Dear Colleague:

It is now twelve years since you completed the first Nurses’ Health Study Questionnaire in 1976. Your participation and that of over 120,000 other R.N.s has made this study the largest prospective investigation specifically directed to the health of women. On behalf of our research group I am most grateful for the detailed information you have provided over these years. Whether or not you are still active in nursing, your continued participation is extremely valuable to our further understanding of factors influencing the health of women.

Several important findings have recently emerged from the study. The relation between cigarette smoking and risk of heart disease among women has been clearly documented showing that as few as 1 to 4 cigarettes per day more than doubles the risk of myocardial infarction or death from heart attack. Furthermore, women with increased risk of heart disease, due to high blood pressure, cholesterol or diabetes were at even greater increase in risk if they smoked. We also have observed a strong relation between cigarette smoking and risk of stroke. Reassuringly, the number of smokers in the Nurses’ Health Study has declined from 33 percent in 1976 to 27 percent by 1984.

In a subset of women in the study we have determined that the presence of any moles on the arms or legs doubles the risk of melanoma. In this same group, higher levels of sun exposure in adolescence were more important for risk of melanoma than sun exposure later in life.

Please complete and return the enclosed questionnaire at your earliest convenience. As always, information will be kept strictly confidential and used for medical statistical purposes only. Again, I would like to express my deepest gratitude for the contribution you have made to this study. Already this has yielded much useful information, and we are confident that findings during the next several years will provide further important guidance for maintaining optimal health.

Sincerely,

Frank E. Speizer, M.D.
Principal Investigator

References:
INSTRUCTIONS

USE NO. 2 PENCIL ONLY

PLEASE USE AN ORDINARY NO. 2 PENCIL TO ANSWER ALL QUESTIONS.

Fill in the appropriate response circles completely, or write the requested information in the boxes provided. Note that some questions ask for information since June 1986, some ask for current status, and some ask about events over longer periods. The form is designed to be read by optical-scanning equipment, so it is important that you make NO STRAY MARKS and keep any write-in responses within the spaces provided. Should you need to change a response, erase the incorrect mark completely. If you have comments, please write them on a separate piece of paper.

EXAMPLE 1: Do you currently take multivitamins?

- Yes
- No

Please fill circle completely, do not mark this way:

EXAMPLE 2:

b) What specific brand do you usually use?

Upjohn Unicap with minerals

Please specify exact BRAND and TYPE

Keep handwriting within borders of the response box.

EXAMPLE 3: WEIGHT:

Write your weight in the boxes . . .

. . . and fill in the circle corresponding to the figure at the head of each column

Thank you for completing the 1988 Nurses' Health Study Questionnaire.

Please tear off the cover letter (to preserve confidentiality) and return the questionnaire in the enclosed prepaid envelope.
1. Have your menstrual periods ceased permanently?  
   - Yes: No menstrual periods
   - Yes: Had menopause but now have periods induced by hormones
   - No: Premenopausal
   - Not sure
   - Age periods ceased?

2. Since June 1986, have you used female hormones (other than oral contraceptives)?  
   - Yes
     - a) Are you currently using them?  
     - b) How many months have you used them during the 24-month period between June 1986 and June 1988?  
     - c) What type of hormone have you used the longest during this period?  
     - d) If this was oral conjugated estrogen (e.g. Premarin) what dose did you usually take?  
     - d) Oral estrogen pattern:  
     - Patch estrogen pattern:  
     - Progesterone pattern:  
   - No

3. Do you currently smoke cigarettes?  
   - Yes
     - a) How many per day?  
     - b) What specific brand do you smoke? (e.g. "Marlboro Lights 100's")
   - No

4. During the past year, what was your average time per week spent at each of the following activities:  
   - Walking or hiking outdoors (include walking at golf)
   - Jogging (slower than 10 minutes/mile)
   - Running (10 minutes/mile or faster)
   - Bicycling (include stationary machine)
   - Lap swimming
   - Tennis
   - Calisthenics/Aerobics/Aerobic Dance/Rowing Machine

5. On average, how many hours per week do you spend:  
   - Sitting (e.g. at work, at home, driving)?  
   - Standing (i.e. being on your feet)?

