HARVARD MEDICAL SCHOOL

NURSES' HEALTH STUDY

"Thank you for the enormous contributions you have made to our understanding of women's health by participating in the Nurses' Health Study over the last 15 years. Your careful documentation of your lives has given us one of the only data bases on women in this country. You are contributing to our understanding of breast cancer and its risks factors and this information will affect the lives of American women for many generations to come."

Susan M. Love, MD
Director of the Faulkner Breast Centre
Author of Dr Susan M. Love's Breast Book

RESEARCH HIGHLIGHTS

Major findings have been published in medical and public health journals based on the information you and your colleagues have provided as participants in the Nurses' Health Study. Many of the reports have received widespread national and international media attention. In the past year alone, more than 20 reports have been published. Below are a few highlights from some of these reports:

Relation of meat, fat, and fiber intake to risk of colon cancer: Women who have high intake of animal fat have an increased risk of colon cancer[1]. (see story page 3)

Postmenopausal estrogen replacement therapy and risk of breast cancer: Past users of postmenopausal hormones do not appear to have an increased risk of breast cancer. Current users appear to have a modest increase in risk (by 36%), but this is not related to duration of hormone use[2].

Weight and risk of diabetes: Obesity is a strong risk factor for diabetes. The risk of diabetes increases stepwise with increasing body weight, and severely obese women have 60 times the risk of diabetes than thin women[3]. (Continued pg. 2)

RESPONSES TO 1990 QUESTIONNAIRE

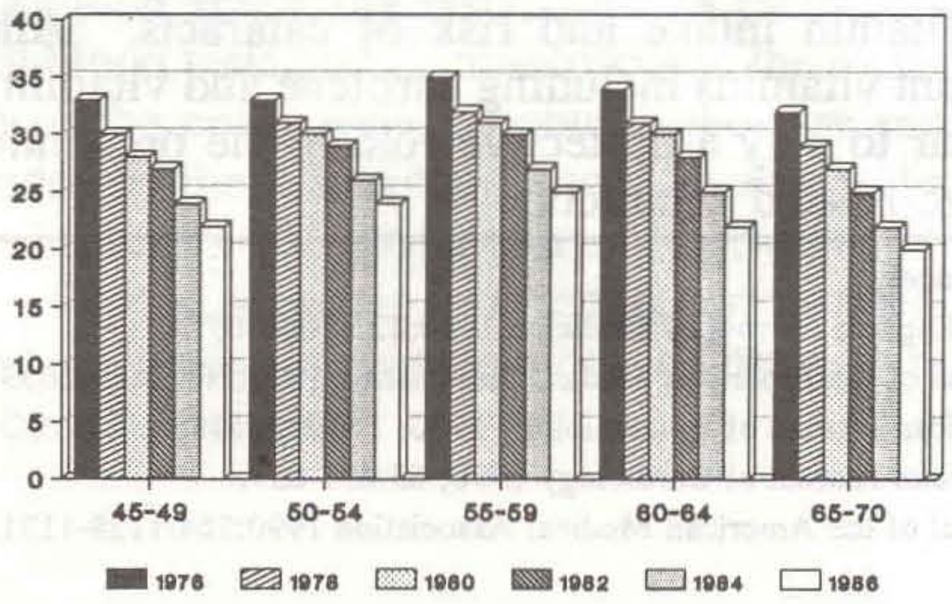
To compare your response to that of other members of the Nurses' Health Study we summarize some results from the 1990 questionnaire.

Nearly half of the participants continue to work as nurses. The continued success of the Nurses' Health Study is entirely dependent on a high-rate of follow-up of all original study participants, regardless of employment status.

Work status of participants as of 1988

Nursing	
full-time	28.7%
part-time	18.3
Non nursing employment	10.2
Retired	17.0
Homemaker	30.8

Smoking rate by current age (1991)



The Nurses' Health Study, Channing Laboratory, Harvard Medical School, 180 Longwood Avenue, Boston, MA 02115, (617)432-2279

Research Highlights, from page 1

Alcohol consumption and risk of hypertension: Women who have less than 2 drinks of alcohol per day do not appear to have an increased risk of hypertension, but women having more than 3 drinks daily have about twice the risk of hypertension as compared with nondrinkers[4].

Selenium and risk of breast cancer: The trace element selenium, which was measured among a subset of participants providing toenail clippings, does not appear to influence the risk of breast cancer, for either premenopausal or postmenopausal women[5].

In addition, preliminary reports on the following subjects were recently presented at the annual meeting of the Society of Epidemiologic Research in June 1991 (abstracts will be published in the October 1991 issue of the American Journal of Epidemiology):

Dietary fat and breast cancer: An extension of follow-up supports findings reported earlier from the NHS that intake of total saturated fat does not increase the risk of breast cancer.

