Table. Age 40 biennial screening

What are chances of benefit and harm from screening mammography (digital tomosynthesis) done every 2 years for 10 years for an American woman age 40? The table presents ranges for each outcome based on the US Preventive Services Task Force and additional published literature.

	No mammogram	Mammogram every 2 years	Range of possible effects of mammograms every 2 years for 10 years for a woman age 40
Benefit			
Chance of death overall	1.96%[1]	1.96% to 1.91%[2]	Between 0 and 0.5 *fewer* **deaths overall** per 1000 women screened
Chance of breast cancer death	0.18%[3]	0.16% to 0.13%[3]	Between 0.2 and 0.5 *fewer* **breast cancer deaths** per 1000 women screened
Harms			
Any false alarm	---	26.4% to 51.2%[4]	Between 264 and 512 **false alarms** per 1000 women because of screening
False alarm requiring a biopsy	---	4.3% to 10.0%[4]	Between 43 and 100 **false alarms requiring a biopsy** per 1000 women because of screening
Overdiagnosis [diagnosis and treatment of a cancer not destined to cause symptoms or death]	---	? to 0.5%[5]	Up to 5 **overdiagnosed** cancer per 1000 women because of screening

[1] The 10-year chance of death from any cause is derived from Social Security Administration (2019 "pre-covid" data) (see *Appendix - Table calculations*)

[2] The low end of the range assumes all women avoiding a breast-cancer death do <u>not</u> die from another cause; the high end assumes all women who avoid a breast cancer death die from another cause.

[3] Data for the 10-year chance of death from breast cancer are derived from the National Cancer Institute (DEVCAN) (for calculations, see appendix table calculations.xlsx). The lowest chance of death is based on the US Preventive Services Task Force modeling report which report a 30% relative risk reduction (ages 40-74, biennial, digital tomosynthesis). The highest chance of death is based on the Cochrane Collaboration meta-analysis estimate for the low risk of bias trials for age <50: 13% relative risk reduction (95% CI, 27% reduction to 3% increase).

[4] Ho TH, Bissell MCS, Kerlikowske K, et al. Cumulative Probability of False-Positive Results After 10 Years of Screening With Digital Breast Tomosynthesis vs

[4] Data from Ho, et al. JAMA Netw Open. 2022;5:e222440.

[5] Data from Pace, et. al. JAMA. 2014;311:1327-1335.   The low end is a "?" because Pace did not include a low end estimate.