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Estado del arte radioterapia en cáncer de mama

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Epidemiología

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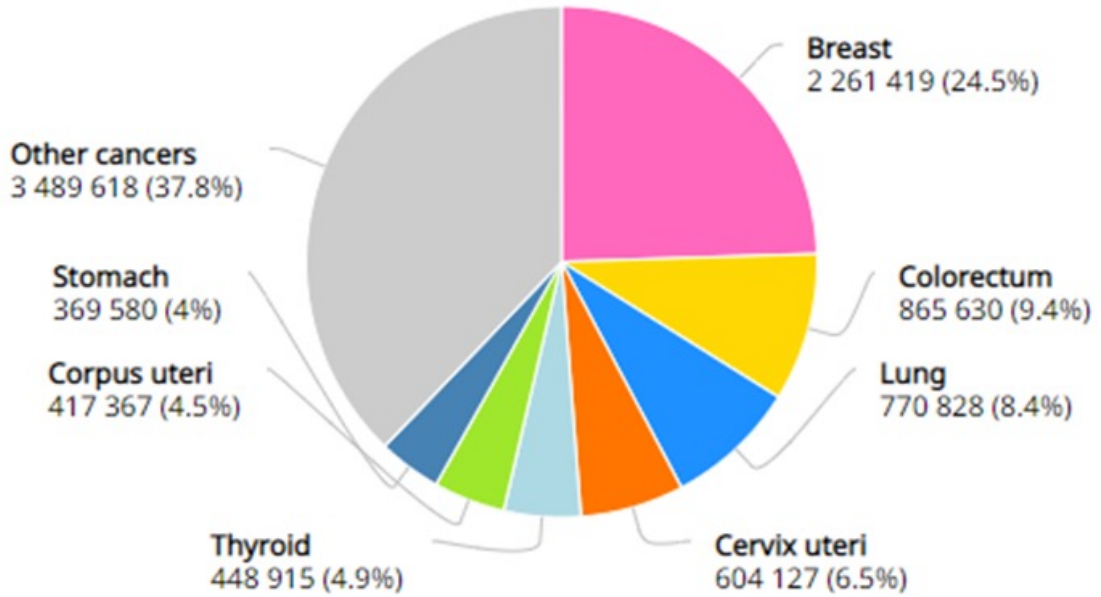
Estimated number of new cases in 2020, World, females, all ages



Total : 9 227 484

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

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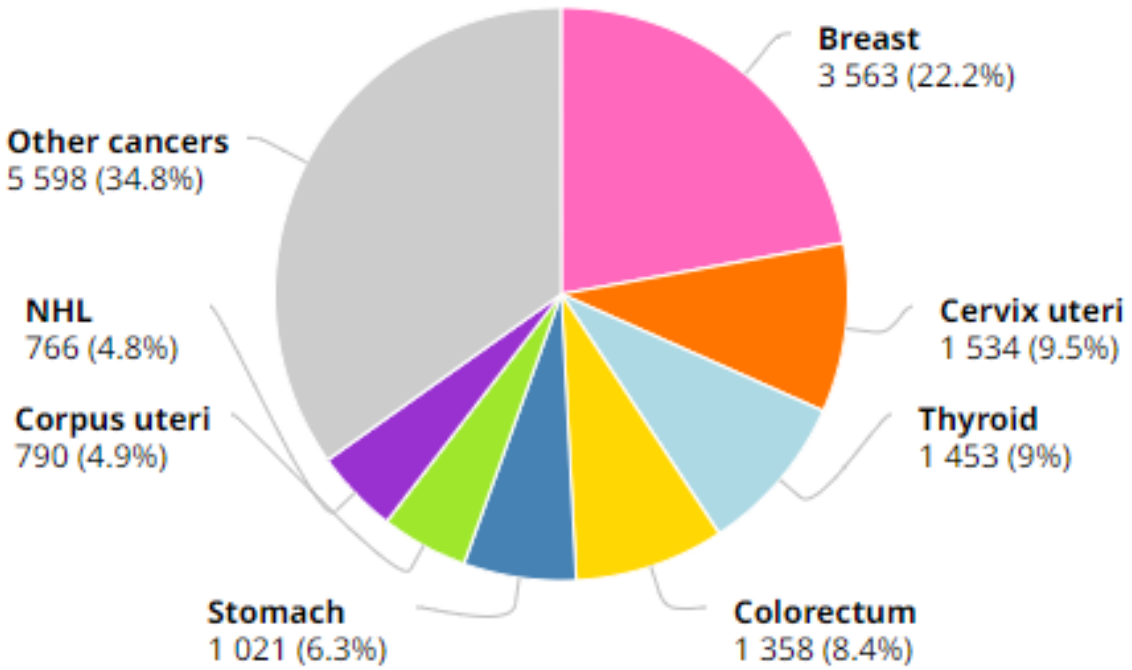
Estimated number of new cases in 2020, Ecuador, females,



