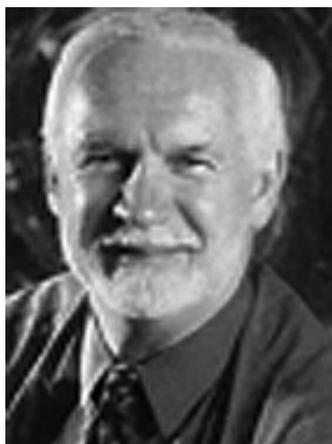


## Interview with Curt Ellison, Epidemiologist, Boston University, 28th September 2009



Professor R. Curtis Ellison is a renowned Epidemiologist, based at Boston University School of Medicine. He founded the Institute on Lifestyle & Health there to study the effects of diet and lifestyle on longevity, including drinking, and has been an invaluable member of The AIM-Alcohol in Moderation

Council for over ten years. On a recent visit to London, Helena Conibear asked him about his lifelong studies regarding alcohol and health.

**Q: Having trained as a paediatric cardiologist, when did you first become interested in the effect of lifestyle factors on how long you live?**

I trained at a time when there was a rapid expansion in technology in paediatric cardiology. We were intervening on all infants, even those with "incurable" disease, almost all of whom died within their first year. It occurred to me that the huge amount of money being spent on these infants (up to a million dollars each) could be better used to prevent the most common type of heart disease, coronary heart disease. My thought was to start early in life to try and improve the lifestyles of children. I became involved in schools in Massachusetts, working to modify the food served in the school lunch rooms, trying especially to reduce salt and the intake of saturated fats and to increase the consumption of salads and vegetables. We also carried out studies in boarding schools that showed that making a few changes in food preparation could improve the blood pressure of the students. I realized that to carry out good research, I needed to learn more epidemiology. So I went back to school to learn how to design programs to prevent the development of risk factors, such as smoking, being overweight, eating a high-fat diet, and not getting adequate exercise.

**What does Epidemiology mean?**

Epidemiology is the science that deals with identifying factors associated with major diseases in the population and trying to do something to

prevent them. While infectious diseases were the leading causes of death in the past, most people die now from chronic diseases, such as heart disease, cancer, stroke, diabetes and obesity.

**When did you realise that you could single out alcohol consumption as a lifestyle factor independent of others?**

This happened quite by chance. Early studies in the Framingham Heart Study (which began in 1948) recorded alcohol consumption as well as information of factors subsequently shown to be important in causing chronic disease, conditions. I came upon the draft of a report from the Framingham Study from 1974 and was astounded to see that moderate alcohol consumption was associated with a 30-50% lower risk of coronary disease. This effect was independent of the effects of the usual risk factors for heart disease – high cholesterol, high blood pressure, and smoking. a protective effect of moderate drinking. Shortly thereafter, however, and ever since, many other prospective studies began to notice that moderate drinkers in their populations were at lower risk of developing heart disease.

**30 years later, have your views changed?**

Hundred's of studies on different populations, among people of varying ethnic groups and socio economic levels, have been amazingly consistent in finding that drinking moderately leads to not only lower rates of heart disease, but also to a lower risk of adult-onset diabetes, stroke, and other chronic diseases. It is associated with lower all-cause mortality rates. Such an effect of alcohol is even better when combined with a Mediterranean style diet ( low in red meats, high in whole grains and vegetables), regular physical exercise, not smoking and not becoming obese. What is also becoming increasingly apparent is how you drink – the pattern of drinking -- is especially important. The healthiest pattern is drinking small amounts, but doing so frequently (even daily).

**How do you separate out the effect of drinking from what you eat, if you smoke, how heavy or fit you are?**

By careful stratification of those being studied by

age, by income and education, by their diet, smoking and other lifestyle habits. We can then compare and contrast the development of chronic diseases in these different groups according to whether the subjects also consumed, or did not consume, alcohol. In the Framingham Study we have been able to follow two generations, with examination every 2-4 years, for up to 60 years now. Since more than one-half of these subjects have died, we thus have their "lifetime" risk of disease according to their lifestyle habits.

### **What are the ways that drinking lowers heart disease risk?**

First, any type of alcohol increases the "good cholesterol," HDL- cholesterol, that lowers the risk of heart disease and stroke. It also improves your metabolism of carbohydrates, lowering the risk of diabetes. It has beneficial effects on blood coagulation, as moderate alcohol tends to make your platelets less sticky and less likely to form clots. Moderate alcohol consumption, especially drinks naturally high in antioxidants such as red wine and dark beers, also keeps the lining of the arteries healthy, which lowers the risk of many chronic diseases.

### **Why is the message little and often?**

Basically, the effect of alcohol on your body is transitory. You have favourable effects on most risk factors almost immediately, even from less than one typical drink, but they only last for a day or two. Hence, you need to have another drink before too many days have passed. Drinking only on week-ends is not the best way: in many studies, drinking daily seems to be the optimal pattern. But not too much, for heavy drinking ( and I mean regularly drinking any more than a drink or two at a time) increases your risk of many health problems and negates any protective effects associated with moderate drinking. So more drinking doesn't mean more benefits, just more harms.

### **The J shape curve suggests that those who don't drink have shorter lives than moderate drinkers. How do you know that non drinkers haven't given up because of health problems or are reformed drinkers?**

You need to look at each study carefully. Better studies will exclude from their analyses people who

may currently be non-drinkers but are ex-drinkers, including some who gave up drinking due to health problems. The goal is to include only 'never drinkers' in the comparisons with moderate drinkers, and the majority of newer studies can do this.

### **Why is there such polarity of views among the medical profession regarding alcohol consumption?**

Quite simply because of abuse. If you're a hepatologist (liver specialist), you see chronic abusers with cirrhosis; if you work in an emergency room, you see the effects of alcohol-fuelled violence or excess. In many sectors of medicine you see the effects of excess, but do not regularly see people who are not sick. And one of the reasons that they are not-sick is their healthy lifestyle habits which, for many people, can include small-to-moderate amounts of alcohol. Epidemiologists try to study the net effect of lifestyle factors in samples of the population, trying to get the 'big picture' associated with many factors, including alcohol consumption. While moderate drinking is associated with a lower risk of many chronic diseases, excessive drinking is surely a potentially dangerous lifestyle factor.

### **How do you deal with a potentially dangerous lifestyle factor, such as drinking, in advice to patients and the public?**

Physicians should always be careful when giving recommendations regarding lifestyle factors -- related to diet, smoking, exercise, as well as drinking -- that are associated with favourable health outcomes. It would be foolish to try to ban all alcohol use because some people abuse it. We do not ban driving an automobile because a minority speed or drive recklessly. Instead, we regulate to curb excess and protect the law-abiding majority. The same should be true for alcohol consumption.

Drinking has been part of many cultures and religions since records began. The problem has always been those who do not follow cultural guidelines for their proper use. The 16th president of the United States, Abraham Lincoln, in speaking to a temperance meeting more than one hundred and fifty years ago, put it very well: 'It has long been recognized that the problems with alcohol in this country relate not to the use of a bad thing, but to the abuse of a good thing.'