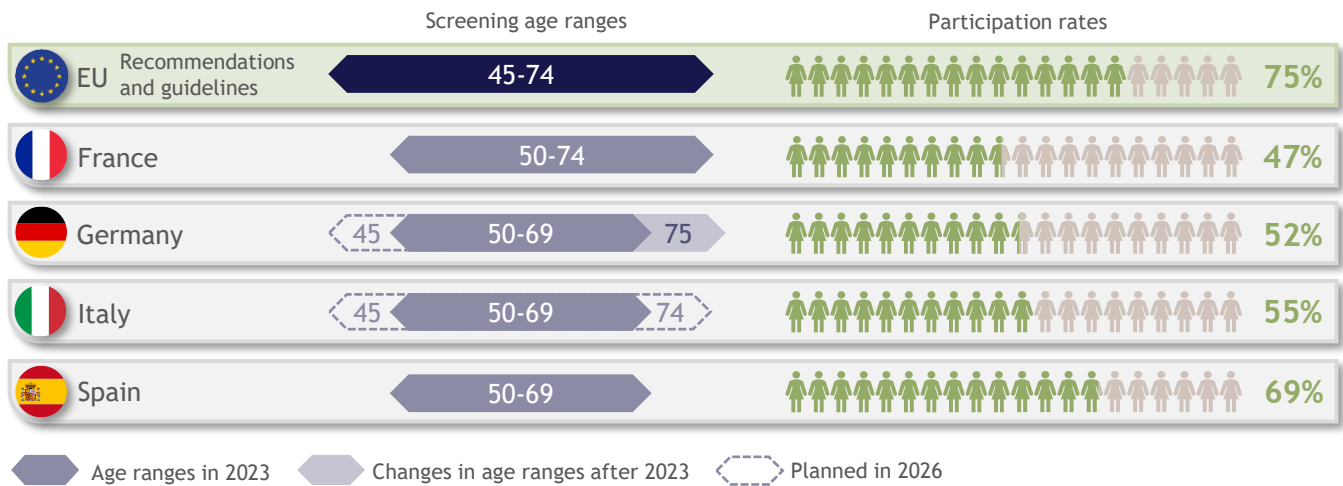


Health economic consequences of extended age ranges and increased participation in breast cancer screening in France, Germany, Italy and Spain

Breast cancer screening with mammography can substantially reduce mortality; however, its effectiveness depends on reaching as many women in the target population as possible.

Despite the Council of the EU's recommendation for organized, population-based mammography screening for women aged 45-74 years, European countries show wide variation in included age ranges, and participation rates often fall below the desired threshold of 75% in the European Quality Assurance Guidelines.

Screening age ranges and participation rates in France, Germany, Italy, and Spain compared to EU recommendations and guidelines



What are the consequences of extended age ranges and increased participation in France, Germany, Italy and Spain?



Costs?

- ✓ **Healthcare cost** for screening and treatment
- ✓ **Production losses** due to sick-leave or mortality



Health gains?

- ✓ **Lives**
- ✓ **Life years**
- ✓ **QALYs**



Cost-effectiveness?

- ✓ **Cost per QALY**
 - Healthcare perspective considers only healthcare costs
 - Societal perspective considers healthcare cost and production losses

1 QALY =
1 year with
perfect health



Results

3,200 lives could be saved annually by extending the screening age ranges and increasing participation to 75% in the four countries.

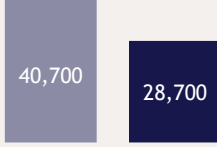
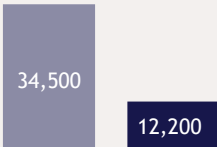
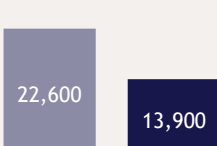
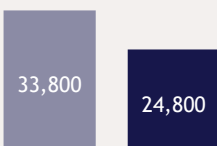
This corresponds to a **9.3%** reduction in breast cancer mortality, requiring an additional **10.8%** in healthcare spending, while reducing production losses by **1.9%**.

While extending the age ranges contributed to lives saved, increasing participation among already eligible women resulted in most lives saved and was the most cost-effective option



Policymakers should therefore prioritize measures that enhance access, equity, and engagement within existing screening programs.

CHANGES FROM 2023 TARGET GROUPS AND PARTICIPATION RATES TO EU RECOMMENDATIONS

		Lower age to 45	Upper age to 74	Participation rate to 75%	All changes together
FRANCE	  Costs	Health care: +€50 million Production losses: -€15 million		Health care: +€137 million Production losses: -€4 million	Health care: +€217 million Production losses: -€28 million
	 Health gains	Lives: +68 Life years: +2,138 QALYs: +1,242	No change - upper screening age already 74	Lives: +612 Life years: +10,845 QALYs: +7,373	Lives: +721 Life years: +14,278 QALYs: +9,373
	 €/QALY by perspective	 Healthcare 40,700 Societal 28,700		 Healthcare 18,600 Societal 18,100	 Healthcare 23,200 Societal 20,100
GERMANY	  Costs	Health care: +€59 million Production losses: -€38 million	Health care: +€45 million Production losses: n/a ¹	Health care: +€116 million Production losses: -€20 million	Health care: +€263 million Production losses: -€76 million
	 Health gains	Lives: +99 Life years: +2,854 QALYs: +1,699	Lives: +445 Life years: +3,938 QALYs: +2,941	Lives: +558 Life years: +9,935 QALYs: +6,553	Lives: +1,342 Life years: +19,731 QALYs: +13,263
	 €/QALY by perspective	 Healthcare 34,500 Societal 12,200	 Healthcare 15,200 Societal 15,200	 Healthcare 17,700 Societal 14,500	 Healthcare 19,900 Societal 14,100
ITALY	  Costs	Health care: +€37 million Production losses: -€14 million	Health care: +€23 million Production losses: n/a ¹	Health care: +€36 million Production losses: -€5 million	Health care: +€112 million Production losses: -€25 million
	 Health gains	Lives: +89 Life years: +2,734 QALYs: +1,651	Lives: +303 Life years: +2,944 QALYs: +2,382	Lives: +319 Life years: +6,108 QALYs: +4,148	Lives: +849 Life years: +13,795 QALYs: +9,622
	 €/QALY by perspective	 Healthcare 22,600 Societal 13,900	 Healthcare 9,500 Societal 9,500	 Healthcare 8,600 Societal 7,300	 Healthcare 11,600 Societal 9,000
SPAIN	  Costs	Health care: +€39 million Production losses: -€10 million	Health care: +€16 million Production losses: n/a ¹	Health care: +€9 million Production losses: -€2 million	Health care: +€69 million Production losses: -€13 million
	 Health gains	Lives: +64 Life years: +2,044 QALYs: +1,165	Lives: +162 Life years: +1,734 QALYs: +1,138	Lives: +51 Life years: +1,043 QALYs: +636	Lives: +297 Life years: +5,156 QALYs: +3,145
	 €/QALY by perspective	 Healthcare 33,800 Societal 24,800	 Healthcare 14,300 Societal 14,300	 Healthcare 14,200 Societal 11,300	 Healthcare 22,000 Societal 17,800

¹Productivity losses for women aged 65 years or older were not estimated due to a uniform assumption about retirement age at 65