Total : 16 083

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

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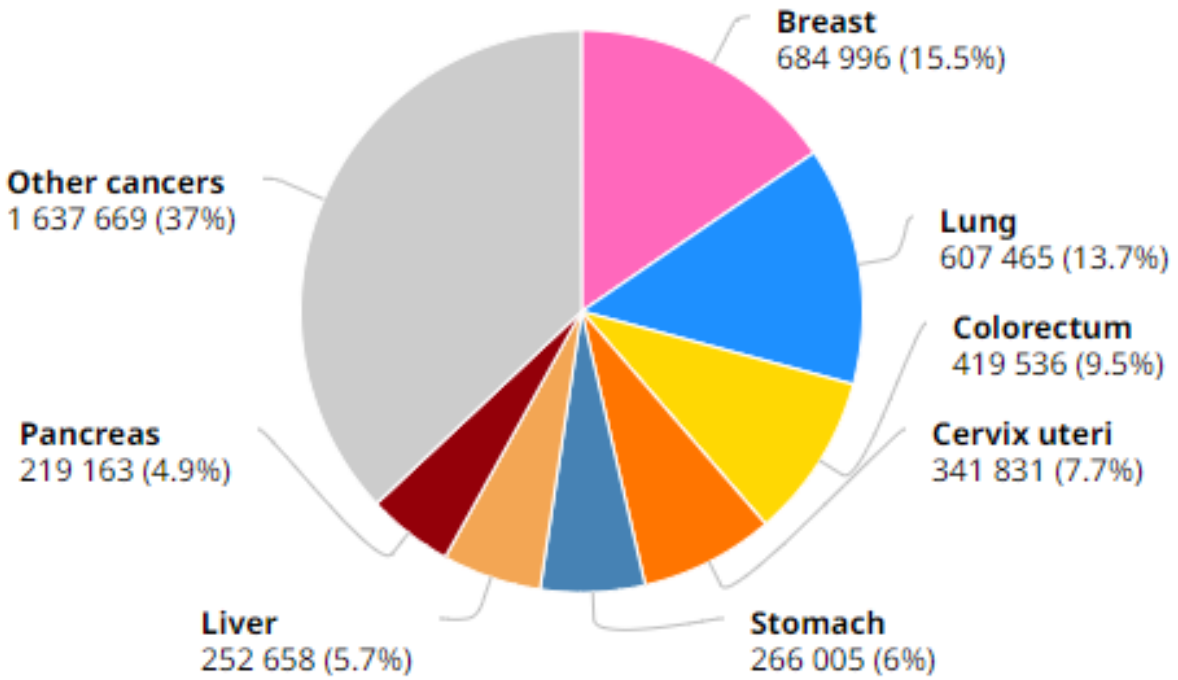
Estimated number of deaths in 2020, World, females, all ages



Total : 4 429 323

Data source:GLOBOCAN 2020
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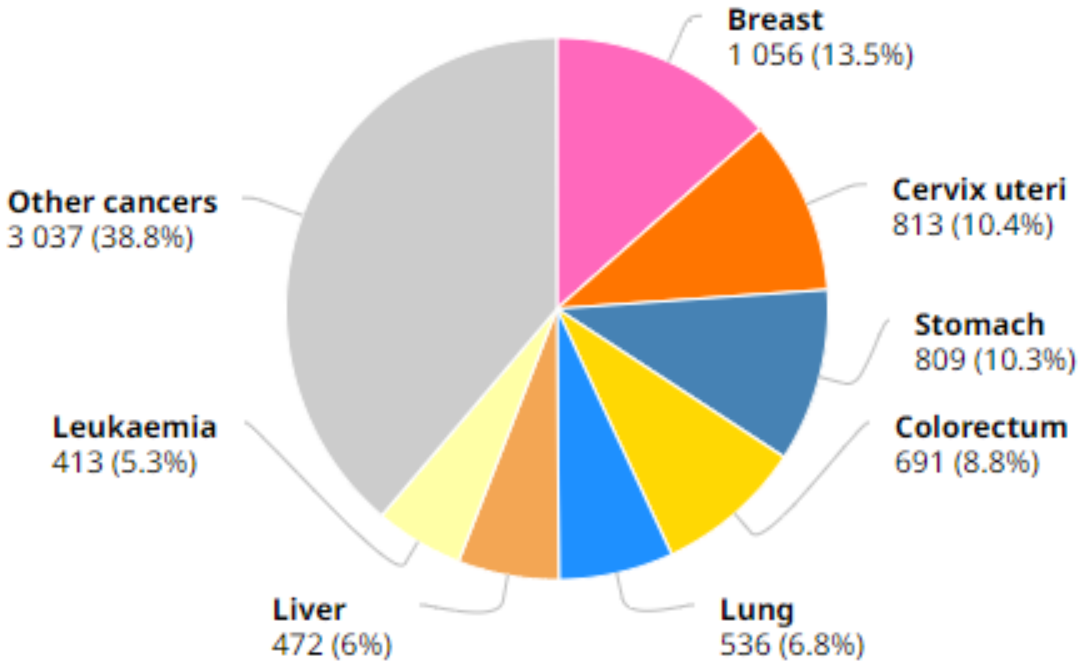
Estimated number of deaths in 2020, Ecuador, females, all ages



