Interview with Walter C. Willett

Conducted by Benjamin C. Williams

Walter C. Willett MD, DrPH, is Fredrick John Stare Professor of Epidemiology and Nutrition and Chairman of the Department of Nutrition at Harvard School of Public Health as well as a Professor of Medicine at Harvard Medical School. He studied food science as an undergraduate at Michigan State University, obtained a medical degree from the University of Michigan Medical School and a Doctorate in Public Health from the Harvard School of Public Health. Dr. Willett is considered one of the premiere epidemiologists in the world. In Science Watch’s most recent tally, Willett and colleagues account for three of the “Top Ten” papers in medicine and Willett himself is ranked as the third “Most-Cited” researcher in the field of clinical medicine. Over the past 25 years, his refinement of various methods, such as questionnaires and biochemical approaches, have significantly contributed to the field of nutritional epidemiology. Willett has published over 800 articles, primarily on lifestyle risk factors for heart disease and cancer, and wrote the textbook, Nutritional Epidemiology, 2nd edition, published by Oxford University Press. In addition to his stellar achievements in academe, his recent book for the lay public, Eat, Drink and Be Healthy: The Harvard Medical School Guide to Healthy Eating, was a national bestseller.

Benjamin C. Williams, Editor-in-Chief of the HHPR since the spring of 2003, is a rising senior at Harvard College pursuing a special concentration in health policy.

HHPR: You are regarded by many as a pioneer and leader in the field of nutritional epidemiology. In your opinion, how has the quality of epidemiologic studies on diet and cancer improved during the last decade and how might it evolve in the future?

WW: The quality of studies on diet and cancer has improved dramatically in the last decade. Until recently, most of the studies were case-control studies, meaning diet was assessed after the diagnosis of cancer, and the evidence is now fairly clear that this can lead to bias. Now we have multiple, large prospective studies that are providing data that are much more consistent and less prone to bias. Also, our studies use repeated measures of diet over many years, which provide enhanced measurement of long term intakes, and the studies are much more powerful statistically. An important dimension of future studies will be to examine diet earlier in life, including childhood. Studies will also assess genetic predisposition, which may also enhance power and lead to further insights.
HHPR: Could you tell us a little about your current research and, generally, what recommendations you have for people who desire to live a more healthy life?

WW: A quick summary of our current work is not possible as we are evaluating many aspects of diet and many diseases. One particularly interesting topic is dairy consumption, which is far more complex than just the study of calcium intake because milk contains many hormones and protein antigens. Lifelong milk consumption at high levels is a relatively new human behavior, and we are just beginning to evaluate the consequences. Several aspects of diet and behavior are particularly important for those who wish to live healthy lives. These include not smoking, regular physical activity, weight control, and healthy dietary choices (which together with exercise help control weight). The most important aspects of diet are to replace trans and saturated fats with plant oils, to replace refined grains with whole grains in moderation, to consume a variety of fruits and vegetables in abundance, and to replace red meat with fish, nuts, beans and poultry. While we are working out the details, limiting dairy consumption to about one serving a day is prudent.

HHPR: Do you think that decisions, regarding one’s diet, are only a matter of personal choice or is it appropriate for the government to make nutritional recommendations and regulate the food industry on its citizens’ behalf?

WW: Personal choice is important, but good information from the government and government-required labels are necessary. Also, most people have very constrained choices due to what is available and, for many, cost. Furthermore, children are being exploited by the food and beverage industries, which aggressively promote massive amounts of junk foods and youths cannot be expected to make choices based on their long-term health. They need protection.

HHPR: In the late 1970’s, the FDA fought to ban the artificial sweetener saccharin on the grounds that Canadian researchers had discovered a correlation between its consumption and the genesis of cancer. In a public forum, Representative Andrew Jacobs of Indiana downplayed the evidence of the cancer causing properties of saccharin by suggesting that foods containing saccharin be labeled with “WARNING: The Canadians have determined that saccharin is dangerous to your rat’s health.” Do you believe that Jacob’s distrustful view of science and, in particular, the relevance of animal models, accurately describe those of the general public today with respect to diet and nutrition recommendations?

