

Appendix: Supplemental tables (posted as supplied by author)

Table A: Definitions for early adulthood various fruit and vegetable subgroups based on individual items in 1991 FFQ

Sub-groups	Individual foods
Total Fruits	Raisins (2 tbsps.), prunes (1/2 cup), banana (1 small), cantaloupe (1 cup), apple/pear (1), orange (1 small), grapefruit (1/2), strawberries (1 ¼ cup), blueberries (3/4 cup), peach/apricot/plum (1/2 cup)
Fruit juice	apple juice/cider (1/2 cup), orange juice (1/2 cup), grapefruit juice (1/2 cup), other fruit juices (1/2 cup)
Total vegetables	Raw spinach (1 cup), cooked spinach (1/2 cup), iceberg or head lettuce (1 cup), romaine or leaf lettuce (1 cup), raw carrots (1 large), cooked carrots (1/2 cup), beet (cooked, 1/2 cup), yam/sweet potato (cooked, 1/2 cup), dark orange squash (cooked, 1/2 cup), tomatoes (1 medium), tomatoes juice (1/2 cup), tomato sauce (1/3 cup), salsa (1/2 cup), broccoli (cooked, 1/2 cup), cabbage/Cole slaw (cooked, 1/2 cup), cauliflower (cooked, 1/2 cup), brussels sprouts (cooked, 1/2 cup), kale/mustard/chard greens (cooked, 1/2 cup), corn (cooked, 1/2 cup), mixed vegetables (cooked, 1/2 cup), eggplant/zucchini/other summer squash (cooked, 1/2 cup), celery (1 cup), green pepper (1/2 cup), onion (1/2 cup), green beans (1/2 cup), peas (1/2 cup)
Green leafy vegetables	Raw spinach, cooked spinach, iceberg or head lettuce, romaine or leaf lettuce
Yellow/orange vegetables	Raw carrots, cooked carrots, yam or sweet potato, dark orange squash
Tomato	Tomatoes, tomatoes juice, tomato sauce, salsa
Cruciferous vegetables	Broccoli, cabbage/Cole slaw, cauliflower, brussels sprouts, kale/mustard/chard greens
Other vegetables	Corn, mixed vegetables, eggplant or zucchini or other summer squash, celery, green pepper, onion, beet, green beans, peas
Vitamin C rich fruit and vegetables	Cantaloupe, orange, grapefruit, strawberries, Broccoli, cabbage/Cole slaw, cauliflower, brussels sprouts, kale/mustard/chard greens, green peppers
Alpha carotene rich fruit and vegetables	Raw carrots, cooked carrots
Beta carotene rich fruit and vegetables	Raw carrots, cooked carrots, yams, raw spinach, cooked spinach, lettuce, kale/mustard/chard greens
Lutein rich fruit and vegetables	Raw spinach, cooked spinach, kale/mustard/chard greens
Citrus fruits	Orange, grapefruit
Berries	Strawberries, blueberries
Pomes	Apple/pear
Drupes	Peach/apricot/plum, prunes
Tropical fruits	Banana
Grapes	Raisins
Melon	Cantaloupe

Table B: Definitions for adolescent various fruit and vegetable subgroups based on individual items in HS-FFQ

Sub-groups	Individual foods
Total Fruits	Raisins (2 tbsps.), grapes (1/2 cup), banana (1 small), cantaloupe/melon (1 cup), apple (1 small), apple sauce (1/2 cup), pear (1/2 large), orange/grapefruit (1), strawberries (1 ¼ cup), peach/apricot/plum (1/2 cup), pineapple (canned, 1/2 cup)
Fruit juice	Apple juice (1/2 cup), orange juice (1/2 cup), other fruit juices (1/2 cup)
Total vegetables	Raw spinach (1 cup), cooked spinach (1/2 cup), lettuce (1 cup), tomatoes (1 medium), tomato sauce (1/3 cup), broccoli/Brussels sprouts (cooked, 1/2 cup), cabbage/Coleslaw (cooked, 1/2 cup), cauliflower (cooked, 1/2 cup), mustard/kale/chard greens (cooked, 1/2 cup), corn (cooked, 1/2 cup), eggplant/zucchini/other summer squash (cooked, 1/2 cup), celery (1 cup), green pepper (1/2 cup), onion (1/2 cup), green beans (1/2 cup), peas (1/2 cup), radish
Green leafy vegetables	Raw spinach, cooked spinach, lettuce
Yellow/orange vegetables	Raw carrots, cooked carrots, yam/sweet potato
Tomato	Tomatoes, tomato sauce,
Cruciferous vegetables	broccoli/Brussels sprouts, cabbage/Cole slaw, cauliflower, mustard/kale/chard greens
Other vegetables	Corn, eggplant/zucchini/other summer squash, celery, green pepper, onion, green beans, peas, radish
Vitamin C rich fruit and vegetables	Cantaloupe/melon, orange/grapefruit, strawberries, pineapple, broccoli/Brussels sprouts, cabbage/Cole slaw, cauliflower, mustard/kale/chard greens, green pepper
Alpha carotene rich fruit and vegetables	Raw carrots, cooked carrots
Beta carotene rich fruit and vegetables	Raw carrots, cooked carrots, yams, raw spinach, cooked spinach, lettuce, mustard/kale/chard greens
Lutein rich fruit and vegetables	Raw spinach, cooked spinach, kale/mustard/chard greens
Citrus fruits	Orange/grapefruit
Berries	Strawberries
Pomes	Apple, apple sauce, pear
Drupes	Peach/apricot/plum
Tropical fruits	Banana, pineapple
Grapes	Raisins, grapes
Melon	Cantaloupe/melon

Table C. Hazard ratio (HR) and 95% confidence intervals (95% CI) for breast cancer according to quintile of intake of fruits and vegetable during adolescence among women in the Nurses' Health Study II

	Quintile of intake					<i>P</i> _{trend}
	1	2	3	4	5	
Adolescent total fruit intake						
All cases						
Median intake, serving/day	0.5	0.9	1.4	1.9	2.9	
No. of cases/person-years	315/134,534	263/134,375	250/134,590	272/134,414	247/134,576	
Model 2+ dietary fiber	1	0.84 (0.71-1.00)	0.80 (0.67-0.96)	0.87 (0.72-1.06)	0.80 (0.64-0.99)	0.14
Model 2+ vitamin C	1	0.80 (0.68-0.95)	0.74 (0.62-0.89)	0.78 (0.65-0.94)	0.70 (0.57-0.86)	0.006
Model 2+Beta-carotene	1	0.81 (0.69-0.96)	0.76 (0.63-0.90)	0.81 (0.68-0.97)	0.74 (0.61-0.91)	0.02
Model 2+ animal fat	1	0.82 (0.69-0.97)	0.76 (0.64-0.90)	0.82 (0.69-0.97)	0.74 (0.62-0.90)	0.01
Model 2+red meat	1	0.82 (0.69-0.97)	0.77 (0.64-0.91)	0.83 (0.70-0.98)	0.76 (0.63-0.92)	0.02
Model 2+AHEI	1	0.82 (0.69-0.97)	0.77 (0.64-0.91)	0.82 (0.69-0.98)	0.75 (0.62-0.91)	0.02
Premenopausal cases						
Median intake, serving/day	0.5	0.9	1.4	1.9	2.9	
No. of cases/person-years	135/69,408	105/69,528	123/69,429	104/69,505	109/69,518	
Model 2+ dietary fiber	1	0.81 (0.62-1.06)	0.93 (0.71-1.22)	0.83 (0.61-1.12)	0.90 (0.64-1.26)	0.74
Model 2+ vitamin C	1	0.76 (0.58-0.99)	0.83 (0.64-1.10)	0.71 (0.53-0.96)	0.74 (0.54-1.01)	0.11
Model 2+Beta-carotene	1	0.78 (0.59-1.01)	0.87 (0.67-1.13)	0.76 (0.57-1.00)	0.81 (0.60-1.10)	0.29
Model 2+ animal fat	1	0.79 (0.61-1.02)	0.88 (0.68-1.14)	0.77 (0.59-1.01)	0.83 (0.62-1.10)	0.28
Model 2+red meat	1	0.79 (0.61-1.02)	0.89 (0.69-1.15)	0.77 (0.59-1.01)	0.83 (0.63-1.10)	0.29
Model 2+AHEI	1	0.79 (0.61-1.03)	0.90 (0.70-1.17)	0.79 (0.60-1.04)	0.84 (0.63-1.11)	0.33
Postmenopausal cases						
Median intake, serving/day	0.5	0.9	1.3	1.9	2.9	
No. of cases/person-years	149/53,265	134/53,368	108/53,454	138/53,178	111/53,219	
Model 2+ dietary fiber	1	0.89 (0.69-1.13)	0.72 (0.55-0.94)	0.92 (0.70-1.22)	0.76 (0.55-1.05)	0.22
Model 2+ vitamin C	1	0.85 (0.67-1.09)	0.67 (0.51-0.88)	0.83 (0.63-1.09)	0.67 (0.49- 91)	0.03
Model 2+Beta-carotene	1	0.85 (0.66-1.08)	0.66 (0.51-0.86)	0.83 (0.64-1.07)	0.67 (0.50-0.90)	0.03
Model 2+ animal fat	1	0.86 (0.68-1.09)	0.68 (0.52-0.87)	0.85 (0.66-1.09)	0.68 (0.51-0.89)	0.02
Model 2+red meat	1	0.86 (0.67-1.09)	0.67 (0.52-0.87)	0.84 (0.66-1.08)	0.69 (0.53-0.91)	0.03
Model 2+AHEI	1	0.85 (0.67-1.08)	0.67 (0.51-0.86)	0.83 (0.65-1.07)	0.67 (0.51-0.89)	0.02
Adolescent total vegetable intake						
All cases						
Median intake, serving/day	1.2	1.8	2.4	3.2	4.5	
No. of cases/person-years	310/134,501	255/134,513	248/134,563	264/134,493	270/134,419	
Model 2+ dietary fiber	1	0.85 (0.72-1.01)	0.85 (0.70-1.02)	0.92 (0.75-1.12)	0.96 (0.76-1.20)	0.89
Model 2+ vitamin C	1	0.82 (0.69-0.97)	0.78 (0.65-0.93)	0.82 (0.68-0.99)	0.83 (0.68-1.02)	0.22