Total : 7 827

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

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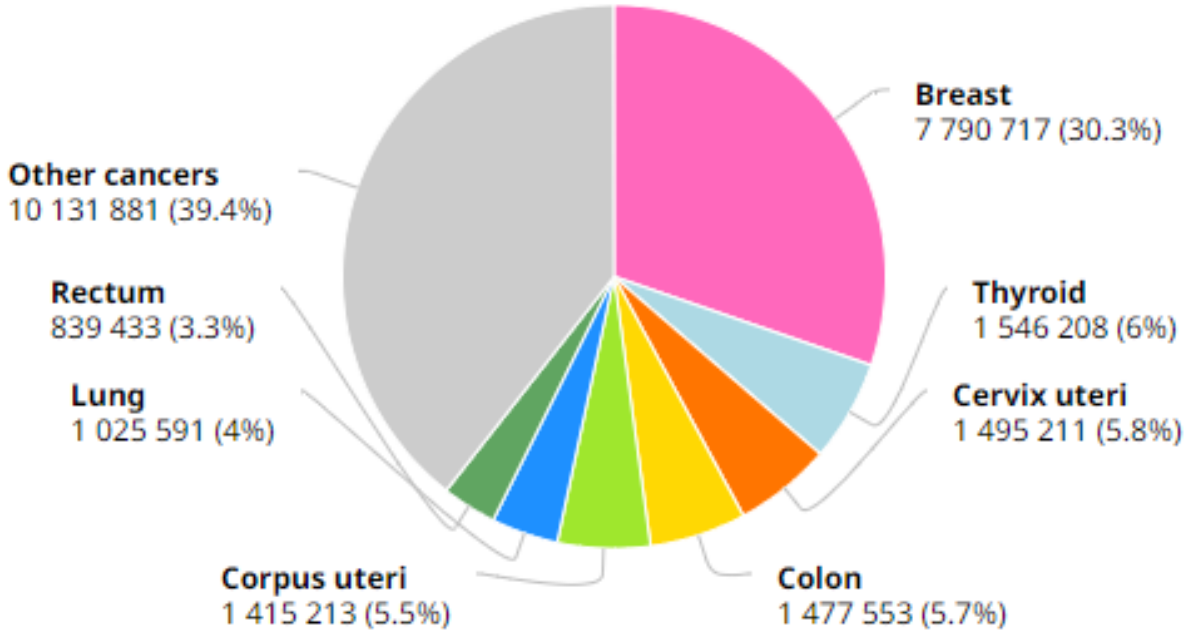
Estimated number of prevalent cases (5-year) in 2020, World, females,