WW: The saccharin case was indeed based on shaky evidence; one study using massive doses in animals. I do think the public is confused by mixed messages, in part because it has been told to eat or avoid foods when the evidence was very thin, and when further evidence is produced the early suggestions are often not supported. Still, the wise consumer knows that evidence is still in flux, and is paying attention to shifts in science. Many of these people are taking advantage of this information and we see that they are greatly improving their health.

HHPR: A recent paper by Roland Sturm
finds that obesity greatly outweighs smoking and drinking deleterious effects on health and cost. (Obesity is associated with 36 percent increase in inpatient and outpatient spending and a 77 percent increase in medications, compared with a 21 percent increase in inpatient and outpatient spending and a 28 percent increase in medications for current smokers and smaller effects for problem drinkers.) In support, FDA epidemiologist Kathleen Koehler, Ph.D. estimated that removing all trans fat from margarine and only 3% from baked items would prevent more than 17,000 heart attacks, more than 5,000 deaths per year, and save between $2.9 billion to $7.9 billion annually. Do you believe that there is a strong business case for reducing the prevalence of obesity and improving the American diet? What do you think, if anything, can be done to strengthen this argument?

WW: I am not one to make a business case. However, I understand that the growth in the fast food industry is now almost all in the healthy alternatives to standard McDonalds and BK fare. A sufficiently large proportion of the public is concerned about their health and the health of their children -- they will go out of their way for healthier foods if they are available. Also, there should be a very strong business case for employers to have a strong preventive nutrition and health program for employees because the health payoffs are almost immediate, not just years down the road.

HHPR: The ties between “Big Tobacco” and “Big Food” have increased substantially in recent years. For example, Kraft Foods Inc., the No. 1 U.S. maker of processed foods, is majority-owned by tobacco giant Altria Group Inc. Do you believe that the acquisition strategies practiced by “Big Tobacco” to some degree represent their knowledge that tobacco regulation and deterrence is here to stay and that obesity and poor nutrition is currently well tolerated? What do you think about the food industries’ recent attempts to increase the nutritional content of their products and/or decreasing their marketing efforts towards children?

WW: One cannot help but be cynical about corporate leaders who push both tobacco and food. I can’t really judge motivation, but some parts of the food industry have made choices to improve the healthfulness of their products, as Frito Lay has done. However, I do think that we do need regulation to protect children from aggressive promotions. Additionally, funding for tobacco control at the CDC is $100 million whereas funding for the Division of Nutrition and Physical Activity at CDC is $27 million. Do you believe current investments to promote healthy eating and physical activity are insufficient? Why?

WW: Clearly we need to invest more in promoting healthy eating and activity. Another comparison should be with our spending on drugs, such as those for high cholesterol levels or blood pressure. Eating a proper diet and living a healthy lifestyle are far more effective in reducing heart disease and equally as strong as most drug therapies, yet we invest little in promoting them.
advertising to create a level playing field for companies that do want to promote healthier products.

**HHPR:** The Bush Administration recently appointed thirteen nutrition experts to form the Dietary Guidelines Advisory Committee. The guidelines, upon which the food pyramid on many package labels is based, have long been a battleground between the U.S. food industry and health experts. The Center for Science in the Public Interest (CSPI), a Washington-based consumer group, has urged the Bush Administration and Health and Human Services Secretary Tommy Thompson to replace seven committee members because of their financial and organizational connections to the food, drug, and dietary supplement industries. The concerns of the CSPI are timely considering the salience of the issue (the USDA is currently mid-stage in the development of a new food pyramid). Do you believe the concerns raised about possible conflicts of interest are valid? Do you have any personal experiences with industry that you would like to share with our readership?

**WW:** I do think some of the concerns of the CSPI are valid. I do not believe that it is unethical to consult for pay with the food industry, but then one should be excused from panels that affect that industry. Some of the industry influence can be subtle. For example, Proctor and Gamble clearly bought a lot of silence from nutritionists during their failed olestra campaign. I do feel we have an obligation to talk with the food industry, as they should have available to them the best nutritional advice. I, personally, do not accept pay for this to maintain maximal independence.

