

Supplementary Online Content

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eTable 1. Demographics of Patients Screened With Digital Mammography (DM) (Year 0) and Digital Breast Tomosynthesis (DBT) (Years 1-3)

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

eTable 1. Demographics of Patients Screened With Digital Mammography (DM) (Year 0) and Digital Breast Tomosynthesis (DBT) (Years 1-3).

Characteristic	Screening Year DM0 n = 10728	Screening Year DBT1 n = 11007	Screening Year DBT2 n = 11157	Screening Year DBT3 n = 11576	<i>P Value*</i>
Age, mean (SD)	56.9 (11.0)	56.7 (11.0)	56.9 (11.0)	56.7 (10.8)	.15
Age categories, n (%)					
<40 years	254 (2.4)	258 (2.3)	274 (2.5)	266 (2.3)	
40-49 years	2925 (27.3)	3133 (28.5)	3025 (27.1)	3203 (27.7)	
50-59 years	3563 (33.2)	3566 (32.4)	3585 (32.1)	3761 (32.5)	.06
60-69 years	2538 (23.7)	2636 (24.0)	2801 (25.1)	2905 (25.1)	
≥70 years	1448 (13.5)	1414 (12.8)	1472 (13.2)	1441 (12.5)	
Race, n (%)					
White	4360 (40.6)	4442 (40.4)	4525 (40.6)	4819 (41.6)	
Black	5473 (51.0)	5563 (50.5)	5577 (50.0)	5616 (48.5)	
Hispanic	92 (0.9)	114 (1.0)	103 (0.9)	117 (1.0)	< .0001
Asian	357 (3.3)	338 (3.1)	345 (3.1)	379 (3.3)	
Other/unknown	446 (4.2)	550 (5.0)	607 (5.4)	645 (5.6)	
Breast density, n (%)					
1 Almost entirely fatty	1149 (10.7)	1281 (11.6)	1442 (12.9)	1460 (12.6)	
2 Scattered fibroglandular	6090 (56.8)	6115 (55.6)	6167 (55.3)	6515 (56.3)	< .0001
3 Heterogeneously dense	3287 (30.6)	3392 (30.8)	3301 (29.6)	3355 (29.0)	
4 Extremely dense	202 (1.9)	219 (2.0)	233 (2.1)	233 (2.0)	
Missing	0 (0.0)	0 (0.0)	14 (0.0)	13 (0.0)	
Prior mammogram, n (%)	9524 (88.8)	9645 (87.6)	9629 (86.3)	9799 (84.7)	<.0001

*ANOVA was used for continuous variables, and the chi-squared test for categorical variables. All tests were two-sided.

eTable 2. Population Level Analysis, Comparing Screening Outcomes of Each Digital Breast Tomosynthesis (DBT) Year

Comparisons with baseline digital mammography (DM) year, as well as across the three DBT years, overall and by age and breast density

Characteristic	DM 0	DBT 1	<i>P</i> Value	DBT 2	<i>P</i> Value	DBT 3	<i>P</i> Value	<i>P</i> Value (DBT)
Recall, n/1000	104	88	<.0001	90	.0005	92	.0025	.549
Biopsy, n/1000	18	20	.167	19	.606	19	.597	.600
Cancer, n/1000	4.6	5.5	.370	5.8	.196	6.1	.110	.796
PPV ₁ , %	4.4	6.2	.063	6.5	.034	6.7	.020	.915
PPV ₂ , %	23.9	24.8	.827	29.3	.21	30.1	.146	.382
PPV ₃ , %	25.8	26.9	.798	31.3	.229	32.9	.119	.371
Invasive cancer, n/1000	3.2	3.8	.420	4.1	.243	4.1	.269	.929
In-situ cancer, n/1000	1.4	1.5	.779	1.3	.914	1.8	.440	.668
Interval cancer, n/1000	0.7	0.5	.603	NA	NA	NA	NA	NA
Cancer (n/1000) by density								
BIRADS 1 and 2	4.3	4.9	.600	5.1	.453	5.0	.508	.975
BIRADS 3 and 4	5.2	6.6	.414	7.4	.243	8.6	.076	.613
Cancer (n/1000) by age								
Age below 50 yrs	2.2	5.0	.059	4.5	.105	3.7	.253	.722
Age 50 yrs and above	5.6	5.7	.946	6.4	.517	7.2	.209	.490

Note. *P* values represent Pearson chi-square and Fisher's exact test *P* values, comparing proportions across each of the DBT years with the baseline DM year. The *P* (DBT) column contains the *P* values for testing the null hypothesis that values do not change significantly across the three DBT years. The NAs in the interval cancer line (bottom row) indicate that complete follow up was not available for DBT screening years 2 and 3. PPV₁ is defined as cancer cases/recalled patients, PPV₂ as biopsies recommended/total screened, and PPV₃ as biopsies performed/total screened.

eTable 3. Recall and Cancer Rates, Computed for the Last Screening

Groups defined by number of sequential digital breast tomosynthesis (DBT) screens, comparing the two- and three- screen groups with the one-screen only group.

	One screen	One screen (w/ prior DM)	Two screens	<i>P Value</i>	Three screens	<i>P Value</i>
N = 21395	12079 (56%)	8170	6293 (29%)		3023 (14%)	
Recall, n/1000	130	111	78	<.0001* <.0001**	59	<.0001* <.0001**
Cancer, n/1000	11.2	13	6.2	<.0009* <.0001**	7.3	.059* .012**
PPV ₁ , %	8.6	11.7	7.9	.659* .028**	12.4	.089* .783**

*Pearson chi-square *P* value, comparing proportions between the two- and three-screen groups with the one-screen group.

**Pearson chi-square *P* value, comparing proportions between the two- and three-screen groups with the one-screen group restricted to women who had previous DM screening.