Model 2+Beta-carotene	1	0.81 (0.68-0.96)	0.77 (0.63-0.94)	0.81 (0.66-1.00)	0.84 (0.65-1.07)	0.42
Model 2+ animal fat	1	0.82 (0.69-0.97)	0.79 (0.66-0.94)	0.83 (0.70-0.99)	0.85 (0.71-1.02)	0.21
Model 2+red meat	1	0.82 (0.69-0.97)	0.79 (0.66-0.94)	0.83 (0.70-0.99)	0.85 (0.71-1.02)	0.23
Model 2+AHEI	1	0.82 (0.69-0.97)	0.79 (0.67-0.94)	0.84 (0.70-1.00)	0.86 (0.71-1.03)	0.27
Premenopausal cases						
Median intake, serving/day	1.2	1.8	2.4	3.2	4.5	
No. of cases/person-years	138/69,460	110/69,410	111/69,487	99/69,487	118/69,544	
Model 2+ dietary fiber	1	0.83 (0.64-1.08)	0.87 (0.66-1.15)	0.79 (0.58-1.08)	0.96 (0.68-1.36)	0.99
Model 2+ vitamin C	1	0.79 (0.61-1.03)	0.79 (0.60-1.03)	0.69 (0.52-0.92)	0.80 (0.59-1.08)	0.20
Model 2+Beta-carotene	1	0.77 (0.59-1.01)	0.77 (0.57-1.04)	0.69 (0.49-0.96)	0.83 (0.57-1.22)	0.55
Model 2+ animal fat	1	0.81 (0.62-1.05)	0.82 (0.63-1.06)	0.72 (0.55-0.95)	0.86 (0.65-1.13)	0.35
Model 2+red meat	1	0.80 (0.62-1.04)	0.82 (0.63-1.06)	0.72 (0.54-0.94)	0.85 (0.65-1.12)	0.31
Model 2+AHEI	1	0.81 (0.63-1.05)	0.83 (0.64-1.08)	0.74 (0.56-0.98)	0.88 (0.66-1.16)	0.44
Postmenopausal cases						
Median intake, serving/day	1.2	1.9	2.5	3.2	4.6	
No. of cases/person-years	147/53,314	122/53,335	116/53,319	137/53,289	118/53,225	
Model 2+ dietary fiber	1	0.84 (0.65-1.08)	0.81 (0.61-1.06)	1.01 (0.76-1.34)	0.89 (0.64-1.25)	0.90
Model 2+ vitamin C	1	0.80 (0.63-1.03)	0.75 (0.57-0.97)	0.89 (0.68-1.15)	0.77 (0.57-1.03)	0.24
Model 2+Beta-carotene	1	0.77 (0.60-1.00)	0.70 (0.52-0.93)	0.82 (0.60-1.11)	0.70 (0.49-1.01)	0.17
Model 2+ animal fat	1	0.80 (0.62-1.02)	0.74 (0.57-0.95)	0.87 (0.68-1.12)	0.75 (0.57-0.98)	0.13
Model 2+red meat	1	0.80 (0.62-1.02)	0.73 (0.57-0.94)	0.87 (0.68-1.11)	0.75 (0.57-0.98)	0.13
Model 2+AHEI	1	0.79 (0.62-1.01)	0.73 (0.56-0.94)	0.86 (0.67-1.11)	0.73 (0.55-0.96)	0.10
Adolescent total fruit and vegetable intake						
All cases						
Median intake, serving/day	1.9	3.0	3.9	5.0	7.1	
No. of cases/person-years	307/134,478	264/134,563	249/134,499	266/134,496	261/134,452	
Model 2+ dietary fiber	1	0.89 (0.75-1.06)	0.85 (0.70-1.04)	0.92 (0.74-1.15)	0.92 (0.71-1.20)	0.79
Model 2+ vitamin C	1	0.84 (0.70-1.00)	0.77 (0.64-0.92)	0.79 (0.65-0.97)	0.77 (0.62-0.96)	0.06
Model 2+Beta-carotene	1	0.83 (0.70-0.99)	0.76 (0.63-0.92)	0.79 (0.64-0.98)	0.78 (0.60-1.00)	0.13
Model 2+ animal fat	1	0.85 (0.72-1.01)	0.79 (0.66-0.94)	0.83 (0.69-0.99)	0.81 (0.67-0.99)	0.08
Model 2+red meat	1	0.85 (0.72-1.01)	0.79 (0.66-0.94)	0.83 (0.69-0.99)	0.83 (0.69-1.00)	0.10
Model 2+AHEI	1	0.85 (0.72-1.01)	0.79 (0.66-0.94)	0.83 (0.69-1.00)	0.82 (0.68-1.00)	0.11
Premenopausal cases						
Median intake, serving/day	1.9	3.0	3.9	5.0	7.0	
No. of cases/person-years	134/69,418	127/69,475	96/69,472	112/69,480	107/69,543	
Model 2+ dietary fiber	1	0.96 (0.74-1.25)	0.75 (0.55-1.02)	0.86 (0.62-1.21)	0.83 (0.56-1.23)	0.39
Model 2+ vitamin C	1	0.89 (0.68-1.15)	0.67 (0.50-0.89)	0.73 (0.54-0.99)	0.66 (0.47-0.93)	0.02
Model 2+Beta-carotene	1	0.88 (0.67-1.15)	0.66 (0.49-0.90)	0.74 (0.53-1.02)	0.70 (0.47-1.03)	0.09
Model 2+ animal fat	1	0.94 (0.73-1.20)	0.72 (0.55-0.95)	0.81 (0.62-1.07)	0.78 (0.58-1.05)	0.10
Model 2+red meat	1	0.94 (0.73-1.20)	0.72 (0.55-0.95)	0.82 (0.62-1.07)	0.79 (0.59-1.05)	0.09

Model 2+AHEI	1	0.95 (0.74-1.22)	0.74 (0.56-0.97)	0.84 (0.64-1.10)	0.80 (0.59-1.08)	0.13
Postmenopausal cases						
Median intake, serving/day	1.9	3.0	3.9	5.0	7.1	
No. of cases/person-years	143/53,312	119/53,366	130/53,333	128/53,278	120/53,195	
Model 2+ dietary fiber	1	0.88 (0.68-1.14)	0.99 (0.74-1.31)	1.04 (0.75-1.44)	1.02 (0.69-1.51)	0.68
Model 2+ vitamin C	1	0.83 (0.64-1.07)	0.87 (0.66-1.14)	0.85 (0.64-1.14)	0.81 (0.58-1.12)	0.33
Model 2+Beta-carotene	1	0.80 (0.62-1.04)	0.82 (0.62-1.09)	0.80 (0.58-1.09)	0.76 (0.52-1.09)	0.24
Model 2+ animal fat	1	0.82 (0.64-1.05)	0.86 (0.67-1.10)	0.84 (0.65-1.09)	0.79 (0.59-1.04)	0.17
Model 2+red meat	1	0.82 (0.63-1.05)	0.85 (0.66-1.09)	0.84 (0.65-1.08)	0.79 (0.60-1.04)	0.18
Model 2+AHEI	1	0.81 (0.63-1.04)	0.84 (0.65-1.08)	0.82 (0.63-1.07)	0.77 (0.58-1.02)	0.14
Adolescent fruit juice intake						
All cases						
Median intake, serving/day	0.1	0.4	0.9	1.5	2.1	
No. of cases/person-years	285/144,750	269/133,916	237/125,374	267/129,621	288/138,185	
Model 2+ dietary fiber	1	1.03 (0.87-1.22)	0.99 (0.83-1.18)	1.03 (0.87-1.22)	1.07 (0.89-1.27)	0.52
Model 2+ vitamin C	1	1.04 (0.87-1.24)	1.00 (0.82-1.22)	1.05 (0.85-1.30)	1.07 (0.85-1.35)	0.55
Model 2+Beta-carotene	1	1.02 (0.86-1.21)	0.97 (0.81-1.16)	1.01 (0.85-1.21)	1.04 (0.87-1.24)	0.68
Model 2+ animal fat	1	1.02 (0.86-1.21)	0.97 (0.81-1.16)	1.01 (0.85-1.20)	1.03 (0.86-1.23)	0.78
Model 2+red meat	1	1.02 (0.86-1.21)	0.97 (0.81-1.16)	1.01 (0.85-1.21)	1.05 (0.88-1.25)	0.64
Model 2+AHEI	1	1.02 (0.86-1.21)	0.97 (0.81-1.15)	1.01 (0.85-1.20)	1.03 (0.87-1.23)	0.76
Premenopausal cases						
Median intake, serving/day	0.1	0.4	0.9	1.5	2.2	
No. of cases/person-years	107/71,645	123/68,496	108/67,377	126/69,940	111/69,591	
Model 2+ dietary fiber	1	1.27 (0.97-1.66)	1.14 (0.87-1.51)	1.22 (0.93-1.60)	1.12 (0.84-1.49)	0.71
Model 2+ vitamin C	1	1.27 (0.96-1.67)	1.15 (0.84-1.56)	1.21 (0.87-1.67)	1.08 (0.76-1.55)	0.95
Model 2+Beta-carotene	1	1.25 (0.96-1.63)	1.11 (0.84-1.47)	1.19 (0.91-1.56)	1.09 (0.81-1.45)	0.87
Model 2+ animal fat	1	1.26 (0.96-1.64)	1.12 (0.85-1.48)	1.20 (0.91-1.57)	1.10 (0.82-1.46)	0.81
Model 2+red meat	1	1.26 (0.97-1.64)	1.12 (0.85-1.48)	1.21 (0.92-1.59)	1.12 (0.84-1.49)	0.70
Model 2+AHEI	1	1.26 (0.97-1.64)	1.13 (0.86-1.48)	1.19 (0.91-1.56)	1.10 (0.82-1.46)	0.83
Postmenopausal cases						
Median intake, serving/day	0.1	0.3	0.9	1.5	2.1	
No. of cases/person-years	121/47,907	141/65,884	111/48,809	119/51,122	148/52,498	
Model 2+ dietary fiber	1	0.85 (0.66-1.09)	0.91 (0.70-1.18)	0.90 (0.69-1.17)	1.09 (0.84-1.42)	0.23
Model 2+ vitamin C	1	0.88 (0.68-1.14)	0.99 (0.73-1.34)	1.02 (0.74-1.42)	1.26 (0.89-1.76)	0.05
Model 2+Beta-carotene	1	0.83 (0.65-1.06)	0.88 (0.67-1.15)	0.87 (0.67-1.14)	1.05 (0.80-1.36)	0.35
Model 2+ animal fat	1	0.83 (0.65-1.07)	0.89 (0.68-1.16)	0.88 (0.67-1.15)	1.04 (0.80-1.35)	0.37
Model 2+red meat	1	0.83 (0.65-1.06)	0.88 (0.68-1.15)	0.87 (0.67-1.14)	1.05 (0.81-1.35)	0.35
Model 2+AHEI	1	0.83 (0.65-1.06)	0.88 (0.67-1.14)	0.86 (0.66-1.12)	1.02 (0.79-1.32)	0.44

Model 1 was stratified by age in months at the state of follow-up and calendar year of the current questionnaire cycle.

Model 2 was stratified by age in months at start of follow-up and calendar year of the current questionnaire cycle and was simultaneously adjusted for smoking (never, past, current 1-14/day, current 15-24/day, current ≥ 25 /day), race (white/non-white), parity and age at first birth (nulliparous, parity ≤ 2 and age at first birth < 25 , parity ≤ 2 and age at first birth 25- < 30 , parity ≤ 2 and age at first birth ≥ 30 , parity 3-4 and age at first birth < 25 , parity 3-4 and age at first birth 25- < 30 , parity 3-4 and age at first birth ≥ 30 , parity ≥ 5 and age at first birth < 25 , parity ≥ 5 and age at first birth ≥ 25), height (< 157 , 157- < 165 , 165- < 173 , ≥ 173 cm), BMI at age 18 (< 18.5 , 18.5- < 22.5 , 22.5- < 25 , 25.0- < 30 , ≥ 30.0), weight change since age 18 (continuous, missing indicator), age at menarche (< 12 , 12, 13, ≥ 14), family history of breast cancer (yes, no), history of benign breast disease (yes, no), oral contraceptive use (never, past, current), adolescent alcohol intake (non-drinker, < 5 , ≥ 5 g/day), adult alcohol intake (non-drinker, < 5 , 5- < 15 , ≥ 15 g/day), adolescent energy intake (fifth). In postmenopausal women, we additionally adjusted for hormone use (postmenopausal never users, postmenopausal past users, postmenopausal current users), age at menopause (< 45 , 45-46, 47-48, 49-50, 51-52, ≥ 53). Among all women, we additionally adjusted for hormone use and menopausal status (premenopausal, postmenopausal never users, postmenopausal past users, postmenopausal current users, unknown menopausal status) and age at menopause (premenopausal, unknown menopause, < 45 , 45-46 years, 47-48, 49-50, 51-52, ≥ 53).