**HHPR:** On July 9, 2003, the FDA published a final rule requiring manufacturers to list trans fatty acids, or trans fat, on the Nutrition Facts panel of conventional foods and some dietary supplements. The FDA estimates conservatively that by 3 years after the effective date (Jan. 1, 2006), trans fat labeling will prevent between 600 and 1,200 cases of CHD and 250 to 500 deaths each year. What is your opinion of this recent move by the FDA, and do you believe the stated figures are accurate?

**WW:** This is an excellent move. As the FDA said, this is a very conservative estimate of the benefit, which will more likely be many times greater.

**HHPR:** In her book, “The Politics of Fat,” Laura Sims, suggests that “the content of [government] nutrition messages may have been compromised so much by input from various organized interests that the messages are too generic and non-directive to consumers to help them make health-promoting food choices.” Do you believe this is true?

**WW:** Very true, and probably not by accident.

**HHPR:** In general, four major regulatory strategies are often suggested as a means of combating obesity: controlling sale through direct restrictions or limits (especially aimed at youth); raising prices through “sin taxes”; government litigation against producers of unhealthy substances, with damage awards earmarked for health care or healthy alternatives; and regulating marketing and advertising. Physician Senator Bill Frist of Tennessee has stated that, although he favors regulation, he opposes “sin taxes” because he views these and other similar taxes as punitive. What is your view, and which of the above strategies,
if any, do you believe will be the most effective?

**WW:** All of the strategies can be helpful, and we should keep all options open. I understand the opposition to sin taxes, but in many places we subsidize sugar-based beverages by excluding them from sales tax. At a minimum, we should remove this subsidy.

**HHPR:** In a recent paper, you stated that “because both a higher percentage of calories from carbohydrate and its rapidity of absorption will increase the glycemic load of the diet, it is conceivable that the reduction in percentage of energy from fat in the US diet may have contributed to the overall increase in energy intake by this mechanism.” Are you suggesting that the previous recommendation from national health organizations such as the ACS to reduce total fat may have contributed to the current obesity epidemic?

**WW:** Yes, and to make matters worse, many nutritionist conveyed the idea that only fat calories make you fat, which is of course not true. This led to the SnackWell revolution [snack foods marketed as healthy alternatives on the basis of their fat-free content and the implication that you could eat them without limit because they contained only carbohydrate calories].

**HHPR:** In many studies, you and your colleagues have shown conclusive evidence that reductions in intake of some forms of unsaturated fat will actually increase the risk of cardiovascular disease. Do you believe that the public can be convinced of these findings given that the term “good fat” is seemingly oxymoronic?

**WW:** The change may be slow, but many consumers already understanding the difference between good and bad fats. Of course, this requires much effort in education, and is one key reason why I wrote a book for the general public. The feedback I get very clearly shows that people can implement this and they see the results in weeks.

**HHPR:** Economists often remark that, regarding health promotion, public health campaigns need to reduce the uncertainty surrounding supposed benefits to the individual and acknowledge the issue of time preference. In other words, how can we help strengthen people’s understanding of the relationship among eating one unhealthy meal, having a generally unhealthy diet, and the high likelihood of developing a chronic disease later in life?

**WW:** Of course, this requires education. However, many people can experience rapid improvements in blood lipid and glucose control, weight, and sense of well-being. This has enormous positive reinforcement.

**HHPR:** In this issue of the HHPR, Glenn A. Gaesser, Ph.D., Professor and Director of the Kinesiology Program at the University of Virginia, suggests that the level of a person’s “metabolic fitness” is a greater determinant of his or her susceptibility to chronic disease than is their relative level of obesity. Furthermore, a recent paper you co-authored in JAMA suggests that television watching and other sedentary behaviors increase one’s risk of obesity and Type II diabetes. Do you believe that your findings, along with Professor Gaesser’s, collectively suggest that we place too much emphasis on the reduction of body
weight and not enough on physical fitness?

WW: Weight control and physical fitness are so intertwined that it is artificial to separate them. While there are clearly benefits of physical fitness above and beyond weight control, there are also benefits of weight control above and beyond physical fitness. Optimal health requires both. It is very true, however, that many people trying to control their weight are attempting to do so only by diet, which is not a good strategy.

References