



PLEASE REPLY TO:
 Channing Laboratory
 180 Longwood Ave.
 Boston, Mass. 02115
 617-732-2279

TEAR HERE

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 attack¹. 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 stroke². 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 melanoma³. 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

RESEARCH GROUP:

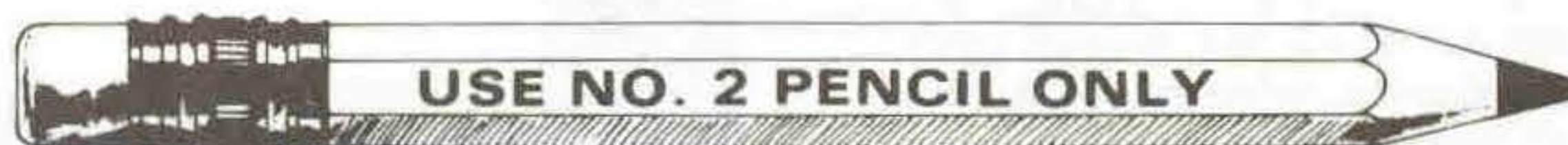
Gary Chase, BS	Cynthia Morrow, BA
Sue-Wei Chiang, MS	Eve O'Neil
Graham Colditz, MD	Walkyria Paes de Almeida
Karen Corsano, MA	Padma Patel, BS
Stephanie Bechtel, BA	Pradeep Rana, BS
David Dysert	Eric Rimm, BS
Barbara Egan	Helaine Rockett, RD
Lori Egan	Lisa Rodgers, BS
Elizabeth Frost, BA	Simonetta Salvini, BS
Sue Hankinson, RN, MS	Laura Sampson, RD
Charles Hennekens, MD	Mark Shneyder, BS
Mauricio Hernandez, MD	Meir Stampfer, MD
David Hunter, MD	Steven Stuart, BS
Maureen Ireland, BA	Harry Taplin, MA
Stephanie London, MD	Donna Vincent, RRA
JoAnn Manson, MD	Walter Willett, MD

*References:

1. Relative and absolute excess risk of coronary heart disease among women who smoke. N Engl J Med 1987; 317: 1303-9
2. Cigarette smoking and risk of stroke in middle-aged women. N Engl J Med 1988; 318: 937-941
3. Self-reports of mole counts and cutaneous malignant melanoma in women: methodologic issues and risk of disease. Am J Epidemiol 1988; 127:703-12

TEAR HERE

INSTRUCTIONS






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 → a)
 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:

CURRENT
WEIGHT
(LBS.)

Write your weight
in the boxes ...

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

	1	4	0
0	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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.

NHS 7/88 NCS Trans-Optic® EP04-26975:321

CURRENT WEIGHT (LBS.)

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

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

a) Age periods ceased?

Age →

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	
85	
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	

b) For what reason?

- SURGERY: If due to surgery, were your ovaries removed?
 - Yes, both
 - Only uterus removed
 - One only
- RADIATION or CHEMOTHERAPY
- NATURAL: If natural (non-surgical) menopause, have you had subsequent surgery to remove ovaries or uterus?
 - No
 - Uterus removed
 - One ovary removed
 - Both ovaries removed

