prevention for older adults in order to address this looming crisis. So better prevention has to be a priority.

The second quotation comes from a study of European health systems by Ellen Nolte, who is at the London School of Hygiene. She was interested in the management of people, not prevention; the management of people who already have complex chronic disorders. I don't know how you think these matters are handled over here in the United States, but her conclusion was that there wasn't really any European health system that handled this matter satisfactorily. They all fell down, and they fell down for the reason that she says. The health care systems are still built too much around an episodic model of care.

What will population aging do? Well, it's going to highlight and expose the inadequacy of these health systems even more, and so we have a clear organizational challenge facing health systems, which is how to reconfigure their services so that they deliver more appropriate and effective care for people with chronic disease. The goal in this case is going to be to maintain quality of life and delay serious functional decline for people who already have chronic disabling disease.

A problem that is beginning to preoccupy a lot of people a lot in the United Kingdom, and presumably in other European countries, is the projection of numbers of people with dementia in the United Kingdom in 50 years. It's going to increase from about 700,000 now to 1,750,000 by the end of the projection period. I've chosen this graph to illustrate a point, which is that population aging is one of several factors driving change in the kinds of health problems that people bring to the attention of the health care system.. And what I have in mind here is the increasing prevalence of health problems for which the main risk factor is advancing age. Not your lifestyle; it's getting older and older. And the problem is not simply that health services aren't set up for the management of these conditions, but also that they require some kind of new preventive strategy. If it is indeed the case that advanced age dominates lifestyle in a social environment as risk factors for what are becoming increasingly chronic health problems such as this, then we could argue that what's required is a strategy, a new set of interventions to slow down the rate of aging in the general population, something like this. In other words, this is what an effective preventive strategy would have to achieve. I rather suspect that that was not what the director of Medicare had in mind when he was speaking of making prevention a priority as he did in 2003, so this is a possible new challenge.

I think the last challenge for the health care system here (the last I'm going to talk about), when I saw this graph for the first time in a seminar given at our institute in Oxford, I

was really surprised and very struck by it because what you see is the number of deaths per year has been going down steadily since the 1970s, and it's going to go up really quite a lot. So more people are dying; more people are going to need end-of-life care, and we don't do it very well in the National Health Service. I have no idea how well it's done over here, but we don't do it that well. It's a problem. People anguish about it quite a lot, about how badly it's done, and it's also done particularly badly for people who are extremely old and especially if they have dementia as well. At the moment 30 percent of the people who die in the United Kingdom die with dementia, and the projections are that, by 2050, 50 percent of the people who die are going to die with dementia. So you have this big increase in the number of deaths per year and then an increase in the percentage of these deaths where the complication is dementia, and we don't handle it very well. Getting end-of-life care right is undoubtedly going to be a major challenge for health care systems in the next few decades.

These are my political questions, the are-we-getting-it-right questions. This is a quote from Peter Heller, who used to work as an economist for the International Monetary Fund. He points out that there are major disagreements (this is what the quote means)... there are major disagreements about the macro efficiency of public spending on health care. Big differences! We argue about it a lot.

Now, I would want to add to his comment a question about the relevance of population aging to our collective assessments of this issue. Is it going to be the case that declining returns to health spending because of the sheer difficulty of finding solutions to health problems caused by chronic disease in later life are going to make us think this additional expenditure is not such a good buy after all? Or is it going to be the case that increasing longevity would actually shift our collective assessment of the optimal allocation of resources between spending on health and other goods in favor of health? So we see that increasing longevity offers us some scope for boosting the benefits we gain from health care spending.

What I have in mind here is really the idea that as the remaining years of life expectancy increase, improvements in health-related quality of life become more valuable to us all. We're willing to spend more to secure them.

Are we getting it right with the allocation of health care resources across the life span? This is a fairly standard age profile for health spending. I've just used U.K. data and so pegged it against GDP per capita. Other countries will be slightly different, but not that different, and the question to ask; I'm not going to make a point here about justice. It's a question in the first instances about efficiency. The question to ask, really, is: Is it efficient to have this kind of age profile for health spending when so much of the resources expended are expended in the last months of life?