6. What is your usual walking pace?  
   - Easy, casual (less than 2 mph)
   - Normal, average (2-2.9 mph)
   - Brisk pace (3-3.9 mph)
   - Very brisk/striding (4 mph or faster)

7. How many flights of stairs (not individual steps) do you climb daily?
   - 2 flights or less
   - 3-4
   - 5-9
   - 10-14
   - 15 or more flights
### 8. DATE OF BIRTH
Is this your correct date of birth?
- [ ] Yes
- [ ] No
If no, please indicate your date of birth.

### 9. Since June 1986 have you had any of the following physician-diagnosed illnesses?
Mark here for yes:

- Diabetes mellitus
- Elevated cholesterol
- High blood pressure
- Myocardial infarction (Heart attack)
- Angina pectoris
- Coronary bypass or angioplasty
- Stroke (CVA)
- Pulmonary embolus
- Fibrocystic or other benign breast disease
- Breast cancer
- Cancer of the cervix (in situ)
- Cancer of the uterus (endometrium)
- Cancer of the ovary
- Colon polyp (benign)
- Cancer of the colon or rectum
- Cancer of the lung
- Melanoma
- Basal cell skin cancer
- Squamous cell skin cancer
- Other cancer
- Osteoporosis
- Rheumatoid arthritis (Physician DX)
- Gout
- Other arthritis
- Cholecystectomy
- Gastric or duodenal ulcer
- Glaucoma
- Macular degeneration
- Cataract extraction
- Other major illness since June 1986
- Specify illness
- Fracture of hip or forearm
- Please specify site and circumstances on a separate sheet.

### 10. Do you currently take multiple vitamins?
- [ ] Yes
- [ ] No
  - How many do you take per week?
  - [ ] 2 or less
  - [ ] 3-5
  - [ ] 6-9
  - [ ] 10 or more
  - What specific brand do you usually use?
  - Specify exact brand and type

### 11. Not counting multiple vitamins, do you take any of the following preparations:

**PREPARATION**
- AMOUNT PER DAY

<table>
<thead>
<tr>
<th>Vitamin A (omit Carotene)</th>
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<tbody>
<tr>
<td>- Yes, seasonal only</td>
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<tr>
<td>- Yes, most months</td>
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<tr>
<td>- No</td>
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<tr>
<td>Less than 8,000 IU per day</td>
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<tr>
<td>8,000-12,000 IU</td>
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<td>13,000-22,000 IU</td>
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<td>23,000 IU or more</td>
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<tr>
<th>Vitamin C</th>
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<td>- Yes, seasonal only</td>
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<tr>
<td>- Yes, most months</td>
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<tr>
<td>- No</td>
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<tr>
<td>Less than 400 mg per day</td>
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<tr>
<td>400-700 mg</td>
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<td>750-1250 mg</td>
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<td>1300 mg or more</td>
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<tr>
<th>Vitamin B-6</th>
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<tr>
<td>- Yes</td>
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<tr>
<td>- No</td>
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<tr>
<td>Less than 10 mg per day</td>
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<tr>
<td>10-35 mg</td>
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<td>40 mg or more</td>
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<tr>
<th>Vitamin E</th>
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<td>- Yes</td>
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<td>- No</td>
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<td>Less than 100 IU per day</td>
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<td>100-250 IU</td>
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<td>300-500 IU</td>
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<td>600 IU or more</td>
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<th>Selenium</th>
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<td>- Yes</td>
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<td>- No</td>
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<td>Less than 80 mcg per day</td>
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<td>80-150 mcg</td>
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<td>140 mcg or more</td>
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<th>Iron</th>
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<td>- Yes</td>
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<td>- No</td>
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<td>Less than 51 mg per day</td>
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<td>51-200 mg</td>
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<td>201 mg or more</td>
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<tr>
<th>Calcium (include dolomite, Tums, etc.)</th>
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<td>- Yes</td>
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<td>- No</td>
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<tr>
<td>Less than 400 mg per day</td>
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<td>400-900 mg</td>
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<td>801-1300 mg</td>
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<td>1301 mg or more</td>
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<th>Zinc</th>
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<tr>
<td>- Yes</td>
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<td>- No</td>
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<tr>
<td>Less than 25 mg per day</td>
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<td>25-74 mg</td>
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<td>75 mg or more</td>
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### 12. Have you ever had any of the following illnesses or procedures?