Table D. Hazard ratio (HR) and 95% confidence intervals (95%CI) for breast cancer according to quintile of intake of subgroups of fruit and vegetable intake during adolescence among women in the Nurses' Health Study II

	Quintile of intake					
	1	2	3	4	5	<i>P_{trend}</i>
Adolescent green leafy vegetables						
All cases						
Median intake, serving/day	0.07	0.1	0.4	0.6	0.9	
No. of cases/person-years	231/115,683	321/156,124	262/140,465	265/122,779	268/137,374	
Model 1	1	1.02 (0.86-1.21)	0.95 (0.80-1.14)	1.08 (0.91-1.29)	0.98 (0.82-1.17)	0.86
Model 2	1	1.02 (0.86-1.21)	0.95 (0.79-1.14)	1.05 (0.88-1.26)	0.96 (0.80-1.15)	0.61
Premenopausal cases						
Median intake, serving/day	0.07	0.1	0.4	0.6	0.9	
No. of cases/person-years	90/57,203	141/80,599	111/73,947	116/63,745	118/71,876	
Model 1	1	1.10 (0.84-1.43)	0.97 (0.73-1.28)	1.15 (0.87-1.51)	1.02 (0.78-1.35)	0.97
Model 2	1	1.11 (0.85-1.46)	1.00 (0.75-1.33)	1.15 (0.87-1.53)	1.04 (0.78-1.38)	1.00
Postmenopausal cases						
Median intake, serving/day	0.07	0.1	0.4	0.6	0.9	
No. of cases/person-years	116/48,256	143/57,638	133/58,287	128/48,306	120/53,956	
Model 1	1	0.99 (0.77-1.27)	0.92 (0.72-1.19)	1.07 (0.83-1.37)	0.90 (0.69-1.16)	0.48
Model 2	1	0.98 (0.76-1.25)	0.90 (0.70-1.16)	1.00 (0.77-1.30)	0.84 (0.64-1.09)	0.21
Adolescent yellow/orange vegetables						
All cases						
Median intake, serving/day	0.06	0.1	0.3	0.4	0.8	
No. of cases/person-years	255/124,529	315/154,645	247/126,670	282/138,912	247/127,489	
Model 1	1	0.98 (0.83-1.16)	0.92 (0.77-1.10)	0.98 (0.83-1.16)	0.92 (0.77-1.10)	0.39
Model 2	1	0.97 (0.82-1.15)	0.90 (0.75-1.08)	0.96 (0.81-1.14)	0.91 (0.76-1.09)	0.36
Premenopausal cases						
Median intake, serving/day	0.06	0.1	0.3	0.4	0.8	
No. of cases/person-years	111/65,610	136/79,332	109/65,550	120/71,820	99/64,986	
Model 1	1	1.00 (0.78-1.29)	0.94 (0.72-1.23)	0.94 (0.73-1.23)	0.84 (0.64-1.10)	0.15
Model 2	1	1.01 (0.78-1.30)	0.94 (0.72-1.24)	0.95 (0.73-1.24)	0.85 (0.63-1.13)	0.19
Postmenopausal cases						
Median intake, serving/day	0.06	0.1	0.3	0.4	0.8	
No. of cases/person-years	114/47,789	148/61,800	117/50,228	136/54,950	125/51,599	
Model 1	1	1.00 (0.78-1.28)	0.96 (0.74-1.24)	1.05 (0.81-1.35)	1.02 (0.79-1.31)	0.78
Model 2	1	0.97 (0.76-1.25)	0.92 (0.70-1.19)	1.01 (0.78-1.31)	0.99 (0.76-1.30)	0.86

Adolescent tomato						
All cases						
Median intake, serving/day	0.2	0.4	0.5	0.6	1.1	
No. of cases/person-years	262/124,208	409/198,192	58/29,021	319/179,565	297/141,132	
Model 1	1	0.96 (0.82-1.12)	0.87 (0.65-1.15)	0.83 (0.70-0.98)	0.98 (0.83-1.15)	0.63
Model 2	1	0.94 (0.80-1.10)	0.84 (0.63-1.12)	0.82 (0.69-0.97)	0.98 (0.82-1.16)	0.74
Premenopausal cases						
Median intake, serving/day	0.2	0.4	0.5	0.6	1.1	
No. of cases/person-years	117/64,907	177/102,944	21/12,364	139/94,575	121/72,360	
Model 1	1	0.94 (0.74-1.19)	0.87 (0.54-1.39)	0.80 (0.62-1.03)	0.88 (0.68-1.15)	0.26
Model 2	1	0.94 (0.74-1.19)	0.85 (0.53-1.36)	0.81 (0.63-1.05)	0.91 (0.69-1.19)	0.40
Postmenopausal cases						
Median intake, serving/day	0.2	0.4	0.5	0.6	1.1	
No. of cases/person-years	118/48,286	196/78,204	31/14,025	158/69,233	136/56,649	
Model 1	1	1.03 (0.82-1.29)	0.88 (0.59-1.31)	0.91 (0.72-1.16)	0.99 (0.77-1.26)	0.68
Model 2	1	0.99 (0.79-1.25)	0.85 (0.57-1.26)	0.86 (0.67-1.10)	0.95 (0.74-1.23)	0.55
Adolescent cruciferous vegetables						
All cases						
Median intake, serving/day	0.07	0.1	0.2	0.4	0.7	
No. of cases/person-years	306/146,074	202/100,120	297/155,540	282/146,725	260/123,933	
Model 1	1	0.95 (0.80-1.14)	0.90 (0.77-1.06)	0.91 (0.77-1.07)	1.00 (0.85-1.18)	0.73
Model 2	1	0.95 (0.79-1.13)	0.89 (0.75-1.04)	0.89 (0.76-1.05)	1.00 (0.84-1.19)	0.72
Premenopausal cases						
Median intake, serving/day	0.07	0.1	0.2	0.4	0.7	
No. of cases/person-years	126/74,775	96/51,218	129/81,621	116/76,171	109/63,556	
Model 1	1	1.07 (0.82-1.40)	0.92 (0.72-1.18)	0.88 (0.69-1.14)	1.00 (0.77-1.30)	0.88
Model 2	1	1.06 (0.81-1.38)	0.92 (0.72-1.18)	0.88 (0.68-1.13)	1.00 (0.77-1.31)	0.89
Postmenopausal cases						
Median intake, serving/day	0.07	0.1	0.2	0.4	0.7	
No. of cases/person-years	148/58,324	87/40,419	148/60,393	130/57,554	127/49,762	
Model 1	1	0.83 (0.64-1.09)	0.94 (0.74-1.18)	0.85 (0.67-1.08)	0.99 (0.78-1.26)	0.74
Model 2	1	0.83 (0.63-1.08)	0.91 (0.72-1.15)	0.82 (0.64-1.05)	0.98 (0.77-1.25)	0.81
Adolescent other vegetables						
All cases						
Median intake, serving/day	0.4	0.6	0.9	1.2	1.8	
No. of cases/person-years	277/134,646	278/134,317	275/134,629	259/134,479	258/134,417	
Model 1	1	0.99 (0.83-1.17)	0.99 (0.83-1.17)	0.94 (0.79-1.11)	0.90 (0.76-1.07)	0.17

Model 2	1	0.97 (0.82-1.15)	0.97 (0.82-1.15)	0.93 (0.78-1.11)	0.90 (0.75-1.08)	0.23
Premenopausal cases						
Median intake, serving/day	0.4	0.6	0.9	1.2	1.8	
No. of cases/person-years	125/69,417	112/69,458	119/69,475	116/69,427	104/69,612	
Model 1	1	0.87 (0.67-1.12)	0.92 (0.71-1.18)	0.92 (0.71-1.19)	0.79 (0.61-1.03)	0.16
Model 2	1	0.89 (0.68-1.15)	0.94 (0.73-1.22)	0.97 (0.75-1.27)	0.83 (0.63-1.11)	0.35
Postmenopausal cases						
Median intake, serving/day	0.4	0.7	0.9	1.3	1.8	
No. of cases/person-years	130/53,361	139/53,217	129/53,292	118/53,348	124/53,267	
Model 1	1	1.06 (0.83-1.35)	1.01 (0.79-1.29)	0.92 (0.72-1.18)	0.94 (0.74-1.21)	0.37
Model 2	1	1.02 (0.79-1.30)	0.97 (0.75-1.25)	0.90 (0.69-1.17)	0.92 (0.71-1.20)	0.38
Adolescent fruits and vegetables high in vitamin C						
All cases						
Median intake, serving/day	0.2	0.4	0.6	0.9	1.4	
No. of cases/person-years	291/134,651	257/135,224	270/132,935	262/135,346	267/134,299	
Model 1	1	0.88 (0.74-1.04)	0.94 (0.79-1.11)	0.89 (0.76-1.06)	0.93 (0.78-1.09)	0.56
Model 2	1	0.87 (0.73-1.03)	0.92 (0.77-1.09)	0.87 (0.73-1.03)	0.91 (0.77-1.09)	0.51
Premenopausal cases						
Median intake, serving/day	0.2	0.4	0.6	0.9	1.4	
No. of cases/person-years	119/69,484	117/69,550	108/69,592	118/69,252	114/69,489	
Model 1	1	0.97 (0.75-1.25)	0.91 (0.70-1.18)	0.96 (0.74-1.24)	0.94 (0.73-1.22)	0.74
Model 2	1	0.98 (0.75-1.27)	0.92 (0.70-1.20)	0.97 (0.74-1.26)	0.96 (0.73-1.26)	0.84
Postmenopausal cases						
Median intake, serving/day	0.2	0.4	0.6	0.9	1.4	
No. of cases/person-years	144/53,191	116/53,276	135/53,502	120/53,413	125/53,092	
Model 1	1	0.78 (0.61-1.00)	0.89 (0.70-1.13)	0.80 (0.63-1.02)	0.86 (0.67-1.09)	0.39
Model 2	1	0.77 (0.60-0.98)	0.85 (0.67-1.08)	0.75 (0.58-0.96)	0.83 (0.64-1.07)	0.30
Adolescent fruits and vegetables high in α-carotene						
All cases						
Median intake, serving/day	0.06	0.1	0.2	0.3	0.7	
No. of cases/person-years	264/134,477	313/146,760	201/98,839	307/159,569	260/132,471	
Model 1	1	1.07 (0.91-1.26)	1.02 (0.85-1.23)	0.97 (0.82-1.15)	0.98 (0.83-1.17)	0.53
Model 2	1	1.06 (0.90-1.25)	1.00 (0.83-1.21)	0.96 (0.81-1.13)	0.98 (0.82-1.17)	0.54
Premenopausal cases						
Median intake, serving/day	0.06	0.1	0.2	0.3	0.7	
No. of cases/person-years	115/69,058	129/75,115	95/51,259	134/83,098	101/68,681	
Model 1	1	1.00 (0.77-1.29)	1.07 (0.82-1.41)	0.92 (0.71-1.18)	0.81 (0.62-1.07)	0.07
Model 2	1	1.00 (0.77-1.29)	1.07 (0.81-1.41)	0.93 (0.72-1.20)	0.83 (0.62-1.10)	0.11