Vitamin intake and risk of breast cancer: In preliminary analyses, vitamin A from food, but not vitamin C, appears to confer some protection against beast cancer. Specific supplementation with either vitamin, however, does not appear to influence risk of breast cancer.

Postmenopausal estrogen therapy and risk of heart disease and stroke: Women who take postmenopausal hormones appear to have a 44% lower risk of heart attack than nonusers of these hormones. The risk of stroke is not influenced by hormone use.

Aspirin and risk of first heart attack: women who take 1-6 aspirin per week appear to have about a 30% lower risk of a first heart attack than nonusers of aspirin. The risk of stroke appears to be the same in users and nonusers of aspirin.

Vitamin intake and risk of cataracts: Antioxidant vitamins including carotene and vitamin C appear to play a protective role in the prevention of age-related cataracts.

References:
[1]New England Journal of Medicine 1990;323:1664-1672.
[2]Journal of the American Medical Association 1990;264:2648-2653.
[3]American Journal of Epidemiology 1990; 132:501-513.
[4]American Journal of Cardiology 1990; 65:633-637.
[5]Journal of the American Medical Association 1990;264:1128-1131.

More 1990 Questionnaire Data

The following table presents the breakdown of selected screening procedures reported by participants on the 1990 questionnaires.

Screening during past year

	Age		
	45 - 54	55 - 64	65+
Breast exam			
self (monthly)	22%	26%	27%
by physician	88	84	84
Physical exam	85	87	89
Rectal exam	61	66	70
Stool occult blood	48	60	66
Mammography	81	81	80
Eye exam	81	83	86

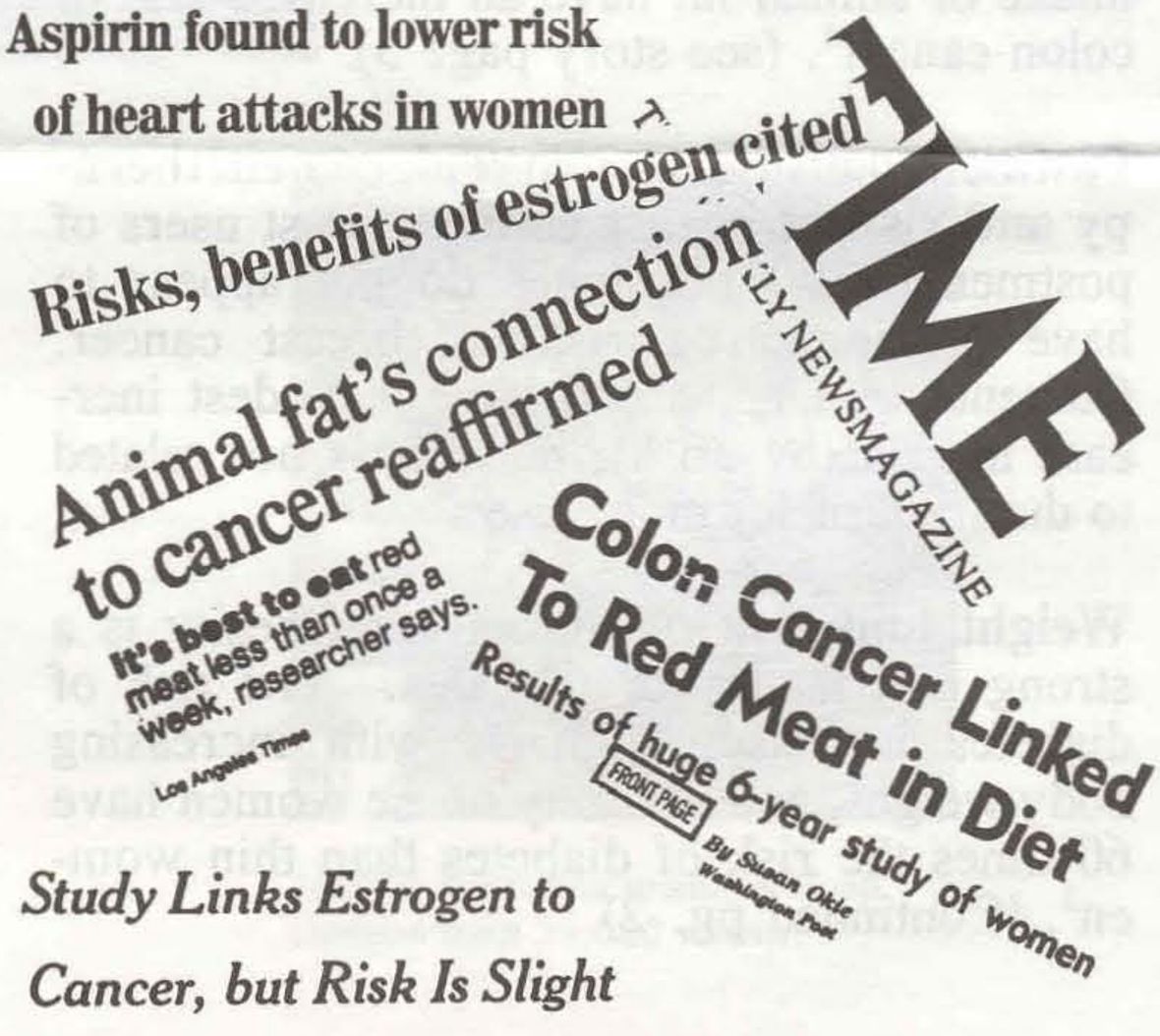
Interesting data on diet and physical activity were also reported in 1990.