- Asthma, Dr. diagnosed
- Emphysema, Dr. diagnosed?
- Chronic bronchitis, Dr. Dx?
- Vertebral fracture
- Hip replacement
- Peripheral artery disease or claudication of legs

Was this confirmed by angiogram or surgery?
- [ ] Yes
- [ ] No
13. Have you ever had a mammogram?
   - Yes
   - No

14. In how many months did you practice breast self-examination in the past year?
   - Never
   - Once
   - 2-3
   - 4-6
   - 7-11
   - 12

15. In the past 2 years have you had:
   - A physical exam?
   - Blood pressure check?
   - Blood cholesterol check?
   - Rectal exam?
   - Stool occult blood test?
   - Sigmoidoscopy?
   - Pelvic exam?
   - Breast exam by Dr.?

16. Would you be willing to provide a venous blood sample if we sent you a convenient pre-paid collection packet? This would require the assistance of someone to draw your blood. No centrifugation or processing would be necessary.
   - Yes
   - No

17. What is your current work status? (Check all that apply)
   - Homemaker
   - Retired
   - Nursing full-time
   - Nursing part-time
   - Non-nursing employment

18. What is the total number of years during which you worked rotating night shifts (at least 3 nights/month in addition to days or evenings in that month)?
   - Never
   - 1-2 yrs
   - 3-5
   - 6-9
   - 10-14
   - 15-19
   - 20-29
   - 30 years or more

The following four questions refer to the period when you were between ages 18 and 22. We understand that answering these questions may be difficult. Please make your best estimates.

19. During ages 18-22 how often did you participate in strenuous (aerobic) physical activity or sports at least twice per week (e.g. Field Hockey, Cycling, Swimming)?
   - Never
   - 1-3 months/year
   - 4-6 months/year
   - 7-9 months/year
   - 10-12 months/year

20. During ages 18-22 what was the pattern of your menstrual cycles? (excluding time around pregnancies).
   - Regular (within 8 days)
   - Usually irregular
   - Always irregular
   - No periods

21. Between the time your menstrual periods started and age 22, please estimate the total number of menstrual periods missed completely (not counting any pregnancies).
   - Zero
   - 1-6
   - 7-12
   - 13-24
   - 25 or more

22. During each of the following age intervals, what was your usual number of drinks of alcohol?
   - Number of Drinks
   - None
   - < 3 Per Week
   - 3-6 Per Week
   - 7-13 Per Week
   - 14+ Per Week

   Age 18-22
   - 25-30
   - 35-40
   - The past year

23. In a typical week during the past year, on how many days did you consume an alcoholic beverage of any type?
   - No days
   - 1 day
   - 2 days
   - 3 days
   - 4 days
   - 5 days
   - 6 days
   - 7 days

24. In a typical month during the past year, what was the largest number of drinks of beer, wine, and/or liquor you may have had in one day?
   - None
   - 1-2
   - 3-5
   - 6-9
   - 10-14
   - 15 or more

25. Your Serum Cholesterol (if within 5 years).
   - Don't Know
   - < 140 mg/dl
   - 140-159
   - 160-179
   - 180-199
   - 200-219
   - 220-249
   - 250-269
   - 270-289
   - 290-319
   - 320+ mg/dl
26. Are you currently taking any of the following medications at least once a week?