Postmenopausal cases						
Median intake, serving/day	0.06	0.1	0.2	0.3	0.7	
No. of cases/person-years	118/53,436	148/58,414	90/39,127	150/62,677	134/52,671	
Model 1	1	1.16 (0.91-1.48)	1.04 (0.79-1.37)	1.11 (0.87-1.41)	1.16 (0.91-1.50)	0.39
Model 2	1	1.15 (0.90-1.48)	1.02 (0.77-1.34)	1.08 (0.84-1.39)	1.16 (0.89-1.51)	0.42
Adolescent fruits and vegetables high in β-carotene						
All cases						
Median intake, serving/day	0.2	0.4	0.7	1.0	1.5	
No. of cases/person-years	283/137,522	240/125,131	304/140,813	249/133,966	271/135,024	
Model 1	1	0.92 (0.78-1.10)	1.05 (0.89-1.24)	0.89 (0.75-1.06)	0.97 (0.82-1.15)	0.67
Model 2	1	0.90 (0.76-1.07)	1.02 (0.87-1.21)	0.86 (0.72-1.02)	0.94 (0.79-1.12)	0.48
Premenopausal cases						
Median intake, serving/day	0.2	0.4	0.7	1.0	1.5	
No. of cases/person-years	126/70,331	114/71,387	119/66,494	97/69,910	120/69,261	
Model 1	1	0.90 (0.69-1.16)	1.01 (0.78-1.30)	0.75 (0.57-0.98)	0.94 (0.73-1.21)	0.47
Model 2	1	0.89 (0.69-1.15)	1.00 (0.77-1.30)	0.74 (0.56-0.98)	0.94 (0.72-1.23)	0.51
Postmenopausal cases						
Median intake, serving/day	0.2	0.4	0.7	1.0	1.5	
No. of cases/person-years	123/55,065	125/49,815	145/55,210	126/53,274	121/53,094	
Model 1	1	1.12 (0.87-1.45)	1.16 (0.91-1.48)	1.05 (0.81-1.34)	1.01 (0.78-1.30)	0.72
Model 2	1	1.10 (0.85-1.41)	1.10 (0.86-1.41)	0.97 (0.75-1.26)	0.97 (0.74-1.26)	0.46
Adolescent fruits and vegetables high in lutein						
All cases						
Median intake, serving/day	0	0.07	0.1	0.3		
No. of cases/person-years	587/306,502	313/150,552	257/122,325	190/92,966		
Model 1	1	1.05 (0.91-1.20)	1.06 (0.92-1.23)	1.03 (0.87-1.21)		0.62
Model 2	1	1.02 (0.89-1.17)	1.05 (0.90-1.21)	1.01 (0.85-1.19)		0.80
Premenopausal cases						
Median intake, serving/day	0	0.07	0.1	0.3		
No. of cases/person-years	262/162,871	121/76,227	120/61,838	73/46,378		
Model 1	1	0.95 (0.76-1.18)	1.16 (0.93-1.44)	0.96 (0.74-1.25)		0.82
Model 2	1	0.93 (0.75-1.16)	1.14 (0.91-1.42)	0.95 (0.72-1.24)		0.95
Postmenopausal cases						
Median intake, serving/day	0	0.07	0.1	0.3		
No. of cases/person-years	270/117,440	161/60,874	115/49,988	94/38,123		
Model 1	1	1.12 (0.92-1.36)	0.97 (0.78-1.21)	1.03 (0.82-1.31)		0.96
Model 2	1	1.09 (0.89-1.33)	0.95 (0.76-1.19)	1.01 (0.79-1.29)		0.89

Model 1 was stratified by age in months at the state of follow-up and calendar year of the current questionnaire cycle.

Model 2 was stratified by age in months at start of follow-up and calendar year of the current questionnaire cycle and was simultaneously adjusted for smoking (never, past, current 1-14/day, current 15-24/day, current ≥ 25 /day), race (white/non-white), parity and age at first birth (nulliparous, parity ≤ 2 and age at first birth < 25 , parity ≤ 2 and age at first birth 25- < 30 , parity ≤ 2 and age at first birth ≥ 30 , parity 3-4 and age at first birth < 25 , parity 3-4 and age at first birth 25- < 30 , parity 3-4 and age at first birth ≥ 30 , parity ≥ 5 and age at first birth < 25 , parity ≥ 5 and age at first birth ≥ 25), height (< 157 , 157- < 165 , 165- < 173 , ≥ 173 cm), BMI at age 18 (< 18.5 , 18.5- < 22.5 , 22.5- < 25 , 25.0- < 30 , ≥ 30.0), weight change since age 18 (continuous, missing indicator), age at menarche (< 12 , 12, 13, ≥ 14), family history of breast cancer (yes, no), history of benign breast disease (yes, no), oral contraceptive use (never, past, current), adolescent alcohol intake (non-drinker, < 5 , ≥ 5 g/day), adult alcohol intake (non-drinker, < 5 , 5- < 15 , ≥ 15 g/day), adolescent energy intake (fifth). In postmenopausal women, we additionally adjusted for hormone use (postmenopausal never users, postmenopausal past users, postmenopausal current users), age at menopause (< 45 , 45-46, 47-48, 49-50, 51-52, ≥ 53). Among all women, we additionally adjusted for hormone use and menopausal status (premenopausal, postmenopausal never users, postmenopausal past users, postmenopausal current users, unknown menopausal status) and age at menopause (premenopausal, unknown menopause, < 45 , 45-46 years, 47-48, 49-50, 51-52, ≥ 53).

Table E. Hazard ratio (HR) and 95% confidence intervals (95% CI) for breast cancer according to tertile of intake of subgroups of fruit intake during adolescence among women in the Nurses' Health Study II

	Tertile of intake			<i>P</i> _{trend}
	1	2	3	
Adolescent total citrus intake				
Median intake, serving/day	0.07	0.14	0.43	
All cases				
No. of cases/person-years	573/274,168	356/193,572	406/201,230	
Model 1	1	0.88 (0.77-1.01)	0.97 (0.86-1.10)	0.99
Model 2	1	0.87 (0.76-1.00)	0.96 (0.84-1.09)	0.88
Premenopausal cases				
No. of cases/person-years	237/137,382	156/101,743	179/106,505	
Model 1	1	0.87 (0.71-1.07)	0.96 (0.79-1.17)	0.90
Model 2	1	0.88 (0.72-1.09)	0.97 (0.79-1.19)	1.00
Postmenopausal cases				
No. of cases/person-years	278/112,035	169/74,936	187/77,994	
Model 1	1	0.91 (0.75-1.10)	0.97 (0.81-1.17)	0.91
Model 2	1	0.89 (0.73-1.08)	0.94 (0.77-1.14)	0.71
Adolescent berries intake				
Median intake, serving/day	0	0.03	0.06	
All cases				
No. of cases/person-years	430/207,436	619/316,276	292/144,861	
Model 1	1	0.98 (0.86-1.11)	1.02 (0.88-1.19)	0.82
Model 2	1	0.98 (0.86-1.11)	1.03 (0.88-1.20)	0.78
Premenopausal cases				
No. of cases/person-years	185/101,275	259/166,305	129/77,904	
Model 1	1	0.85 (0.70-1.03)	0.92 (0.73-1.15)	0.40
Model 2†	1	0.85 (0.70-1.03)	0.92 (0.72-1.16)	0.41
Postmenopausal cases				
No. of cases/person-years	202/87,713	306/122,407	130/54,680	
Model 1	1	1.10 (0.92-1.32)	1.07 (0.86-1.33)	0.49
Model 2	1	1.09 (0.91-1.31)	1.07 (0.85-1.34)	0.51
Adolescent pomes intake				
Median intake, serving/day	0.21	0.50	0.96	
All cases				
No. of cases/person-years	513/240,549	389/193,607	445/238,117	
Model 1	1	0.94 (0.82-1.07)	0.86 (0.76-0.98)	0.02
Model 2	1	0.92 (0.81-1.06)	0.85 (0.74-0.97)	0.02
Premenopausal cases				
No. of cases/person-years	215/123,092	182/100,402	179/123,794	
Model 1	1	1.04 (0.85-1.27)	0.82 (0.67-1.00)	0.03
Model 2	1	1.06 (0.87-1.30)	0.83 (0.67-1.03)	0.06
Postmenopausal cases				
No. of cases/person-years	249/95,540	171/76,814	220/94,034	
Model 1	1	0.85 (0.70-1.03)	0.88 (0.73-1.05)	0.19
Model 2	1	0.81 (0.66-0.99)	0.84 (0.69-1.02)	0.11
Adolescent drupes intake				
Median intake, serving/day	0	0.07	0.14	
All cases				
No. of cases/person-years	288/139,075	520/275,998	529/253,860	
Model 1	1	0.91 (0.79-1.05)	1.01 (0.87-1.16)	0.62

Model 2	1	0.91 (0.78-1.05)	1.00 (0.86-1.16)	0.66
Premenopausal cases				
No. of cases/person-years	121/71,299	215/142,214	234/132,130	
Model 1	1	0.89 (0.71-1.11)	1.01 (0.81-1.27)	0.62
Model 2	1	0.88 (0.70-1.11)	1.02 (0.81-1.29)	0.57
Postmenopausal cases				
No. of cases/person-years	141/55,301	253/109,405	243/100,298	
Model 1	1	0.90 (0.73-1.11)	0.95 (0.77-1.17)	0.79
Model 2	1	0.90 (0.73-1.11)	0.94 (0.76-1.16)	0.70
Adolescent tropical fruits intake				
Median intake, serving/day	0.07	0.21	0.50	
All cases				
No. of cases/person-years	464/196,572	427/228,356	456/247,410	
Model 1	1	0.80 (0.70-0.91)	0.79 (0.69-0.90)	0.002
Model 2	1	0.78 (0.69-0.90)	0.76 (0.66-0.87)	0.0008
Premenopausal cases				
No. of cases/person-years	190/99,186	194/118,396	192/129,753	
Model 1	1	0.87 (0.71-1.06)	0.79 (0.64-0.97)	0.03
Model 2	1	0.88 (0.72-1.08)	0.78 (0.63-0.97)	0.03
Postmenopausal cases				
No. of cases/person-years	233/79,820	194/90,371	213/96,219	
Model 1	1	0.74 (0.61-0.90)	0.75 (0.62-0.90)	0.01
Model 2	1	0.71 (0.58-0.86)	0.71 (0.58-0.87)	0.005
Adolescent grapes intake				
Median intake, serving/day	0.07	0.17	0.36	
All cases				
No. of cases/person-years	462/210,639	459/234,403	423/226,494	
Model 1	1	0.88 (0.77-1.00)	0.86 (0.75-0.98)	0.04
Model 2	1	0.87 (0.76-0.99)	0.83 (0.73-0.96)	0.02
Premenopausal cases				
No. of cases/person-years	196/108,869	196/118,311	182/119,750	
Model 1	1	0.91 (0.74-1.11)	0.83 (0.68-1.02)	0.09
Model 2	1	0.93 (0.76-1.14)	0.83 (0.67-1.03)	0.10
Postmenopausal cases				
No. of cases/person-years	215/83,012	223/95,560	201/87,506	
Model 1	1	0.89 (0.74-1.08)	0.90 (0.74-1.09)	0.33
Model 2	1	0.85 (0.71-1.03)	0.86 (0.70-1.05)	0.21
Adolescent melon intake				
Median intake, serving/day	0	0.05	0.11	
All cases				
No. of cases/person-years	426/199,713	565/282,867	347/187,207	
Model 1	1	0.93 (0.82-1.06)	0.88 (0.77-1.02)	0.09
Model 2	1	0.91 (0.80-1.03)	0.86 (0.74-1.00)	0.04
Premenopausal cases				
No. of cases/person-years	173/102,162	239/145,430	160/98,489	
Model 1	1	0.95 (0.78-1.16)	0.96 (0.77-1.20)	0.74
Model 2	1	0.94 (0.77-1.14)	0.95 (0.76-1.19)	0.66
Postmenopausal cases				
No. of cases/person-years	214/80,063	269/112,483	154/72,757	
Model 1	1	0.89 (0.74-1.06)	0.79 (0.64-0.97)	0.03
Model	1	0.86 (0.72-1.03)	0.75 (0.61-0.93)	0.009

