LIVING TO 100 SYMPOSIUM*

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Session 6B: Health Status and its Impact on Mortality Q&A

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DOUG ANDREWS: I enjoyed this whole session including the discussant's comments. I'm a Canadian and I certainly welcome the opportunity that Jay has raised for actuaries to use statistics for political advocacy. So I'll begin. Mike, I want to go back to the chart that you had showing Canada and U.S. life expectancy and percentage of GDP. So your takeaway from that was that we should be taking responsibility for our own health and I certainly agree that we should take responsibility for our own health. But if we had looked again at Sam's chart with respect to increases in obesity internationally from I think it was 1991 to 2001, Canada is actually the leader in that chart. We had a 50 percent increase, more than any nation, which is certainly a concern. So when I come back to this chart, that you've put up, it's very key that you've picked the year 1965 to begin your chart, because it was just after 1965 that Canada introduced what I will call universal healthcare, really universal accessibility with no charge at point of contact for medically necessary physicians and hospital services. And I think it's that factor that has controlled the growth in spending and that's what I would recommend that you take away from that chart that introducing universal healthcare can help you control spending to the levels that you said were common in other countries. And there is a benefit in terms of life expectancy as well.

MICHAEL J. COWELL: That's an excellent point, Doug, and I think it gets into this tricky area that Jay rose about my comment as to whether I was advocating rationing and I'm not explicitly although it could be inferred. What I'm arguing is that people get health so that they won't need all of these services. Whether the solution is universal healthcare, because I have heard other stories from Canadians, who come south of the border because they're 15th in a queue for a procedure that they have to get done and they can't afford to wait., so I mean there are issues on both sides. But I do recognize that Canada is much more in line with its 10 percent of industrialized countries and the point of this was to say that the extra five percentage points of GDP, of some several hundred billion dollars doesn't seem to be getting us anywhere in life expectancy. Maybe it has other benefits.

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KATE MUSLER: Several of you talked about the interaction of smoking with obesity and one thing that you hear people talk about with smoking cessation is after a certain number of years, your level of risk returns to your pre-smoking level. I did see a study recently looking at the weight of mothers at first pregnancy and their weight at second pregnancy and looking at the risk of having a high birth weight baby which puts the child at risk for life. They found that women who lost weight from their first pregnancy to their second pregnancy had a lower risk of high birth weight babies than women who gained but it was still a higher risk than women who stayed at a healthy weight. So my question is do you know of any other research about the effect of losing weight and whether your health risk returns to normal after a certain period of time or whether you have continued risk?

SAM GUTTERMAN: This is a complex question or the answer is complex. The question is simple. There are several factors involved here. The first point is that if the in terms of the percentage of people who lose weight who subsequently regain that weight, that percentage is huge. And I've forgotten what the percentage is. I think it's in the paper but it's certainly I think two-thirds or maybe I'm sure more than that. In terms of if you lose weight, you'll regain it. And in fact, cycling, weight cycling can be worse for your health than a higher weight to begin with. So, going...dieting, gaining weight, dieting again, can provide some adverse effects. If you can reduce the weight and keep it off, then there is some advantage to that.

FROM THE FLOOR: Have you considered waist to hip ratio as a measure of obesity? Because in my studies I have found that obesity as given by body mass index is not a predictor of IHD or stroke. It is not a significant predicator, but when you use waist to hip ratio, then it significantly predicts what IHD or stroke will be. So have you considered that and what were the results?

SAM GUTTERMAN: Yes, there is a vast literature on various measures of obesity. I cover that I believe in an Appendix in the paper. The various studies have shown whether the BMI or waist circumference or ratio of waist to hip is a better approach. Typically BMI is used, first of all, because it's universal. Second, it's easier and more comparable you don't need in terms of exactly where you measure in your waist. And there are various studies that particularly older ages, over age 65 or 70, And various studies have generally shown for particularly older ages, over age 65 or 70 that waist measure is a better predictor than BMI so the suggestion is to at least supplement BMI by the measure that you use particularly for the older ages. Again, the waist measure is maybe better in some cases. Also in terms of where your weight is, is significant. If your additional weight is around your waist, that typically is a bigger risk factor than if it's elsewhere in your body. I think it's fruitful for research. But studies have varied in terms of which is more significant.