2. Since June 1986, have you used female hormones (other than oral contraceptives)?

- Yes → **a) Are you currently using them?** Yes, currently No, not currently
- No
- b) How many months have you used them during the 24-month period between June 1986 and June 1988?**
 - 1-4 mo.
 - 5-9
 - 10-14
 - 15-19
 - 20-24
- c) What type of hormone have you used the longest during this period?**
 - Oral Premarin or other conjugated estrogen alone
 - Oral progesterone (e.g. Provera) alone
 - Oral conjugated estrogen and progesterone
 - Patch estrogen alone
 - Patch estrogen and progesterone
 - Vaginal estrogen
 - Other (e.g. non-conjugated estrogen). Please specify _____
- d) If this was oral conjugated estrogen (e.g. Premarin) what dose did you usually take?**
 - .30 mg/day or less (Green)
 - .625 mg/day (Brown)
 - .9 mg/day (White)
 - 1.25 mg/day (Yellow)
 - More than 1.25 mg/day
 - Dose unknown
- e) Dose of Progesterone? (if taken)** <5 mg 5-9 mg 10 mg More than 10 mg Dose unknown
- f) What was your pattern of hormone use?**
 - Oral estrogen pattern:** Continuous Omit approximately 1 week/month Not used
 - Patch estrogen pattern:** Continuous Omit approximately 1 week/month Not used
 - Progesterone pattern:** Continuous Use approximately 1-2 weeks/month Not used

3. Do you currently smoke cigarettes?

- Yes → **a) How many per day?** 1-4 5-14 15-24 25-34 35-44 45 or more
- No
- b) What specific brand do you smoke? (e.g. "Marlboro Lights 100's")** _____ specify exact brand and type

4. During the past year, what was your average time per week spent at each of the following activities:

	ZERO	1-4 Min.	5-19 Min.	20-59 Min.	One Hour	1-1½ Hrs.	2-3 Hrs.	4-6 Hrs.	7-10 Hrs.	11+ Hrs.
Walking or hiking outdoors (include walking at golf)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jogging (slower than 10 minutes/mile)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Running (10 minutes/mile or faster)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bicycling (include stationary machine)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lap swimming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tennis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calisthenics/Aerobics/Aerobic Dance/Rowing Machine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. On average, how many hours per week do you spend:

	Zero Hours	One Hour	2-5 Hrs.	6-10 Hrs.	11-20 Hrs.	21-40 Hrs.	41-60 Hrs.	61-90 Hrs.	Over 90 Hrs.
Sitting (e.g. at work, at home, driving)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Standing (i.e. being on your feet)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

13. Have you ever had a mammogram?

- Yes →
- No ↓

a) At what age did you have your first mammogram?

- < 35 35-39 40-44 45-49 50-54 55-59 60 or over

b) How many mammograms have you had?

- 1 2 3 4 5 6 7 8 9 10 or more

c) How many years has it been since your most recent mammogram?

- < 1 Year 1 Year 2 Years 3 Years 4 Years 5 Years 6-9 Yrs. 10-or more years

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? | <input type="radio"/> No | <input type="radio"/> Yes, for symptoms | <input type="radio"/> Yes, for screening |
| Blood pressure check? | <input type="radio"/> No | <input type="radio"/> Yes, for symptoms | <input type="radio"/> Yes, for screening |
| Blood cholesterol check? | <input type="radio"/> No | <input type="radio"/> Yes, for symptoms | <input type="radio"/> Yes, for screening |
| Rectal exam? | <input type="radio"/> No | <input type="radio"/> Yes, for symptoms | <input type="radio"/> Yes, for screening |
| Stool occult blood test? | <input type="radio"/> No | <input type="radio"/> Yes, for symptoms | <input type="radio"/> Yes, for screening |
| Sigmoidoscopy? | <input type="radio"/> No | <input type="radio"/> Yes, for symptoms | <input type="radio"/> Yes, for screening |
| Pelvic exam? | <input type="radio"/> No | <input type="radio"/> Yes, for symptoms | <input type="radio"/> Yes, for screening |
| Breast exam by Dr.? | <input type="radio"/> No | <input type="radio"/> Yes, for symptoms | <input type="radio"/> Yes, for screening |

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 equals total of bottles/cans of beer, plus 4 oz. glasses of wine, plus shots of liquor.)