Model 1 was stratified by age in months at the state of follow-up and calendar year of the current questionnaire cycle. Model 2 was stratified by age in months at start of follow-up and calendar year of the current questionnaire cycle and was simultaneously adjusted for smoking (never, past, current 1-14/day, current 15-24/day, current ≥ 25 /day), race (white/non-white), parity and age at first birth (nulliparous, parity ≤ 2 and age at first birth < 25 , parity ≤ 2 and age at first birth 25- < 30 , parity ≤ 2 and age at first birth ≥ 30 , parity 3-4 and age at first birth < 25 , parity 3-4 and age at first birth 25- < 30 , parity 3-4 and age at first birth

≥ 30 , parity ≥ 5 and age at first birth < 25 , parity ≥ 5 and age at first birth ≥ 25), height (< 157 , $157- < 165$, $165- < 173$, ≥ 173 cm), BMI at age 18 (< 18.5 , $18.5- < 22.5$, $22.5- < 25$, $25.0- < 30$, ≥ 30.0), weight change since age 18 (continuous, missing indicator), age at menarche (< 12 , 12 , 13 , ≥ 14), family history of breast cancer (yes, no), history of benign breast disease (yes, no), oral contraceptive use (never, past, current), adolescent alcohol intake (non-drinker, < 5 , ≥ 5 g/day), adult alcohol intake (non-drinker, < 5 , $5- < 15$, ≥ 15 g/day), adolescent energy intake (fifth). In postmenopausal women, we additionally adjusted for hormone use (postmenopausal never users, postmenopausal past users, postmenopausal current users), age at menopause (< 45 , $45-46$, $47-48$, $49-50$, $51-52$, ≥ 53). Among all women, we additionally adjusted for hormone use and menopausal status (premenopausal, postmenopausal never users, postmenopausal past users, postmenopausal current users, unknown menopausal status) and age at menopause (premenopausal, unknown menopause, < 45 , $45-46$ years, $47-48$, $49-50$, $51-52$, ≥ 53).

Table F. Hazard ratio (HR) and 95% confidence intervals (95% CI) for breast cancer according to quintile of intake of fruits and vegetable during early adulthood among women in the Nurses' Health Study II

	Quintile of intake					
	1	2	3	4	5	<i>P_{trend}</i>
Early adulthood total fruit intake						
All cases						
Median intake, serving/day	0.2	0.5	0.9	1.3	2.1	
No. of cases/person-years	641/375,096	659/378,629	657/377,373	642/377,000	636/376,894	
Model 2+ dietary fiber	1	1.03 (0.92-1.16)	1.05 (0.93-1.18)	1.05 (0.93-1.19)	1.08 (0.94-1.24)	0.33
Model 2+ vitamin C	1	0.99 (0.88-1.10)	0.98 (0.87-1.09)	0.95 (0.85-1.07)	0.96 (0.85-1.09)	0.50
Model 2+Beta-carotene	1	1.00 (0.90-1.12)	1.00 (0.89-1.12)	0.98 (0.87-1.10)	0.99 (0.87-1.12)	0.77
Model 2+ animal fat	1	1.00 (0.89-1.11)	0.99 (0.88-1.11)	0.97 (0.86-1.09)	0.98 (0.87-1.11)	0.70
Model 2+red meat	1	1.00 (0.89-1.11)	0.99 (0.88-1.10)	0.97 (0.86-1.09)	0.98 (0.87-1.11)	0.68
Model 2+AHEI	1	1.00 (0.90-1.12)	0.99 (0.89-1.11)	0.98 (0.87-1.10)	1.00 (0.88-1.13)	0.87
Premenopausal cases						
Median intake, serving/day	0.2	0.5	0.9	1.3	2.1	
No. of cases/person-years	340/237,032	345/234,894	339/236,114	342/236,389	353/235,939	
Model 2+ dietary fiber	1	1.04 (0.89-1.21)	1.04 (0.88-1.23)	1.08 (0.90-1.28)	1.16 (0.96-1.41)	0.12
Model 2+ vitamin C	1	0.99 (0.85-1.16)	0.96 (0.82-1.13)	0.97 (0.82-1.14)	1.01 (0.85-1.21)	0.82
Model 2+Beta-carotene	1	1.00 (0.86-1.17)	0.98 (0.83-1.14)	0.98 (0.83-1.16)	1.02 (0.86-1.21)	0.81
Model 2+ animal fat	1	0.99 (0.85-1.15)	0.97 (0.83-1.13)	0.97 (0.83-1.14)	1.02 (0.87-1.21)	0.73
Model 2+red meat	1	0.99 (0.85-1.15)	0.96 (0.82-1.13)	0.97 (0.83-1.14)	1.02 (0.86-1.20)	0.82
Model 2+AHEI	1	0.99 (0.85-1.16)	0.97 (0.83-1.13)	0.98 (0.83-1.15)	1.03 (0.87-1.22)	0.71
Postmenopausal cases						
Median intake, serving/day	0.2	0.5	0.9	1.3	2.1	
No. of cases/person-years	237/105,846	231/106,794	237/105,759	245/106,175	219/106,040	
Model 2+ dietary fiber	1	0.98 (0.81-1.18)	1.02 (0.84-1.24)	1.06 (0.86-1.30)	0.95 (0.75-1.20)	0.78
Model 2+ vitamin C	1	0.94 (0.78-1.14)	0.96 (0.79-1.16)	0.98 (0.81-1.19)	0.89 (0.72-1.10)	0.38
Model 2+Beta-carotene	1	0.98 (0.81-1.18)	1.01 (0.83-1.22)	1.05 (0.86-1.27)	0.96 (0.78-1.20)	0.89
Model 2+ animal fat	1	0.95 (0.79-1.14)	0.97 (0.80-1.17)	0.99 (0.82-1.20)	0.89 (0.73-1.10)	0.39
Model 2+red meat	1	0.96 (0.79-1.15)	0.98 (0.81-1.18)	1.00 (0.83-1.22)	0.91 (0.74-1.12)	0.52
Model 2+AHEI	1	0.96 (0.79-1.15)	0.98 (0.81-1.18)	1.01 (0.83-1.22)	0.92 (0.74-1.13)	0.53
Early adulthood total vegetable intake						
All cases						
Median intake, serving/day	1.1	1.8	2.5	3.3	4.8	
No. of cases/person-years	639/376,975	626/377,037	691/376,930	613/377,098	666/376,953	
Model 2+ dietary fiber	1	0.97 (0.86-1.09)	1.09 (0.97-1.23)	0.99 (0.87-1.13)	1.12 (0.96-1.30)	0.12

Model 2+ vitamin C	1	0.92 (0.82-1.03)	1.00 (0.89-1.12)	0.88 (0.78-0.99)	0.97 (0.85-1.10)	0.66
Model 2+Beta-carotene	1	0.94 (0.83-1.06)	1.04 (0.92-1.19)	0.93 (0.81-1.07)	1.03 (0.88-1.21)	0.61
Model 2+ animal fat	1	0.92 (0.82-1.03)	1.01 (0.90-1.13)	0.89 (0.79-1.00)	0.98 (0.87-1.11)	0.78
Model 2+red meat	1	0.92 (0.82-1.03)	1.01 (0.90-1.13)	0.89 (0.79-1.00)	0.98 (0.87-1.11)	0.79
Model 2+AHEI	1	0.93 (0.83-1.04)	1.02 (0.91-1.14)	0.90 (0.80-1.02)	1.00 (0.88-1.13)	0.97
Premenopausal cases						
Median intake, serving/day	1.1	1.8	2.4	3.2	4.8	
No. of cases/person-years	354/235,931	300/235,984	366/236,006	349/236,218	350/236,229	
Model 2+ dietary fiber	1	0.85 (0.72-0.99)	1.05 (0.89-1.24)	1.05 (0.87-1.25)	1.08 (0.88-1.32)	0.15
Model 2+ vitamin C	1	0.80 (0.68-0.93)	0.96 (0.82-1.12)	0.92 (0.78-1.09)	0.91 (0.77-1.09)	0.88
Model 2+Beta-carotene	1	0.82 (0.69-0.96)	0.99 (0.84-1.18)	0.96 (0.79-1.17)	0.94 (0.75-1.18)	0.91
Model 2+ animal fat	1	0.80 (0.68-0.93)	0.96 (0.82-1.11)	0.92 (0.79-1.08)	0.91 (0.77-1.08)	0.87
Model 2+red meat	1	0.79 (0.68-0.93)	0.96 (0.82-1.11)	0.92 (0.78-1.08)	0.91 (0.77-1.07)	0.82
Model 2+AHEI	1	0.80 (0.68-0.94)	0.96 (0.82-1.12)	0.93 (0.79-1.09)	0.93 (0.78-1.10)	0.98
Postmenopausal cases						
Median intake, serving/day	1.1	1.9	2.5	3.3	4.9	
No. of cases/person-years	234/106,123	253/106,190	222/106,187	221/106,073	239/106,042	
Model 2+ dietary fiber	1	1.04 (0.86-1.26)	0.94 (0.77-1.15)	0.95 (0.76-1.18)	1.03 (0.81-1.32)	0.90
Model 2+ vitamin C	1	1.01 (0.84-1.21)	0.89 (0.73-1.07)	0.88 (0.72-1.07)	0.95 (0.77-1.18)	0.53
Model 2+Beta-carotene	1	1.06 (0.87-1.28)	0.97 (0.78-1.20)	1.00 (0.79-1.26)	1.14 (0.87-1.49)	0.36
Model 2+ animal fat	1	1.01 (0.84-1.21)	0.89 (0.74-1.08)	0.89 (0.73-1.08)	0.97 (0.79-1.18)	0.58
Model 2+red meat	1	1.01 (0.84-1.21)	0.90 (0.74-1.09)	0.90 (0.74-1.09)	0.98 (0.80-1.20)	0.70
Model 2+AHEI	1	1.01 (0.85-1.22)	0.90 (0.74-1.09)	0.90 (0.74-1.10)	0.98 (0.80-1.21)	0.73
Early adulthood total fruit and vegetable intake						
All cases						
Median intake, serving/day	1.6	2.6	3.5	4.5	6.6	
No. of cases/person-years	635/376,997	639/377,028	671/377,035	656/376,991	634/376,942	
Model 2+ dietary fiber	1	1.02 (0.90-1.15)	1.12 (0.98-1.27)	1.12 (0.97-1.29)	1.13 (0.95-1.34)	0.15
Model 2+ vitamin C	1	0.94 (0.84-1.06)	0.98 (0.87-1.10)	0.95 (0.84-1.07)	0.93 (0.81-1.06)	0.36
Model 2+Beta-carotene	1	0.97 (0.86-1.09)	1.03 (0.90-1.17)	1.00 (0.86-1.15)	0.98 (0.83-1.16)	0.89
Model 2+ animal fat	1	0.95 (0.85-1.06)	1.00 (0.89-1.12)	0.96 (0.85-1.08)	0.95 (0.83-1.08)	0.52
Model 2+red meat	1	0.95 (0.85-1.06)	1.00 (0.89-1.12)	0.96 (0.85-1.08)	0.95 (0.84-1.08)	0.52
Model 2+AHEI	1	0.96 (0.85-1.07)	1.00 (0.89-1.13)	0.98 (0.86-1.10)	0.97 (0.85-1.10)	0.74
Premenopausal cases						
Median intake, serving/day	1.6	2.6	3.4	4.5	6.5	
No. of cases/person-years	346/235,935	313/236,063	364/236,124	341/236,115	355/236,132	
Model 2+ dietary fiber	1	0.94 (0.80-1.11)	1.15 (0.96-1.37)	1.11 (0.91-1.36)	1.26 (1.00-1.58)	0.02
Model 2+ vitamin C	1	0.86 (0.73-1.01)	0.99 (0.84-1.16)	0.92 (0.77-1.09)	0.97 (0.81-1.17)	0.85
Model 2+Beta-carotene	1	0.88 (0.75-1.04)	1.03 (0.87-1.23)	0.96 (0.79-1.17)	1.01 (0.81-1.27)	0.63
Model 2+ animal fat	1	0.86 (0.73-1.00)	0.99 (0.85-1.16)	0.92 (0.78-1.08)	0.98 (0.82-1.16)	0.82