FROM THE FLOOR: A lot of studies measured the body mass index at baseline, say at the beginning of the study and look at mortality in 20 years time. But the body mass index will have changed in 20 years time, just before they're dead. So don't you think when we look at these mortality ratios for different categories of BMI, it is misleading?

Because the BMI at the time of death is not necessarily the BMI 20 years before and how do you deal with it?

SAM GUTTERMAN: That's also a good methodological question. The reason why the BMI at the beginning of a period is a good one is because you're trying to come up with an expected value of your additional deaths and mortality rates based on the current level of population. So if your application is, you want to project the population, then you can utilize current and future. There are different studies that do it both ways. The key problem with a lot of these studies is that they're short term in nature. There are relatively few that are much longer in duration, which provides you more additional insight.

FROM THE FLOOR: But why you would say that is important is suppose somebody has cancer and their body weight wastes away, the muscle and things like that waste away and their body mass decreases quite significantly before death. So those people who have diseases can have a lower body mass index. So the cause and effect is reversed in this case. Obviously it doesn't cause cancer; it is the cancer which causes decreases in obesity. So how do you then adjust for this?

SAM GUTTERMAN: These confounding factors, there's also a lot of literature on various ways and techniques of trying to correct for some of these factors. Some studies have shown that if you don't correct for any of these factors, your relative hazard ratios are flat. But when you start correcting for them, you show that the impact of obesity is much more significant and severe which leads you to believe that this is going to be a more significant problem. But you just hit on some of the complications and complexities of studying the issue.

STEPHEN GOSS: Just to comment, there's been a lot of talk about health expenditures as a percentage of GDP. Just wanted to give a little bit of an update on what some of the projections are for the U.S. The trustees at Social Security and Medicare are projecting U.S. health expenditures as a whole to go from roughly 16 percent now up to over 40 percent in 75 years. That's a big increase and interestingly, they're projecting that the increase will be about at the same rate for Medicare and Medicaid as for private health expenditures in the rest of the economy thinking that there will be sort of a similarity. There's probably some wisdom for that. However, the Congressional Budget Office very recently came up with some new projections. They project that the health expenditures in the private sector will be more attenuated. They won't grow as quickly simply because of price resistance and the desire of employers not to provide as much, people not putting as much out of pocket, etc. etc. However, as a policy projection, they're projecting Medicare and Medicaid to continue to grow at a very rapid rate, even faster than the trustees are. So a real divide there, which you may say is not a consistency, I think if you think in terms of the different bases for what they're trying to project, it makes sense. So the bottom line is that they are projecting for private expenditures that the national drag forces of price shock and desire to spend money on something other than the health eventually will slow down the growth to a greater extent. A real quick comment on some of the interesting statistics about BMI and the effect on longevity, there was at least one

population group where it was indicated that relatively high BMIs didn't seem to have terribly deleterious effects. I wonder to what extent if anybody has studied this, you know, maybe stressing over being overweight is a bigger problem than being overweight? And so if we have population groups that aren't getting terribly worried about being a bit overweight, then maybe it's not such a big deal. And finally, the question is on some of the statistics shown earlier for 90 and 95 year olds of probability of survival to a 100 and probability of being healthy at 100. My question is, were those done on the same basis? In other words, was the probability basis for people who are healthy and alive at 90 or 95 or was it survival from the base of all people who were healthy and unhealthy at 90 for the probability of survival. I'm assuming the probability of being healthy at 100 for people starting at 90, was maybe on a base of just people who were already healthy at 90, so are they different bases and therefore, can we really combine those statistics?

JAMES C. BROOKS: Thank you for the question and to clarify that, the survival probabilities were from the total group healthy and unhealthy. The probability of being healthy at 100 was from the same base. It's the portion of the group that survives to 100 that is in the healthy state, not in the assisted living or skilled nursing state. Applying the methodologies described in the paper. It's from the same group, same basis. Underlying mortality for the total group is the same.

