

Table 2: Proportion of Cancers Identified in AI High-Risk Tiers

Note: AI tools are evolving rapidly, with new AI tools, additional FDA clearances, and ongoing acquisitions that may change the commercial landscape.

Study (Cohort)	Paper and Year	Risk Horizon ^a	High-Risk Tier (% of Population) ^b	% Women with Cancer Identified ^c	AI Software	Validation
Mass General Brigham	Lehman et al. (2022)[53]	5 Years	Top 50.0%	75.2%	Mirai (MIT/MGH)	2D
Mass General Brigham	Lamb et al. (2026)[54]	5 Years	Top 22.7%	49.1%	Mirai (MIT/MGH)	2D
Multi-Institution	Yala et al. (2022)[2]	5 Years	Top 10.0%	41.5%	Mirai (MIT/MGH)	2D
NHSBSP (UK)	Rothwell et al. (2026)[50]	3 Years	Top 14.0%	~40.0%	Mirai (MIT/MGH), ProFound AI Risk (iCAD), Transpara Risk (ScreenPoint), Google Risk Model	2D
Denmark Screening Cohort	Lauritzen et al. (2023)[55]	5 Years	Top 10.0%	36.5%	Transpara + Texture Combo (ScreenPoint / Univ. Copenhagen)	2D
Multi-Center US & Europe	Kuhl / Lehman[56]	5 Years	Top 26.5%	53.5%	Clairity Breast (Clairity Inc. / Mirai-based)	2D
KARMA (Sweden)	Eriksson et al. (2026)[5]	10 Years	Top 10.0%	33.0%	Ensemble AI (Karolinska Institutet)	2D
CSAW-S (Sweden)	Liu et al. (2024) [16]	3 Years	Top 8.0%	33.0%	AI SmartDensity (ClearScanAI)	2D

Study (Cohort)	Paper and Year	Risk Horizon ^a	High-Risk Tier (% of Population) ^b	% Women with Cancer Identified ^c	AI Software	Validation
MGH (USA)	Yala et al. (2019)[3]	5 Years	Top 10.0%	31.2%	Hybrid DL (Mirai)	2D
Olmsted (USA)	Eriksson et al. (2026)[5]	10 Years	Top 10.0%	30.0%	Ensemble AI (Karolinska Institutet)	2D
EMBED (USA)	Eriksson et al. (2026)[5]	3 Years	Top 10.0%	30.0%	Ensemble AI (Karolinska Institutet)	2D
Kaiser Permanente	Arasu et al. (2023)[51]	5 Years	Top 10.0%	24% – 28%	Mirai (MIT/MGH); Globally-Aware Multiple Instance Classifier (NYU); MammoScreen (Therapixel); ProFound AI (iCAD);	2D
NHSBSP (UK)	Rothwell et al. (2025)[57]	3 Years	Top 4.0%	~20.0%	Mirai / Hybrid DL (MIT/MGH)	2D
KARMA (Sweden)	Eriksson et al. (2022)[4]	1 Years	Top 6.3% Top 12%	20.0% 59%	ProFound AI Risk (iCAD)	3D/DBT
BC Screening Program (Canada)	Jiang et al (2025)[58]	5 Years	Top 9.0% Top 22.5%	22.1% ~33.6%	Prognosia (Lunit)	2D
EMBED Study	Jiang et al (2025)[59]	5 Years	Top 7.1%	20%	Prognosia (Lunit)	3D/DBT

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2D = full-field digital mammography; 3D/DBT = digital breast tomosynthesis

Note: Clarity Breast, based on the Mirai open-source toolkit, is currently the only FDA-cleared AI tool for breast cancer risk prediction.

^a**Risk Horizon:** The future time period over which the model was evaluated for prediction of development of histopathologically confirmed invasive breast cancer or ductal carcinoma in situ (DCIS).

^b**High-Risk Tier:** The proportion of the screened cohort classified as “high risk.” The definition varies by study and may be based on a relative population threshold, such as the top 10% of risk scores, or an absolute risk threshold, such as a specified 5-year risk cutoff.

^c**% Women with Cancers Identified** (also referred to as **sensitivity** or **cumulative sensitivity**) measures the model's ability to correctly classify women who will develop breast cancer in the ensuing time period (risk horizon). The denominator is the number of participants in the study cohort who developed histopathologically confirmed breast cancer within the specified risk horizon. The numerator is the number of women with future cancer who were classified within the study-defined high-risk tier based on the model's assessment at the baseline/index screening mammogram. In some studies, values were not reported and were estimated based on other data reported in the publication.

[Click here for the full article on Mammography AI Screening Tools.](#)