Now if we think that resources are spent on health care in order to maintain and protect care, and we think of this thing, health, as a kind of capital stock that is inexorably eroded by biological aging, then I guess that the answer to my question is quite likely to be no. There's something wrong with this. We don't have it right at all. We should certainly ask, I think, whether we would do better to reallocate some of these end-of-life resources to building the health capital at earlier ages.

Are we getting it right with the allocation of resources to public health? This is a continually vexed issue in the United Kingdom. I don't know about the United States although I managed to dig out a U.S. quotation from David Mechanic. He's a sociologist, I think, at Rutgers.

Anyway, he thinks that you're not getting it right for sure.

Now, once we accept that health care systems actually make only a limited contribution to reducing the need for medical intervention to deal with age-related problems, I think there's clearly an important social/political dimension to the public health challenge. It's pretty much unavoidable. Money that is spent on downstream interventions cannot also be spent on upstream solutions. Since economic and social deprivation is prominent amongst what Mechanic thinks of as the non-medical determinants of health, these are the things that policies should deal with. It's only to be expected, I think, that policy debate on this matter is going to run up against severe ideological differences, but we still have to ask the question and press it and presumably get some kind of consensus on this. But consider, for example, a schematic contrast between a public health strategy, which gives pride of place to restructuring incentives for individual health behavior. You could reward people in some ways of giving up smoking or punish them for not giving up smoking, putting some sort of premium on their insurance; however you want to do it, and one which identifies economic and social deprivation. It's one of the key roots of the problem, one of the key targets for government action. A lot of European countries are going to be very undecided about where they should go in all of this. Their social democratic traditions and instincts are going to point them one way, I think, and new fiscal realism is going to point them the other way. They're going to be very tortured and find it hard to answer the question.

I'll be getting it right with the allocation of resources to biomedical research. This comes from U.K. data on spending by medical research. It's quite a clever little graph. I didn't do it, I hasten to say, but as you see, what has been worked out is the investment in research for every million spent on health and social care costs. So the higher the health and social care costs, it pushes the columns down.

Cardiovascular disease and cancer account for about 50 percent (I think it's slightly more) of all the deaths in the United Kingdom, about the same I would imagine as the United States, and I was fascinated to find about 40 percent of all research papers in medical journals, those two diseases. But the burden of disability associated with these diseases is actually relatively small when you compare it with those associated with dementia, stroke and musculoskeletal disease. Very different, and that's why the social care costs tend to be so high with those conditions. So the question we can ask, the question I would invite you to ask, is: Should we be investing more into research and into diseases which seriously impair quality of life and less into diseases which shorten life? Are we getting it right with our spending on biomedical research?

And last of all, the balance between collective and individual responsibility for health and long-term care. Clearly this is already answered very differently in different health care systems. We answer it very differently in the United Kingdom from how you answer it in the United States, and we answer it quite differently from actually most of central Europe as well. But it's interesting to note this question is now bubbling up in Europe quite a lot, and I think it's going to bubble up even more. One instance of where it's emerged in the last couple of years is actually long-term care, and interestingly enough there seems to be growing consensus in the United Kingdom that we have it wrong with our balance of responsibility here. There should be more collective responsibility. We're moving to this conclusion. So we have a system of it like you have with Medicaid, where there's a means test for access to publicly subsidized support

for help with activities of daily living. There's quite a groundswell of opinion in the United Kingdom saying do away with the means test. We should have some kind of universal entitlement to long-term care in effect. This will be some kind of insurance-based system in all but name really, I guess. And paradoxically enough when we move away from long-term care to health care, the argument tends to run the other way, not with more collective responsibility but perhaps we have too much collective responsibility here and we need more responsibility on individuals. It's notable, when you look at the figures the United Kingdom is spending on health, that we actually have one of the lowest proportions of health care costs covered by out-of-pocket expenditure in the OECD. It's really, really low. So one obvious question to ask about the United Kingdom, and I think people are beginning to ask it very quietly because this is really political dynamite in the United Kingdom (a bit like talking about Social Security, I guess, and Medicare over here) is: Wouldn't it perhaps be desirable to increase the proportion of health costs that are covered by out-of-pocket expenditure? Those two examples also illustrate my point—the way we answer these questions at the moment is actually very different between different countries and the way we're likely to answer if we think, well, hey, do we now revise the answers that we're giving in the light of population aging? But we're also likely to not all go in the same way. Of course, we might. And an interesting question for someone who does this sort of research that I do would be something like, perhaps there might be some convergence in health care systems as common factors of it, the common factors in technologies, common factors to do with aging bringing us to getting shared answers to these questions. I doubt it, but it's an interesting issue.