Beef, pork or lamb as main dish

Never	1-3/mo	1/wk	2-4/wk	5-6/wk	1/day
6.2%	16.6	36.4	33.1	4.1	2.0

Time (hours) spent walking per week

<½ hr	½ - 1	1 - 2	3 - 5	6 - 9	10-20	21-40
14.8%	17.3	21.7	25.4	11.4	4.7	1.0



Diet and Colon Cancer

Excerpted from:

Los Angeles Times

December 13, 1990

Boston researchers report what they call the most convincing evidence yet that a diet rich in animal fats substantially increases the chance of developing colon cancer, and that substituting fish and chicken for red meats lowers the risk.

The [Nurses' Health Study] "provides probably the strongest single piece of evidence relating animal fat and red meat to the risk of colon cancer," said Dr. Walter C. Willett, a Harvard School of Public Health professor who led the research team.

The researchers at the Harvard Medical School found that women who ate beef, pork or lamb as a main dish every day had 2½ times the risk of developing colon cancer as women who consumed these red meats once a month or less. According to Willett, "the majority of benefit [against colon cancer] is probably achieved" by cutting back red meat consumption to less than once a week. There is probably a small additional benefit of eliminating red meat from the diet.

The increased colon cancer risk posed by animal fat and red meat, however, is modest compared to some other cancer risks, such as increased risk of cancer related to cigarette smoking.

The results, published in the New England Journal of Medicine, come from the ongoing federally funded Nurses' Health Study. The current study covered colon cancer that developed between 1980 and 1986.

The project differs from other colon cancer studies in its large size and in that individuals were questioned both before and after they became ill, a technique that can minimize bias. The questions about the diet, a notoriously difficult subject to study, were detailed, and the researchers said their validity had been established in prior studies.

"We are on more solid ground" in relating animal fats to colon cancer, said Lawrence Garfinkel, an American Cancer Society consultant who is considered an expert in the field. "It is a well-done, well-designed and well-analyzed study."

Colon cancer is the third most common malignancy in the United States, ranking behind lung cancer and breast cancer, according to the American Cancer Society. The society estimates that 110,000 cases were diagnosed this year and that 53,000 deaths will be recorded.

Two major dietary theories have been advanced about colon cancer - dietary fat, particularly animal fat, increases the risk of cancer, and that dietary fiber decreases risk.

During the six-year Boston study, 150 cases of colon cancer were documented. A disproportionate number occurred in the women with the highest consumption of animal fats. The strongest association was with beef, pork or lamb as a main dish. On the other hand, the pattern of substituting fish and chicken for red meat, particularly chicken with the skin removed, was related to a lower risk of colon cancer. "This is an important finding," Willett said. To achieve the benefit, people "don't have to give up all animal product."

Nutrition experts also emphasize the importance of low-fat cooking. Deep-fried fish, for example, contains far more fat than broiled fish.

The findings also suggest that people can further decrease their colon cancer risk by eating more fiber-containing fruits and vegetables, although the study cautions that these trends toward decreased risk were "not statistically significant." Women with both the highest intake of animal fat and the lowest intake of fiber had 2½ times the colon cancer risk of other women. These findings applied to all age groups.

Most cancers of both the colon and rectum appear to develop from pre-malignant abnormalities, called adenomatous polyps. These mushroomlike growths arise in the wall of the intestine and increase in frequency with advancing age.

Regular screening tests, such as rectal exams, stool blood tests and sigmoidoscopy, the examination of the colon with a lighted tube, are recommended by the American Cancer Society and most physicians for all adults starting between 40 and 50. Closer scrutiny is often recommended for close relatives of people with colon and rectal cancers or polyps.



Kate Butler and Lena Mo
check response bubbles



Forms are prepared for optical
scanning by Gary Chase



Sherry Hahn traces mail returned
as unforwardable



Susan Wu and Karen Corsano
identify newly diagnosed diseases



Frank E. Spiezer, MD



Barbara Egan & staff confirm reported
cancers with medical records



Sue-Wei Chang analyzes diet and
breast cancer



Jennifer Casterline monitors blood
samples from 35,000 women

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