

**Informal Discussion Transcript
Concurrent Session 3A: Mortality Inequality:
Impact of Socioeconomic Factors**

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TIMOTHY HARRIS: Yeah, we're at about the scheduled time to stop here, but do you want to take questions, [or] do you want to be late for lunch? Yeah, let's take some really important questions. Okay, so please, if you have questions, please step up to the mic and identify yourself and your affiliation. Lunch will wait.

FROM THE FLOOR: I was wondering about the basic premise that we use the gap, as opposed to the absolute level of life expectancy.

DR. SEVERINE ARNOLD: Yes, thank you for the question. Well, as I said in the beginning, it is one of the tools you can use, and naturally, you can look at it from different perspectives. However, as we got the data set from the U.K. government, and as this government is really interested in the gap, we developed a tool that can be used by the U.K. decision makers with that respect. Naturally, many different tools could be used to analyze socioeconomic differences, and that's only one of the many tools you could use. It provides partial information that would need, of course, to be complemented by additional figures that would be provided by other scientists.

FROM THE FLOOR: Thank you.

TIMOTHY F. HARRIS: Sure.

S. JAY OLSHANSKY: Is this working? So I'll address the latter point first. Look, we made the case back in 1990 that life expectancy could go up to about 85 for men and women combined for a country. No country has yet reached that plateau, so there's still room to go. Now, I would not use the Japan; I don't think the Japanese actually are a very good example to use in a genetically heterogeneous population for a target for any other country, especially not the United States for where we're headed. And keep in mind, if you look at the mortality, the cause-of-death structure for the Japanese, they have almost no cardiovascular disease, which if you actually look at the direction we're headed, we're headed in a similar direction, where cardiovascular disease has been declining quite dramatically. And the last figure that I didn't show, that I skipped over, actually shows sort of the distance between where we are now and where we can go, and the distance is relatively small. So while we can continue to make progress against cardiovascular disease, the reduction in death rate will be relatively small. The gain in life expectancy will be even smaller, so I don't really see the phenomenon of entropy in the life table changing in any way in any time

in the future unless and until—and this I think was the point you were making—unless and until we can slow the biological process of aging. If we slow the biological process of aging, all those barriers disappear. Then you can move out that whole distribution en masse to the right, and if you look at our language from our article in *Science* in 1990, that is exactly what we said then, so there has been no change in our message from 1990 to the present.

In the absence of an intervention to slow biological aging, there's no question that there are limits to duration of life, and I'm surprised that anyone in the face of death everywhere [is] questioning the lack of limits to duration of life. I mean, we've explained this in multiple publications with regard to human body design and why components of the body can't last that long. And, of course, recognizing the great heterogeneity that exists in a population, even if you get some people who make it out to 110 or 115, it doesn't mean the rest of us can make it, just like none of us can run as fast as Usain Bolt in a 100-meter race. We can try, but it's not going to happen, and for the same reason, we're all not going to live as the longest subgroups of the population.

So really, the message that we have made over time has not changed at all, and I don't think our biology has changed at all. Our technology has changed quite dramatically, and we're now getting to see the expression of sort of the best mortality schedule that we can see in long-lived populations, but I would argue we're reaching a point of diminishing returns, and those gains in life expectancy will decline. They will decelerate, and in fact, I have argued that they will reverse, and we have already started to see this among some subgroups of the population—a decline in life expectancy. It doesn't mean it can't be fixed or altered; it can be, and in fact, that's what we are advocating for so hard today. So I think I might have answered that question.

TIMOTHY F. HARRIS: Anybody else? I didn't mean to discourage you from asking questions. Okay, lunchtime, thank you. Let's thank the speakers.