Model 2+red meat	1	0.86 (0.73-1.00)	0.99 (0.84-1.15)	0.91 (0.78-1.08)	0.97 (0.82-1.15)	0.90
Model 2+AHEI	1	0.86 (0.74-1.01)	0.99 (0.85-1.16)	0.93 (0.78-1.09)	0.99 (0.83-1.18)	0.73
Postmenopausal cases						
Median intake, serving/day	1.6	2.6	3.5	4.6	6.7	
No. of cases/person-years	230/106,264	246/106,040	227/106,137	237/106,137	229/106,037	
Model 2+ dietary fiber	1	1.07 (0.88-1.30)	1.03 (0.83-1.28)	1.09 (0.85-1.39)	1.07 (0.81-1.42)	0.71
Model 2+ vitamin C	1	1.01 (0.84-1.22)	0.94 (0.77-1.14)	0.96 (0.78-1.18)	0.95 (0.76-1.18)	0.58
Model 2+Beta-carotene	1	1.09 (0.89-1.32)	1.06 (0.85-1.31)	1.13 (0.89-1.44)	1.17 (0.88-1.54)	0.31
Model 2+ animal fat	1	1.02 (0.85-1.23)	0.95 (0.78-1.15)	0.98 (0.80-1.19)	0.96 (0.77-1.19)	0.62
Model 2+red meat	1	1.03 (0.85-1.24)	0.96 (0.79-1.17)	0.99 (0.82-1.21)	0.98 (0.79-1.21)	0.79
Model 2+AHEI	1	1.03 (0.85-1.23)	0.96 (0.79-1.17)	0.99 (0.81-1.22)	0.98 (0.79-1.22)	0.81
Early adulthood fruit juice Intake						
All cases						
Median intake, serving/day	0	0.2	0.6	1.2	2.0	
No. of cases/person-years	659/399,290	631/359,799	602/363,546	680/381,851	661/379,702	
Model 2+ dietary fiber	1	1.10 (0.98-1.23)	1.04 (0.92-1.16)	1.11 (0.99-1.24)	1.13 (1.00-1.26)	0.08
Model 2+ vitamin C	1	1.10 (0.98-1.23)	1.03 (0.92-1.16)	1.11 (0.99-1.25)	1.14 (1.01-1.30)	0.06
Model 2+Beta-carotene	1	1.10 (0.99-1.23)	1.03 (0.92-1.16)	1.11 (0.99-1.24)	1.12 (1.00-1.26)	0.09
Model 2+ animal fat	1	1.10 (0.98-1.23)	1.03 (0.92-1.15)	1.10 (0.99-1.23)	1.13 (1.00-1.26)	0.08
Model 2+red meat	1	1.10 (0.98-1.22)	1.02 (0.92-1.15)	1.10 (0.98-1.23)	1.12 (0.99-1.25)	0.10
Model 2+AHEI	1	1.10 (0.98-1.22)	1.02 (0.91-1.14)	1.08 (0.97-1.21)	1.10 (0.98-1.24)	0.22
Premenopausal cases						
Median intake, serving/day	0	0.2	0.6	1.2	2.1	
No. of cases/person-years	325/237,972	333/237,215	355/233,474	352/233,467	353/237,779	
Model 2+ dietary fiber	1	1.07 (0.91-1.25)	1.13 (0.97-1.32)	1.13 (0.97-1.32)	1.14 (0.97-1.33)	0.16
Model 2+ vitamin C	1	1.07 (0.92-1.25)	1.15 (0.98-1.34)	1.17 (0.99-1.38)	1.19 (1.00-1.42)	0.06
Model 2+Beta-carotene	1	1.07 (0.92-1.25)	1.13 (0.97-1.32)	1.13 (0.97-1.32)	1.14 (0.97-1.34)	0.17
Model 2+ animal fat	1	1.07 (0.91-1.24)	1.13 (0.96-1.31)	1.13 (0.96-1.32)	1.14 (0.97-1.35)	0.13
Model 2+red meat	1	1.06 (0.91-1.24)	1.12 (0.96-1.31)	1.12 (0.96-1.31)	1.13 (0.96-1.33)	0.17
Model 2+AHEI	1	1.07 (0.91-1.25)	1.12 (0.96-1.31)	1.11 (0.95-1.31)	1.12 (0.95-1.32)	0.26
Postmenopausal cases						
Median intake, serving/day	0	0.2	0.5	1.2	2.0	
No. of cases/person-years	262/122,468	207/88,494	225/106,537	247/113,306	227/99,537	
Model 2+ dietary fiber	1	1.12 (0.93-1.34)	0.99 (0.82-1.19)	1.03 (0.86-1.23)	1.09 (0.90-1.32)	0.59
Model 2+ vitamin C	1	1.11 (0.92-1.33)	0.97 (0.80-1.17)	1.00 (0.82-1.20)	1.07 (0.87-1.31)	0.76
Model 2+Beta-carotene	1	1.12 (0.93-1.34)	0.99 (0.82-1.19)	1.03 (0.86-1.23)	1.09 (0.90-1.32)	0.57
Model 2+ animal fat	1	1.11 (0.93-1.34)	0.98 (0.82-1.17)	1.01 (0.85-1.21)	1.07 (0.88-1.30)	0.71
Model 2+red meat	1	1.11 (0.92-1.34)	0.98 (0.81-1.17)	1.01 (0.85-1.21)	1.08 (0.89-1.30)	0.66
Model 2+AHEI	1	1.11 (0.92-1.34)	0.98 (0.81-1.17)	1.01 (0.84-1.21)	1.07 (0.88-1.30)	0.75

* P_{trend} calculated with median intake of each variable in each quintile as a continuous variable.

Model 2 was stratified by age in months at start of follow-up and calendar year of the current questionnaire cycle and was simultaneously adjusted for race (white, non-white), family history of breast cancer in mother or sisters (yes, no), history of benign breast disease (yes, no), smoking (never, past, current 1 to 14/day, current 15 to 24/day, current ≥ 25 /day), height (<62, 62 to <65, 65 to <68, ≥ 68 inches), BMI at age 18 years (<18.5, 18.5–<22.5, 22.5–<25, 25.0–<30, ≥ 30.0 kg/m²), weight change since age 18 (continuous, missing indicator), age at menarche (<12, 12, 13, ≥ 14 years), parity and age at first birth (nulliparous, parity ≤ 2 and age at first birth <25 years, parity ≤ 2 and age at first birth 25 to <30 years, parity ≤ 2 and age at first birth ≥ 30 years, parity 3 to 4 and age at first birth <25 years, parity 3 to 4 and age at first birth 25 to <30 years, parity 3 to 4 and age at first birth ≥ 30 years, parity ≥ 5 and age at first birth <25 years, parity ≥ 5 and age at first birth ≥ 25 years), oral contraceptive use (never, past, current), alcohol intake (nondrinker, <5, 5 to <15, ≥ 15 g/day), and energy (quintile). In postmenopausal women, we additionally adjusted for hormone use (postmenopausal never users, postmenopausal past users, postmenopausal current users), age at menopause (<45 years, 45 to 46 years, 47 to 48, 49 to 50 years, 51 to 52 years, ≥ 53 years). Among all women, we additionally adjusted for hormone use and menopausal status (premenopausal, postmenopausal never users, postmenopausal past users, postmenopausal current users, unknown menopausal status) and, age at menopause (premenopausal, unknown menopause, <45 years, 45 to 46 years, 47 to 48, 49 to 50 years, 51 to 52 years, ≥ 53 years).

Table G. Hazard ratio (HR) and 95% confidence intervals (95% CI) for breast cancer according to quintile of intake of subgroups of fruit and vegetable intake during early adulthood among women in the Nurses' Health Study II

	Quintile of intake					
	1	2	3	4	5	<i>P</i> _{trend}
Early adulthood green leafy vegetable intake						
All cases						
Median intake, serving/day	0.1	0.3	0.5	0.9	1.3	
No. of cases/person-years	616/368,720	554/314,879	709/442,590	717/390,096	639/368,080	
Model 1	1	1.03 (0.92-1.16)	0.93 (0.84-1.04)	1.05 (0.94-1.16)	0.97 (0.87-1.08)	0.78
Model 2	1	0.99 (0.88-1.12)	0.92 (0.82-1.02)	1.00 (0.89-1.12)	0.94 (0.84-1.06)	0.50
Premenopausal cases						
Median intake, serving/day	0.1	0.3	0.5	0.9	1.3	
No. of cases/person-years	331/231,521	307/198,670	366/279,200	378/243,993	337/226,603	
Model 1	1	1.04 (0.89-1.21)	0.88 (0.76-1.03)	1.02 (0.88-1.18)	0.96 (0.82-1.11)	0.71
Model 2	1	1.00 (0.85-1.17)	0.88 (0.76-1.02)	0.97 (0.83-1.13)	0.93 (0.79-1.09)	0.46
Postmenopausal cases						
Median intake, serving/day	0.1	0.4	0.6	0.9	1.3	
No. of cases/person-years	223/100,087	291/132,534	179/83,146	250/110,154	226/104,525	
Model 1	1	0.96 (0.81-1.15)	0.93 (0.76-1.14)	0.98 (0.82-1.18)	0.93 (0.77-1.12)	0.56
Model 2	1	0.94 (0.79-1.12)	0.91 (0.74-1.11)	0.93 (0.77-1.13)	0.90 (0.74-1.10)	0.38
Early adulthood yellow/orange vegetable intake						
All cases						
Median intake, serving/day	0.03	0.1	0.2	0.3	0.6	
No. of cases/person-years	736/415,912	535/331,560	664/386,324	681/378,492	619/372,272	
Model 1	1	0.90 (0.80-1.00)	0.94 (0.84-1.04)	0.96 (0.86-1.06)	0.89 (0.80-0.99)	0.15
Model 2	1	0.89 (0.80-1.00)	0.93 (0.83-1.03)	0.94 (0.85-1.05)	0.89 (0.79-0.99)	0.16
Premenopausal cases						
Median intake, serving/day	0.03	0.1	0.2	0.3	0.6	
No. of cases/person-years	394/262,499	279/207,852	359/241,798	362/235,533	325/232,431	
Model 1	1	0.88 (0.75-1.02)	0.94 (0.82-1.09)	0.95 (0.82-1.10)	0.86 (0.74-0.99)	0.12
Model 2†	1	0.87 (0.75-1.02)	0.94 (0.81-1.08)	0.94 (0.81-1.09)	0.85 (0.72-0.99)	0.11
Postmenopausal cases						
Median intake, serving/day	0.03	0.1	0.2	0.3	0.6	
No. of cases/person-years	266/112,202	188/91,761	248/115,493	235/103,767	232/107,278	
Model 1	1	0.86 (0.71-1.04)	0.89 (0.75-1.06)	0.94 (0.79-1.12)	0.92 (0.77-1.09)	0.77
Model 2	1	0.85 (0.70-1.02)	0.88 (0.74-1.05)	0.94 (0.78-1.12)	0.91 (0.75-1.10)	0.78