This has to be my last slide. I will summarize what I tried to do—to make something of a distinction between technocratic challenges associated with population aging and social/political issues. “Challenges” is actually the wrong word; I should have changed it. Sort of challenges, does population aging require us to do things differently in order to achieve agreed objectives for health care systems? OK, I've mentioned a few already: organizational change for providing services for people with complex chronic disorders; improved prevention somehow or another for chronic disabling diseases which advanced over age is the major risk factor; getting individuals to be more engaged in maintaining their own health. These are essentially technocratic problems. But alongside those, and quite different, we have lots of political quandaries that we're probably going to have to work our way through, which I subsume under this general question: How should we revise priorities and refine objectives for health care systems under conditions of population aging? I'm still very, very carefully clear of actually giving you any answers to those questions because that's how I expect to be occupying my time over the next few years, I think. So thank you. I can take questions if there are any.

**Question:** Do you have any hypothesis as to why there's a shift toward a belief that the state should take more public responsibility for long-term care? What has happened that is causing that consensus to form?

**KENNETH HOWSE:** It's the idea of unfairness essentially. The middle income people in the country feel it is unfair, and a large number of them are seeing their housing capital go essentially in order to pay for long-term care. If you're at the bottom of the income ladder you get state support; if you're at the top of the income ladder you don't care, it really doesn't

matter. But if you're in the middle you think it's unfair. And it's complicated in the United Kingdom, I think, by the fact that the National Health Service offers a universal entitlement. So what is it exactly that's different between providing people for help with the activities of daily living and providing them with health care? Why should one system have means testing and another not? I think that's the way the arguments have worked out in the public domain.

**SAM GUTTERMAN:** Sam Gutterman, PricewaterhouseCoopers. You have raised a number of wonderful, but very difficult questions, for which there's no obvious answer or at least there's consensus. Since there are so many significant financial issues involved, let alone the personal issues, how do you see these things getting resolved? These issues are shared by almost all countries. Typically politicians only address this type of issue is when there's a crisis looming in the short-term horizon. What do you see or how do you see society effectively addressing them?

**KENNETH HOWSE:** It is often the case that some kind of crisis does prompt these issues, but politicians can raise the arguments by making proposals even if the proposals are pooh-poohed and turned down. They can actually introduce debate into the public domain. What I think is very important, and what I'm trying to say, is we need debate in the public domain about all these questions because the questions answer themselves in a way. The health care system will divide up the cake in these ways, and we're asking (let's be explicit about this): Do we change it or not?

**Question:** One of your slides showed quite accurately, of course, the distribution of funds focused on specific diseases like cancer, heart disease, Alzheimer's and the like. Knowing that biological aging is a major risk factor for almost everything that goes wrong with us as we grow older, I'm just wondering what you think of the current medical model that focuses only on one disease at a time, each independent of each other without any mention or focus at all on biological aging itself.

**KENNETH HOWSE:** What I've actually tried to do—and I'm not sure how easy it is to sustain this—is to draw something of a distinction between chronic diseases where we have a lot of information about risk factors connected with lifestyle and social environment (heart disease, a fairly obvious example, cancer, cardiovascular disease), and then diseases where it also seems pretty clearly the case where these social factors and lifestyle factors are completely dominated by age. That's really what I've tried to do. I know this doesn't actually answer your question. I would have said that the medical model has to go a long way yet because what people treat are symptoms of disease, and I'm not quite sure how I could see that changing. I'm not a medic, but medics think in terms of diseases and their natural history, their causes and alleviating their symptoms and so on. That's quite a large sea change you're thinking of, but on the other hand, when it comes to research, it's a different matter, I think. So clearly there's a case for trying to integrate our understanding of aging into our understanding of these various diseases.