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Commentary: Prescient visions of public health from Cornaro to Breslow

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In the 15th century a middle-aged Italian citizen of noble ancestry, Luis Cornaro, had been living a life of gluttony. His indulgent lifestyle included extravagant food and, shall we say, frequent indulgence in sensual pleasure. Upon realizing that his health was slipping away, Cornaro consulted a physician who advised him that his habits would lead to his early demise. The recommended dietary change, once modified by his own hand to suit his personal tastes, led Cornaro to a complete recovery from his illnesses. The world's most influential health advisor of his era had been born.[1]

Cornaro's lifestyle recommendations were surprisingly simple. He suggested that we eat small portions of food that agree with us, and that as we grow older our intake of food should decline because less fuel is needed to feed the 'natural heat' of the body. Although Cornaro was said to have died at the age of 98 following a full life in which he remained physically and mentally engaged with work and family, I am no longer convinced he died—Cornaro appears to live on in the body of Dr Lester Breslow. In fact, the article by Breslow[2] on 'Public Health Aspects of Weight Control' is the origin of an influential public health vision that spans decades to be sure—perhaps centuries like that of Cornaro.

What this paper does is set Dr Breslow apart as a pioneer whose vision of public health was then, and remains now, decades ahead of the rest of the world. Belloc and Breslow's 'seven habits to be healthy'[3] is a common sense approach to public health that is about as close to Cornaro's vision as I've ever seen, but in this case there is an obvious application to what we think of today as new and important health issues, but which Breslow and his colleagues envisioned decades ago and Cornaro centuries ago.

In his manuscript, Breslow first identified a disparity in mortality between the US and other developed nations—a gap that was often extremely large among white males aged 35–64. This difference was accounted for largely by variation in deaths from cardiovascular-renal diseases. This is a rather interesting observation because some demographers suggested not long ago that while life expectancy at birth might be higher in other countries; old-age survival in the US appeared to be fairing better than anywhere else in the world.[4] Before the ink was dry on that manuscript, however, the US lapsed back into the scenario that Breslow identified more than a half century ago—large disparities that are accounted for by mortality differentials in the risk of death from cardiovascular diseases. Indeed, life expectancy at age 65 for females in the US has remained largely unchanged for most of the last 20 years[5] while it has continued to rise in other developed nations. Thus, what Breslow observed in 1952 regarding health disparities is a situation that has its most unwelcome return in the modern era.

The more interesting observation made by Breslow was that mortality tables published by the Metropolitan Life Insurance Company demonstrated even as early as the mid-twentieth century that people carrying excess weight had higher death rates than leaner segments of the population. This must have been crushing news to those who might have believed at the time that obesity is not harmful; as such definitive evidence today still apparently does not hold much sway among those who declare that there is no obesity epidemic[6,7] (see also point-counterpoint by Campos *et al.* in this issue of the journal). However, the most interesting conclusion Breslow came to, which is an indication of the prescience of his vision, was that the normal 'average' weight of Americans at that time also induced excessive mortality—leading Breslow to conclude that 'optimum weight would be less than our average' (p. 1117).

What is fascinating about Breslow's observation is that it relates directly to the caloric restriction literature of today, which suggests that reducing caloric intake extends life by slowing aging. If Breslow's perspective is accurate, then the correct interpretation of these findings is that when the population that serves as the standard of reference in studies of caloric restriction is itself at a higher risk of death, then the benefits of eating less are more a demonstration of the detrimental effects of gluttony rather than the age-slowing effects of caloric restriction. Under either interpretation though, the public health recommendation is the same—we're better off carrying less weight. In the end, however, Breslow went one important step further to advance public health by observing that losing weight, once having already been overweight, also leads to a significant reduction in the subsequent risk of death relative to those who do not lose weight.

Taken together, the evidence marshalled in this small but prescient paper led Breslow to the conclusion that weight control was a major health concern. His recommendations for fixing the problem were of equal interest—this included a mass media approach in the form of a public health campaign to popularize the idea of optimum weight, and a group method of weight control where groups of people gather together to gain momentum and resolve from others who have also decided to enter into the same battle of the bulge. Sound familiar? Breslow laid the foundation in the middle of the 20th century for some of the most popular weight reduction programmes in existence today, like Weight Watchers. If only we had listened to him.

Today we are faced with unprecedented increases in adult and childhood obesity that make conditions that existed during the time of Breslow's article seem minor by comparison.[8–11] The

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mass media may very well have popularized the idea of ideal weight by portraying slim and fit (sometimes anorexic-looking) models as icons of beauty, but that approach did not work. It might have even backfired as most people realized that such 'ideal' body types were not achievable. What Breslow could not have anticipated at the time was a rapid increase in poverty and a simultaneous rise of a fast food industry that provided large quantities of inexpensive and tasty food to a population that craved fat, carbohydrates, and time. The emergence of the family unit in which both parents worked added further constraints on time that made fast food even more appealing. Thus, conditions were ripe in the late 20th century for an obesity epidemic, and the end is nowhere in sight.

Complicating this issue is a recent study suggesting that the medical treatment of some health hazards of obesity, such as cardiovascular disease, have led to notable improvements in death rates from these causes in recent decades.[12] Although it is encouraging to know that the use of pharmaceuticals and surgical procedures enable us to live longer while remaining obese, it is easy to misinterpret such studies as suggesting that obesity is not a health hazard.[13,14] Here is a quote from Gregg *et al*. describing their observations: 'The net result of these phenomena may be a population that is, paradoxically, more obese, diabetic, arthritic, disabled, and medicated, but with a lower overall CVD (cardiovascular disease) risk' (p. 1873). The incongruous mixture of good and bad news in this message should be obvious. Concluding from this that obesity is not harmful is equivalent to saying that HIV/AIDS is no longer unsafe because we are now better able to treat its complications—nothing could be further from the truth.

The medical treatments of obesity's complications are certainly important developments in the world of medicine. However, both Luis Cornaro and Lester Breslow remind us that in the final analysis the fix for the obesity epidemic is not going to come from remaining obese and treating its complications but from changes in behaviour that include a combination of reduced caloric intake and more exercise. Preston has suggested that because the problem of obesity can be boiled down to a mere 30–100 excess calories per day, there is reason to be optimistic that a behavioural fix is at hand.[15] In our fast food world of today where an excess 200+ calories can be had cheaply and quickly in the form of a couple of bites of a snack bar, the rationale Preston uses to support his optimism is also the very reason why a behavioural solution to the obesity epidemic of today and tomorrow is going to be so difficult to achieve. We need Luigi Cornaro and Lester Breslow now more than ever.

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