Early adulthood tomato intake						
All cases						
Median intake, serving/day	0.2	0.3	0.4	0.7	1.2	
No. of cases/person-years	590/374,956	542/316,467	749/428,407	691/387,765	663/377,069	
Model 1	1	1.07 (0.95-1.20)	1.06 (0.95-1.18)	1.09 (0.98-1.22)	1.06 (0.94-1.18)	0.46
Model 2	1	1.04 (0.93-1.17)	1.04 (0.93-1.16)	1.07 (0.95-1.20)	1.07 (0.95-1.20)	0.33
Premenopausal cases						
Median intake, serving/day	0.2	0.3	0.4	0.7	1.2	
No. of cases/person-years	330/235,515	291/200,297	389/265,259	369/245,869	340/233,239	
Model 1	1	1.01 (0.86-1.18)	0.98 (0.85-1.14)	1.02 (0.88-1.19)	0.97 (0.83-1.13)	0.79
Model 2	1	0.99 (0.85-1.17)	0.98 (0.84-1.13)	1.01 (0.87-1.18)	0.97 (0.83-1.14)	0.84
Postmenopausal cases						
Median intake, serving/day	0.2	0.3	0.5	0.7	1.2	
No. of cases/person-years	200/100,817	282/129,837	186/81,962	257/112,404	244/105,480	
Model 1	1	1.09 (0.91-1.30)	1.13 (0.92-1.38)	1.14 (0.95-1.37)	1.14 (0.94-1.38)	0.23
Model 2	1	1.06 (0.88-1.27)	1.11 (0.90-1.36)	1.11 (0.91-1.34)	1.14 (0.93-1.39)	0.23
Early adulthood cruciferous vegetable intake						
All cases						
Median intake, serving/day	0.07	0.2	0.3	0.5	0.9	
No. of cases/person-years	634/396,743	628/346,743	661/388,573	669/376,233	641/376,311	
Model 1	1	1.10 (0.99-1.23)	1.00 (0.90-1.12)	1.03 (0.92-1.14)	0.96 (0.86-1.07)	0.14
Model 2	1	1.09 (0.98-1.22)	1.01 (0.90-1.13)	1.02 (0.92-1.14)	0.98 (0.87-1.10)	0.35
Premenopausal cases						
Median intake, serving/day	0.07	0.2	0.3	0.5	0.9	
No. of cases/person-years	344/255,090	349/222,327	353/243,990	339/218,931	333/239,798	
Model 1	1	1.10 (0.95-1.28)	0.99 (0.86-1.15)	1.04 (0.90-1.21)	0.92 (0.79-1.07)	0.10
Model 2	1	1.10 (0.94-1.28)	1.01 (0.86-1.17)	1.04 (0.89-1.21)	0.93 (0.79-1.08)	0.14
Postmenopausal cases						
Median intake, serving/day	0.07	0.2	0.3	0.5	0.9	
No. of cases/person-years	217/102,318	229/105,520	244/111,834	255/110,981	223/99,851	
Model 1	1	1.01 (0.84-1.22)	0.99 (0.82-1.19)	1.06 (0.88-1.27)	1.01 (0.84-1.22)	0.81
Model 2	1	1.01 (0.84-1.22)	1.00 (0.83-1.20)	1.08 (0.89-1.30)	1.05 (0.87-1.28)	0.49
Early adulthood other vegetable intake						
All cases						
Median intake, serving/day	0.3	0.5	0.7	1.0	1.6	
No. of cases/person-years	671/377,419	657/376,395	644/376,879	661/377,192	602/376,931	
Model 1	1	0.97 (0.87-1.08)	0.94 (0.84-1.05)	0.97 (0.87-1.08)	0.88 (0.79-0.98)	0.03

Model 2	1	0.96 (0.86-1.07)	0.93 (0.83-1.04)	0.97 (0.87-1.09)	0.90 (0.80-1.02)	0.15
Premenopausal cases						
Median intake, serving/day	0.3	0.5	0.7	1.0	1.6	
No. of cases/person-years	348/235,577	352/236,257	332/236,172	350/236,180	337/236,081	
Model 1	1	1.00 (0.86-1.16)	0.92 (0.79-1.07)	0.98 (0.85-1.14)	0.95 (0.81-1.10)	0.53
Model 2	1	0.99 (0.85-1.15)	0.91 (0.78-1.06)	0.99 (0.85-1.16)	0.97 (0.82-1.14)	0.82
Postmenopausal cases						
Median intake, serving/day	0.3	0.5	0.7	1.0	1.6	
No. of cases/person-years	257/106,214	230/105,963	224/106,153	239/106,100	219/106,129	
Model 1	1	0.90 (0.75-1.07)	0.86 (0.72-1.03)	0.93 (0.78-1.11)	0.86 (0.72-1.03)	0.22
Model 2	1	0.88 (0.73-1.05)	0.86 (0.71-1.03)	0.92 (0.76-1.11)	0.86 (0.71-1.05)	0.32
Early adulthood fruits and vegetables high in vitamin C						
All cases						
Median intake, serving/day	0.2	0.4	0.6	0.9	1.5	
No. of cases/person-years	610/375,560	660/378,372	670/377,366	684/376,741	611/376,931	
Model 1	1	1.05 (0.94-1.17)	1.03 (0.93-1.15)	1.04 (0.93-1.16)	0.90 (0.80-1.01)	0.02
Model 2	1	1.04 (0.93-1.16)	1.02 (0.92-1.15)	1.04 (0.92-1.16)	0.92 (0.82-1.04)	0.08
Premenopausal cases						
Median intake, serving/day	0.2	0.4	0.6	0.9	1.4	
No. of cases/person-years	328/235,656	360/236,172	330/236,264	364/236,029	337/236,241	
Model 1	1	1.05 (0.91-1.22)	0.93 (0.79-1.08)	1.01 (0.87-1.18)	0.91 (0.78-1.06)	0.15
Model 2	1	1.06 (0.91-1.23)	0.93 (0.79-1.08)	1.01 (0.87-1.18)	0.92 (0.78-1.08)	0.23
Postmenopausal cases						
Median intake, serving/day	0.2	0.4	0.6	0.9	1.5	
No. of cases/person-years	231/106,246	217/105,903	260/106,473	254/106,058	207/105,926	
Model 1	1	0.92 (0.76-1.10)	1.08 (0.91-1.30)	1.06 (0.89-1.27)	0.85 (0.71-1.03)	0.18
Model 2	1	0.91 (0.75-1.09)	1.09 (0.91-1.31)	1.07 (0.88-1.28)	0.88 (0.72-1.07)	0.33
Early adulthood fruits and vegetables high in α-carotene						
All cases						
Median intake, serving/day	0.03	0.10	0.14	0.2	0.5	
No. of cases/person-years	623/346,898	783/480,936	411/240,372	730/407,367	688/408,506	
Model 1	1	0.89 (0.80-0.99)	0.93 (0.82-1.05)	0.95 (0.85-1.06)	0.90 (0.80-1.00)	0.25
Model 2	1	0.88 (0.79-0.98)	0.92 (0.81-1.04)	0.94 (0.84-1.04)	0.89 (0.80-1.00)	0.28
Premenopausal cases						
Median intake, serving/day	0.03	0.10	0.14	0.2	0.5	
No. of cases/person-years	341/217,158	415/300,563	223/151,632	380/253,910	360/256,611	
Model 1	1	0.85 (0.74-0.99)	0.89 (0.75-1.06)	0.89 (0.77-1.03)	0.82 (0.71-0.95)	0.06
Model 2	1	0.85 (0.74-0.98)	0.89 (0.75-1.05)	0.88 (0.76-1.03)	0.82 (0.70-0.96)	0.06

Postmenopausal cases						
Median intake, serving/day	0.03	0.10	0.14	0.2	0.5	
No. of cases/person-years	224/94,684	266/134,073	144/66,594	278/117,854	257/117,138	
Model 1	1	0.83 (0.70-0.99)	0.91 (0.74-1.12)	0.98 (0.82-1.17)	0.93 (0.78-1.12)	0.83
Model 2	1	0.83 (0.69-0.99)	0.91 (0.73-1.12)	0.99 (0.82-1.18)	0.94 (0.78-1.13)	0.77
Early adulthood fruits and vegetables high in β-carotene						
All cases						
Median intake, serving/day	0.2	0.5	0.7	1.1	1.7	
No. of cases/person-years	641/378,689	628/371,209	667/384,657	618/374,046	681/376,140	
Model 1	1	0.98 (0.88-1.10)	0.98 (0.88-1.10)	0.93 (0.83-1.04)	0.99 (0.89-1.10)	0.70
Model 2	1	0.96 (0.86-1.08)	0.96 (0.86-1.07)	0.90 (0.80-1.01)	0.97 (0.86-1.09)	0.52
Premenopausal cases						
Median intake, serving/day	0.2	0.5	0.7	1.1	1.7	
No. of cases/person-years	345/233,777	339/238,215	329/235,966	342/236,231	364/236,030	
Model 1	1	0.94 (0.81-1.09)	0.89 (0.76-1.03)	0.92 (0.79-1.07)	0.95 (0.82-1.11)	0.73
Model 2	1	0.93 (0.80-1.08)	0.88 (0.75-1.02)	0.90 (0.77-1.05)	0.93 (0.79-1.09)	0.56
Postmenopausal cases						
Median intake, serving/day	0.2	0.5	0.8	1.1	1.8	
No. of cases/person-years	238/106,369	243/109,575	242/103,098	201/105,289	245/106,211	
Model 1	1	0.99 (0.82-1.18)	1.02 (0.85-1.22)	0.84 (0.69-1.01)	0.99 (0.83-1.19)	0.56
Model 2	1	0.95 (0.80-1.14)	1.00 (0.83-1.20)	0.80 (0.66-0.97)	0.96 (0.80-1.17)	0.45
Early adulthood fruits and vegetables high in lutein						
All cases						
Median intake, serving/day	0	0.07	0.1	0.4		
No. of cases/person-years	1209/726,243	874/497,346	871/491,972	281/167,844		
Model 1	1	1.03 (0.94-1.12)	1.02 (0.93-1.11)	0.95 (0.83-1.08)		0.45
Model 2	1	0.99 (0.91-1.08)	0.98 (0.90-1.07)	0.93 (0.82-1.07)		0.30
Premenopausal cases						
Median intake, serving/day	0	0.07	0.1	0.4		
No. of cases/person-years	650/460,455	448/313,415	472/303,516	149/102,120		
Model 1	1	0.96 (0.85-1.09)	1.04 (0.92-1.17)	0.97 (0.81-1.16)		0.97
Model 2	1	0.94 (0.83-1.06)	1.00 (0.88-1.12)	0.93 (0.77-1.12)		0.55
Postmenopausal cases						
Median intake, serving/day	0	0.07	0.1	0.4		
No. of cases/person-years	433/197,294	335/140,069	304/143,236	97/49,474		
Model 1	1	1.08 (0.94-1.25)	0.95 (0.82-1.10)	0.87 (0.70-1.08)		0.12
Model 2	1	1.05 (0.91-1.22)	0.92 (0.79-1.08)	0.86 (0.69-1.08)		0.12

Model 1 was stratified by age in months at the state of follow-up and calendar year of the current questionnaire cycle.