SAM GUTTERMAN: Let me just make a very brief comment on Steve's observation regarding the additional cost relative to stress. That's one of the areas that I didn't get into but there is direct costs associated with this and indirect costs: the costs of lower wages for individuals; lower productivity; costs of diets and fads. The amount of money that the American public spends on diet related products is unbelievable and so therefore, it's more than just the healthcare costs that you have to consider.

BEVERLY ORTH: I think my two questions are for Sam, but if anyone else wants to jump in that's fine. About six months ago, a friend forwarded an article to me about corn sweeteners and so I was very interested in what you had to say about those. This article said that the introduction of corn sweeteners occurred about 30 years ago, and that seems to correlate very closely with the dramatic increases in obesity and in diabetes. Both those curves tended to start going up about the same time. Another factor is that they're not just in soft drinks, they're in many foods that you wouldn't even think they're in if you read the label. Do you have any comments about this or did you do any further research in that area?

SAM GUTTERMAN: There have been a number of studies relating to the caloric intake regarding this. There have been studies based on surveys. I'm not quite sure how accurate they are, but yet the basic underlying message is clear that this has been one source of the increase and it's a worldwide phenomenon. I think someone else in a previous session mentioned the universal changes in the human characteristics and this is one of those factors, in terms of the developed world, as being this source of food intake.

BEVERLY ORTH: Do you think it might be a significant factor or just one of many?

SAM GUTTERMAN: It is indeed one of many. How important in the scale, it's difficult to indicate. I included that in addition there's been studies that the number of caloric intakes in terms of dinner for example, has in some cases even decreased over the years. But the percentage of caloric intake from snacks in other words, what you do when you watch television or surf the internet, is a significant factor. You can bring your can of Coke with you and when you're surfing what else do you do when you do that?

BEVERLY ORTH: I drink diet Coke, but that's okay.

SAM GUTTERMAN: Well that's one step. And there was an article about six months ago on that as well with a surprising conclusion. It was isolated so not that I discount it, but I still drink my diet drinks as well. I'm banking on that not being a risk factor.

BEVERLY ORTH: Good. The other comment I had was I've seen some evidence that obese people who lose a lot of weight are metabolically different from people who never were obese in the first place. Did you run across that in your research?

SAM GUTTERMAN: Proneness to?

BEVERLY ORTH: Well, they became obese, but then they lost the weight, so they got back down to a normal weight. But at the metabolic level, they still look like an obese person in the terms of the rate at which their cells use energy and so forth.

SAM GUTTERMAN: That's one of the many possible factors. The more likely is that the person was obese in the first place or overweight. I mean some people have said, well gee, there's been no change in terms of the level of overweights. Well really the overweights have become obese and those in "standard" rate have become overweight. So because of that huge shift, I mean that's been a trend overall.

BEVERLY ORTH: I'm talking about at the cellular level—that there is something that's going on in the cellular level.

SAM GUTTERMAN: I guess that's out of my area of expertise in terms of the cellular effect.

JIM BROOKS: I don't have the answer either, but it might be similar to the effects of smoking cessation and it might be that the longer the period of time maybe the metabolic effect comes back to closer to the other group. But that's a very interesting point.

BEVERLY ORTH: Yeah I'd like to see more research on that.

SAM GUTTERMAN: Yeah the one area that the message came back clear was that it's really difficult to carry out these large scale population studies in the first place. But to follow through—you know, for the length or period that you really want to—in order to be able to carry the follow-through is really, really difficult. So you actually got a real handful of studies that have concluded in terms of the long term effect, and that's an area

that there's a number of studies that are ongoing, that are going on right now, that we'll have to wait for one year to five or 10 years to hear some conclusions, but that's one of the many factors.

JAY SIEGLE: There are some positive effects in being overweight that we must not overlook. Reserve in the body for certain types of illnesses is better supported by a slight overweight than underweight. There also is a distinction to be made between mere obesity or high body mass index and fitness. The preferred state is, I think, fitness, although there are still costs to being obese.