Supplementary Online Content

Braithwaite D, Miglioretti DL, Zhu W, et al. Family history and breast cancer risk among older women in the Breast Cancer Surveillance Consortium Cohort. *JAMA Intern Med*. Published online February 12, 2018. doi:10.1001/jamainternmed.2017.8642

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Distribution of women's sociodemographic and clinical factors by family history of breast cancer, Ages 65-74 (N = 294,375)*

	All	No first-degree family history	Any first-degree family history	First-degree family history, relative diagnosis age <50 y	First-degree family history, relative diagnosis age ≥50 y
BI-RADS density (N, %)					
a: Almost entirely fat	42807 (14.5)	36627 (14.7)	6180 (13.8)	1212 (13.3)	2505 (13.4)
b: Scattered fibroglandular	156008 (52.9)	132536 (53)	23472 (52.3)	4736 (51.9)	9536 (51)
c & d: Heterogeneously dense & extremely dense	95920 (32.6)	80712 (32.3)	15208 (33.9)	3180 (34.9)	6658 (35.6)
Race/ethnicity (N, %)					
White, non-Hispanic	208729 (70.8)	174467 (69.8)	34262 (76.4)	7018 (76.9)	15019 (80.3)
Black, non-Hispanic	17009 (5.8)	14896 (6)	2113 (4.7)	397 (4.3)	633 (3.4)
Asian	15946 (5.4)	14544 (5.8)	1402 (3.1)	435 (4.8)	762 (4.1)
Hispanic	20096 (6.8)	17594 (7)	2502 (5.6)	706 (7.7)	978 (5.2)
Other or mixed	3017 (1)	2549 (1)	468 (1)	152 (1.7)	231 (1.2)
Unknown	29938 (10.2)	25825 (10.3)	4113 (9.2)	420 (4.6)	1076 (5.8)
Benign breast disease (N, %)					
None (no prior biopsy)	233202 (79.1)	200044 (80.1)	33158 (73.9)	6619 (72.5)	13787 (73.7)
Prior biopsy, unknown dx	50940 (17.3)	41236 (16.5)	9704 (21.6)	2020 (22.1)	3916 (20.9)
Non-proliferative	6776 (2.3)	5538 (2.2)	1238 (2.8)	276 (3)	638 (3.4)
Proliferative without atypia	2967 (1)	2393 (1)	574 (1.3)	161 (1.8)	270 (1.4)
Proliferative with atypia	674 (0.2)	534 (0.2)	140 (0.3)	37 (0.4)	68 (0.4)
LCIS	176 (0.1)	130 (0.1)	46 (0.1)	15 (0.2)	20 (0.1)
Postmenopausal hormone therapy use (N, %)					
No	186477 (63.3)	157627 (63.1)	28850 (64.3)	6059 (66.4)	12545 (67.1)
Yes	65664 (22.3)	56090 (22.4)	9574 (21.3)	1772 (19.4)	3703 (19.8)
Unknown	42594 (14.5)	36158 (14.5)	6436 (14.3)	1297 (14.2)	2451 (13.1)
Body mass index (N, %)					
<18.5	2461 (1.7)	2064 (1.7)	397 (1.7)	87 (1.5)	176 (1.5)
[18.5,25)	56655 (39.6)	47408 (39.7)	9247 (39)	2103 (35.4)	4490 (39.1)
[25,30)	47802 (33.4)	39861 (33.4)	7941 (33.5)	2093 (35.2)	3723 (32.4)
[30,35)	23306 (16.3)	19455 (16.3)	3851 (16.2)	1006 (16.9)	1915 (16.7)
>=35	12894 (9)	10601 (8.9)	2293 (9.7)	652 (11)	1191 (10.4)

* BI-RADS density= Breast Imaging Reporting and Data System density; some columns do not add to 100% due to rounding

eTable 2. Distribution of family history of breast cancer and covariates by age, breast density and breast cancer risk factors, Ages 75+ (N = 177,485)*