Model 2 was stratified by age in months at start of follow-up and calendar year of the current questionnaire cycle and was simultaneously adjusted for race (white, non-white), family history of breast cancer in mother or sisters (yes, no), history of benign breast disease (yes, no), smoking (never, past, current 1 to 14/day, current 15 to 24/day, current ≥ 25 /day), height (<62, 62 to <65, 65 to <68, ≥ 68 inches), BMI at age 18 years (<18.5, 18.5–<22.5, 22.5–<25, 25.0–<30, ≥ 30.0 kg/m²), weight change since age 18 (continuous, missing indicator), age at menarche (<12, 12, 13, ≥ 14 years), parity and age at first birth (nulliparous, parity ≤ 2 and age at first birth <25 years, parity ≤ 2 and age at first birth 25 to <30 years, parity ≤ 2 and age at first birth ≥ 30 years, parity 3 to 4 and age at first birth <25 years, parity 3 to 4 and age at first birth 25 to <30 years, parity 3 to 4 and age at first birth ≥ 30 years, parity ≥ 5 and age at first birth <25 years, parity ≥ 5 and age at first birth ≥ 25 years), oral contraceptive use (never, past, current), alcohol intake (nondrinker, <5, 5 to <15, ≥ 15 g/day), and energy (quintile). In postmenopausal women, we additionally adjusted for hormone use (postmenopausal never users, postmenopausal past users, postmenopausal current users), age at menopause (<45 years, 45 to 46 years, 47 to 48, 49 to 50 years, 51 to 52 years, ≥ 53 years). Among all women, we additionally adjusted for hormone use and menopausal status (premenopausal, postmenopausal never users, postmenopausal past users, postmenopausal current users, unknown menopausal status) and, age at menopause (premenopausal, unknown menopause, <45 years, 45 to 46 years, 47 to 48, 49 to 50 years, 51 to 52 years, ≥ 53 years).

Table H. Hazard ratio (HR) and 95% confidence intervals (95% CI) for breast cancer according to tertile of intake of subgroups of fruit intake during early adulthood among women in the Nurses' Health Study II

	Tertile of intake			<i>P</i> _{trend}
	1	2	3	
Early adulthood total citrus intake				
Median intake, serving/day	0	0.07	0.43	
All cases				
No. of cases/person-years	759/451,530	1502/874,328	972/557,428	
Model 1	1	1.01 (0.93-1.10)	0.99 (0.90-1.09)	0.63
Model 2	1	1.01 (0.92-1.10)	1.01 (0.91-1.11)	0.99
Premenopausal cases				
No. of cases/person-years	390/280,183	809/553,748	519/345,442	
Model 1	1	1.02 (0.90-1.15)	1.01 (0.88-1.15)	0.93
Model 2	1	1.03 (0.91-1.16)	1.02 (0.89-1.18)	0.88
Postmenopausal cases				
No. of cases/person-years	286/126,572	532/240,979	350/162,491	
Model 1	1	0.97 (0.84-1.12)	0.93 (0.79-1.09)	0.37
Model 2	1	0.97 (0.83-1.12)	0.95 (0.80-1.11)	0.58
Early adulthood berries intake				
Median intake, serving/day	0	0.03	0.10	
All cases				
No. of cases/person-years	655/384,515	1338/793,572	1239/704,785	
Model 1	1	1.00 (0.91-1.10)	1.03 (0.93-1.13)	0.53
Model 2	1	1.00 (0.91-1.10)	1.02 (0.92-1.12)	0.59
Premenopausal cases				
No. of cases/person-years	349/234,294	717/499,935	651/444,879	
Model 1	1	0.96 (0.85-1.09)	0.95 (0.84-1.09)	0.58
Model 2†	1	0.98 (0.86-1.11)	0.96 (0.84-1.10)	0.57
Postmenopausal cases				
No. of cases/person-years	238/110,971	462/219,729	468/199,223	
Model 1	1	0.99 (0.85-1.16)	1.10 (0.94-1.29)	0.10
Model 2	1	0.98 (0.84-1.15)	1.10 (0.94-1.30)	0.09
Early adulthood pomes intake				
Median intake, serving/day	0.07	0.14	0.43	
All cases				
No. of cases/person-years	1203/689,818	753/438,858	1254/742,986	
Model 1	1	0.98 (0.89-1.07)	0.95 (0.88-1.03)	0.24
Model 2	1	0.98 (0.89-1.08)	0.96 (0.88-1.04)	0.35
Premenopausal cases				
No. of cases/person-years	628/424,179	388/277,118	687/471,054	
Model 1	1	0.92 (0.81-1.04)	0.94 (0.85-1.05)	0.46
Model 2	1	0.93 (0.82-1.06)	0.96 (0.85-1.07)	0.62
Postmenopausal cases				
No. of cases/person-years	431/196,846	281/122,547	449/207,022	
Model 1	1	1.05 (0.90-1.22)	0.98 (0.86-1.12)	0.64
Model 2	1	1.06 (0.91-1.24)	1.00 (0.87-1.15)	0.78
Early adulthood drupes intake				
Median intake, serving/day	0	0.07	0.14	
All cases				
No. of cases/person-years	909/542,350	1180/669,713	1146/671,928	
Model 1	1	1.04 (0.95-1.13)	1.00 (0.92-1.09)	0.93
Model 2	1	1.03 (0.94-1.12)	1.01 (0.92-1.10)	0.98

Premenopausal cases				
No. of cases/person-years	496/334,608	615/420,796	608/424,438	
Model 1	1	0.96 (0.85-1.08)	0.93 (0.82-1.05)	0.22
Model 2	1	0.96 (0.85-1.08)	0.93 (0.82-1.06)	0.28
Postmenopausal cases				
No. of cases/person-years	316/152,892	434/189,087	419/188,260	
Model 1	1	1.10 (0.95-1.28)	1.08 (0.94-1.25)	0.34
Model 2	1	1.10 (0.95-1.28)	1.10 (0.94-1.28)	0.28
Early adulthood tropical fruits intake				
Median intake, serving/day	0.07	0.14	0.43	
All cases				
No. of cases/person-years	1462/842,208	760/457,203	1000/576,087	
Model 1	1	0.97 (0.89-1.06)	1.01 (0.93-1.10)	0.68
Model 2	1	0.97 (0.88-1.06)	1.01 (0.93-1.10)	0.67
Premenopausal cases				
No. of cases/person-years	767/521,413	413/288,960	532/364,281	
Model 1	1	0.98 (0.87-1.10)	0.99 (0.89-1.11)	0.98
Model 2	1	0.98 (0.87-1.11)	1.00 (0.89-1.12)	0.98
Postmenopausal cases				
No. of cases/person-years	539/241,205	255/126,920	371/159,456	
Model 1	1	0.90 (0.78-1.05)	1.05 (0.92-1.20)	0.32
Model 2	1	0.90 (0.77-1.05)	1.05 (0.91-1.20)	0.34
Early adulthood grapes intake				
Median intake, serving/day	0	0.07	0.14	
All cases				
No. of cases/person-years	1285/743,770	1187/696,924	755/438,415	
Model 1	1	0.99 (0.92-1.08)	1.01 (0.92-1.10)	0.87
Model 2	1	0.98 (0.90-1.06)	0.99 (0.90-1.09)	0.80
Premenopausal cases				
No. of cases/person-years	662/453,200	643/440,971	409/282,802	
Model 1	1	0.99 (0.88-1.10)	0.97 (0.85-1.10)	0.60
Model 2	1	0.98 (0.88-1.09)	0.96 (0.84-1.09)	0.52
Postmenopausal cases				
No. of cases/person-years	483/216,917	404/193,608	280/118,125	
Model 1	1	0.95 (0.83-1.08)	1.09 (0.94-1.27)	0.34
Model 2	1	0.94 (0.82-1.08)	1.08 (0.92-1.26)	0.44
Early adulthood melon intake				
Median intake, serving/day	0	0.05	0.11	
All cases				
No. of cases/person-years	1026/615,853	1350/767,696	839/490,746	
Model 1	1	1.02 (0.94-1.11)	0.97 (0.89-1.06)	0.54
Model 2	1	1.01 (0.93-1.10)	0.98 (0.90-1.08)	0.73
Premenopausal cases				
No. of cases/person-years	549/388,195	714/483,168	446/302,782	
Model 1	1	1.00 (0.89-1.11)	0.97 (0.86-1.10)	0.67
Model 2	1	0.99 (0.88-1.10)	0.98 (0.86-1.11)	0.74
Postmenopausal cases				
No. of cases/person-years	363/166,718	498/216,456	298/143,903	
Model 1	1	1.03 (0.90-1.18)	0.92 (0.79-1.07)	0.28
Model 2	1	1.02 (0.89-1.17)	0.93 (0.79-1.08)	0.33

Model 1 was stratified by age in months at the state of follow-up and calendar year of the current questionnaire cycle.

Model 2 was stratified by age in months at start of follow-up and calendar year of the current questionnaire cycle and was simultaneously adjusted for race (white, non-white), family history of breast cancer in mother or sisters (yes, no), history of benign breast disease (yes, no), smoking (never, past, current 1 to 14/day, current 15 to 24/day, current ≥ 25 /day), height (<62, 62 to <65, 65 to <68, ≥ 68 inches), BMI at age 18 years (<18.5, 18.5–<22.5, 22.5–<25, 25.0–<30, ≥ 30.0 kg/m²), weight change since age 18 (continuous, missing indicator), age at menarche (<12, 12, 13, ≥ 14 years), parity and age at first birth (nulliparous,

parity ≤ 2 and age at first birth < 25 years, parity ≤ 2 and age at first birth 25 to < 30 years, parity ≤ 2 and age at first birth ≥ 30 years, parity 3 to 4 and age at first birth < 25 years, parity 3 to 4 and age at first birth 25 to < 30 years, parity 3 to 4 and age at first birth ≥ 30 years, parity ≥ 5 and age at first birth < 25 years, parity ≥ 5 and age at first birth ≥ 25 years), oral contraceptive use (never, past, current), alcohol intake (nondrinker, < 5 , 5 to < 15 , ≥ 15 g/day), and energy (quintile). In postmenopausal women, we additionally adjusted for hormone use (postmenopausal never users, postmenopausal past users, postmenopausal current users), age at menopause (< 45 years, 45 to 46 years, 47 to 48, 49 to 50 years, 51 to 52 years, ≥ 53 years). Among all women, we additionally adjusted for hormone use and menopausal status (premenopausal, postmenopausal never users, postmenopausal past users, postmenopausal current users, unknown menopausal status) and, age at menopause (premenopausal, unknown menopause, < 45 years, 45 to 46 years, 47 to 48, 49 to 50 years, 51 to 52 years, ≥ 53 years).