- Thyroid hormones (e.g. Synthroid, Levoxthroid)
- Thiazide diuretics (e.g. Diuril, Hydrochlorothiazide, Dyazide, Moduretic)
- Beta-blockers (e.g. Inderal, Lopressor, Tenormin, Corgad, Blocahdren)
- Calcium Channel blockers (e.g. Calan, Procardia, Cardizem)
- Angiotensin converting enzyme (ACE) inhibitors (e.g. Capoten, Vasotec, Prinivil, Zestril)
- Insulin
- Oral diabetic medication (e.g. Tolbutamide, Micronase)
- Other blood pressure medication, specify
- Cholesterol lowering drugs, specify

27. Did any of your family members ever have:

- Diabetes
  - Mother
  - Father
  - Brother
  - Sister
- Colorectal Cancer
  - Mother
  - Father
  - Brother
  - Sister
- Breast Cancer
  - Mother
  - Father
  - Maternal Grandmother
  - Paternal Grandmother
- Other Cancer
  - Mother
  - Father
  - Brother
  - Sister

28. Is your mother still living?

- Yes
- No

- At what age did she die?
  - < 50
  - 50-59
  - 60-69
  - 70-79
  - 80+

- Was this due to:
  - Trauma/Accident/Suicide
  - Other (e.g. disease)

29. Is your father still living?

- Yes
- No

- At what age did he die?
  - < 50
  - 50-59
  - 60-69
  - 70-79
  - 80+

- Was this due to:
  - Trauma/Accident/Suicide
  - Other (e.g. disease)

30a. Which diagram best depicts your outline at each age?

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<th>Age 5</th>
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b. Which diagram best depicts the approximate outline of each of your natural parents at age 50 years?

- Don't Know

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<tr>
<th>Mother</th>
<th>1</th>
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<th>Father</th>
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31a. On average, how many days each month do you take aspirin? (Include Anacin, Bufferin, Midol, Alka-Seltzer etc. Do not include Tylenol, Ibuprofen, or other aspirin-free products.)

- Never
- 1-4 days/month
- 5-14 days
- 15-21 days
- 22 or more

b. On days you do take aspirin containing products, how many do you usually take?

- Never
- 1 aspirin
- 2
- 3-4
- 5-6
- 7 or more

32. Current usual blood pressure:

<table>
<thead>
<tr>
<th>SYSTOLIC</th>
<th>&lt;115 mmHg</th>
<th>115-124</th>
<th>125-134</th>
<th>135-144</th>
<th>145-154</th>
<th>155-164</th>
<th>165-174</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIASTOLIC</td>
<td>&lt;75 mmHg</td>
<td>75-84</td>
<td>85-94</td>
<td>95-104</td>
<td>105-114</td>
<td>115-124</td>
<td>125-134</td>
</tr>
</tbody>
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33. Do you have an unreasonable fear of being in enclosed spaces such as stores, elevators, etc.?

- Often
- Sometimes
- Never

34. Do you find yourself worrying about getting some incurable illness?

- Often
- Sometimes
- Never

35. Are you scared of heights?

- Very
- Moderately
- Not at all

36. Do you feel panicky in crowds?

- Always
- Sometimes
- Never

37. Do you worry unduly when relatives are late coming home?

- Yes
- No

38. Do you feel more relaxed when relatives are late coming home?

- Yes
- No

39. Do you dislike going out alone?

- Yes
- No

40. Do you feel uneasy traveling on buses or trains, even if they are not crowded?

- Very
- A little
- Not at all

41. How many cups or glasses of home tap water do you drink daily? (Include water for coffee, tea, reconstituted juices, soups, etc.)

- None
- 1-2
- 3-5
- 6-9
- 10 or more

42. How many cups or glasses of tap water do you drink daily outside your house? (Include water for coffee, tea, reconstituted juices, soups, etc.)

- None
- 1-2
- 3-5
- 6-9
- 10 or more

If you regularly take any medications not included in this questionnaire, please list them on a separate sheet.

Thank You! Please return the questionnaire in the enclosed postage-paid envelope to: Nurses' Health Study, Frank E. Speizer, Harvard Medical School, 160 Longwood Ave., Boston, MA 02115

Please indicate the name of someone at a different address that we might write to in the event we are unable to contact you:

NAME: __________________________
ADDRESS: ________________________

Your Social Security Number (optional): ____________