	All	No first-degree family history	Any first-degree family history	First-degree family history, relative diagnosis age <50 y	First-degree family history, relative diagnosis age ≥50 y
BI-RADS density (N, %)					
a: Almost entirely fat	27315 (15.4)	22839 (15.5)	4476 (14.8)	935 (14.9)	1771 (14.2)
b: Scattered fibroglandular	96259 (54.2)	80026 (54.4)	16233 (53.5)	3332 (53.2)	6545 (52.3)
c & d: Heterogeneously dense & extremely dense	53911 (30.4)	44300 (30.1)	9611 (31.7)	1993 (31.8)	4193 (33.5)
Race/ethnicity (N, %)					
White, non-Hispanic	127005 (71.6)	103614 (70.4)	23391 (77.1)	4958 (79.2)	10043 (80.3)
Black, non-Hispanic	9258 (5.2)	8109 (5.5)	1149 (3.8)	224 (3.6)	358 (2.9)
Asian	7643 (4.3)	6785 (4.6)	858 (2.8)	282 (4.5)	457 (3.7)
Hispanic	9204 (5.2)	7984 (5.4)	1220 (4)	332 (5.3)	505 (4)
Other or mixed	1255 (0.7)	1040 (0.7)	215 (0.7)	71 (1.1)	107 (0.9)
Unknown	23120 (13)	19633 (13.3)	3487 (11.5)	393 (6.3)	1039 (8.3)
Benign breast disease (N, %)					
None (no prior biopsy)	141260 (79.6)	118666 (80.6)	22594 (74.5)	4557 (72.8)	9238 (73.9)
Prior biopsy, unknown dx	30600 (17.2)	24069 (16.4)	6531 (21.5)	1379 (22)	2723 (21.8)
Non-proliferative	3553 (2)	2844 (1.9)	709 (2.3)	197 (3.1)	318 (2.5)
Proliferative without atypia	1631 (0.9)	1251 (0.9)	380 (1.3)	99 (1.6)	178 (1.4)
Proliferative with atypia	340 (0.2)	264 (0.2)	76 (0.3)	21 (0.3)	37 (0.3)
LCIS	101 (0.1)	71 (0)	30 (0.1)	7 (0.1)	15 (0.1)
Postmenopausal hormone therapy use (N, %)					
No	125479 (70.7)	104105 (70.7)	21374 (70.5)	4519 (72.2)	8885 (71)
Yes	26701 (15)	22097 (15)	4604 (15.2)	857 (13.7)	1947 (15.6)
Unknown	25305 (14.3)	20963 (14.2)	4342 (14.3)	884 (14.1)	1677 (13.4)
Body mass index (N, %)					
<18.5	2277 (2.9)	1901 (3)	376 (2.5)	77 (2)	172 (2.4)
[18.5,25)	35516 (45.2)	28811 (45.3)	6705 (44.9)	1611 (42.2)	3143 (44)
[25,30)	26103 (33.2)	21178 (33.3)	4925 (33)	1296 (34)	2362 (33.1)
[30,35)	10710 (13.6)	8575 (13.5)	2135 (14.3)	602 (15.8)	1053 (14.7)
>=35	3990 (5.1)	3193 (5)	797 (5.3)	230 (6)	415 (5.8)

* BI-RADS density= Breast Imaging Reporting and Data System density; some columns do not add to 100% due to rounding

eTable 3. STROBE Statement—Checklist of items that should be included in reports of ***cohort studies***

	Item No	Recommendation	Page(s)
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4
Objectives	3	State specific objectives, including any prespecified hypotheses	4-5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5-6
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	4
		(*b*) For matched studies, give matching criteria and number of exposed and unexposed	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	4-5
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	4-5
Bias	9	Describe any efforts to address potential sources of bias	6-7
Study size	10	Explain how the study size was arrived at	5
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	5-6
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	6-7
		(*b*) Describe any methods used to examine subgroups and interactions	6-7
		(*c*) Explain how missing data were addressed	N/A
		(*d*) If applicable, explain how loss to follow-up was addressed	N/A
		(*e*) Describe any sensitivity analyses	7
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	7-8
		(b) Give reasons for non-participation at each stage	5
		(c) Consider use of a flow diagram	N/A

Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	8
		(b) Indicate number of participants with missing data for each variable of interest	8
		(c) Summarise follow-up time (eg, average and total amount)	7
Outcome data	15*	Report numbers of outcome events or summary measures over time	7
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	8-9
		(*b*) Report category boundaries when continuous variables were categorized	8-9
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	8-9
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	8-9
Discussion			
Key results	18	Summarise key results with reference to study objectives	9-10
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	10-11
Generalisability	21	Discuss the generalisability (external validity) of the study results	11
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	13