Number of Drinks →	None	< 3 Per Week	3-6 Per Week	7-13 Per Week	14+ Per Week
Age 18-22	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25-30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35-40	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The past year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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. extract, Synthroid, Levothroid)
- Thiazide diuretics (e.g. Diuril, Hydrochlorothiazide, Dyazide, Moduretic)
- Beta-blockers (e.g. Inderal, Lopressor, Tenormin, Corgard, Blocadren)
- 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. Tolinase, Micronase)
- Other blood pressure medication, specify →
- Cholesterol lowering drugs specify →

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 20

27. Did any of your family members ever have:

- Diabetes Mother Father Brother Sister
- Colon or Rectal Cancer Mother Father Brother Sister
- Breast Cancer Mother Maternal Grandmother Sister Paternal Grandmother
- Other Cancer Mother Father Brother Sister

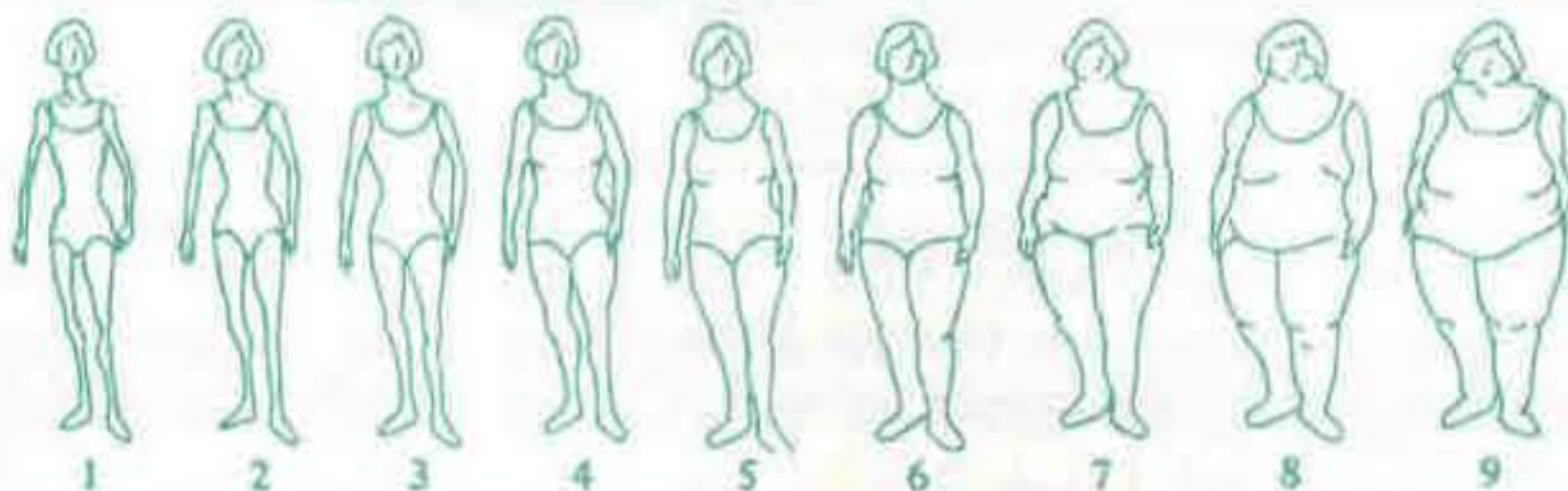
28. Is your mother still living?

- 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?



- | | | | | | | | | | |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Age 5 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Age 10 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Age 20 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Age 30 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Age 40 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Currently | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

b. Which diagram best depicts the approximate outline of each of your natural parents at age 50 years?

- | | | | | | | | | | | |
|--------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Mother | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Don't Know |
| Father | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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 take 1 aspirin 2
 3-4 5-6 7 or more

32. Current usual blood pressure:

- a) SYSTOLIC <115 mmHg 125-134 145-154 165-174
 unknown 115-124 135-144 155-164 175+
 b) DIASTOLIC <75 mmHg 85-89 95-104
 unknown 75-84 90-94 105+

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 indoors?

- Definitely Sometimes Not Particularly

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, soup, 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, 180 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):

- 0 1 2 3 4 5 6 7 8 9
- 0 1 2 3 4 5 6 7 8 9