Total : 25 721 807

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

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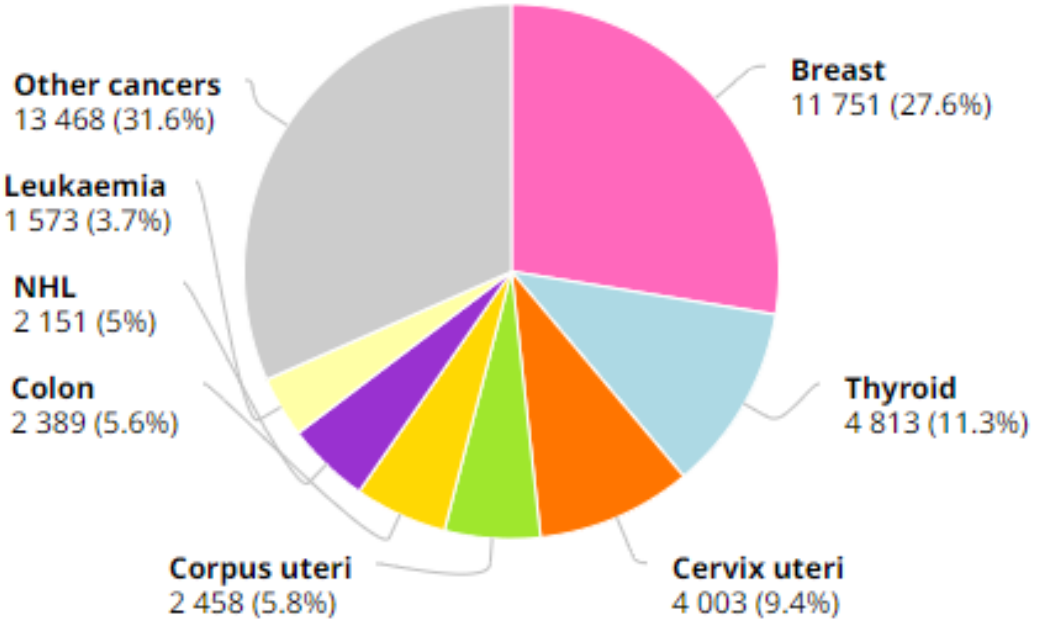
Estimated number of prevalent cases (5-year) in 2020, Ecuador, females,



Total : 42 606

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

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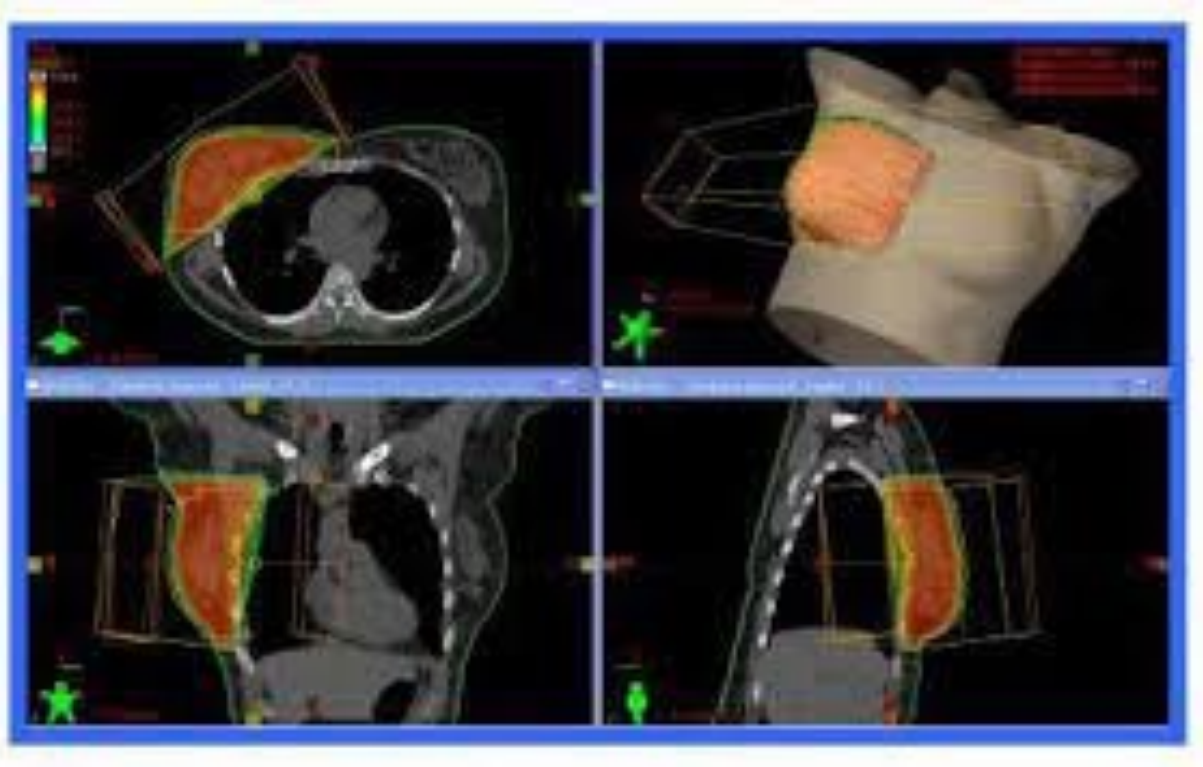
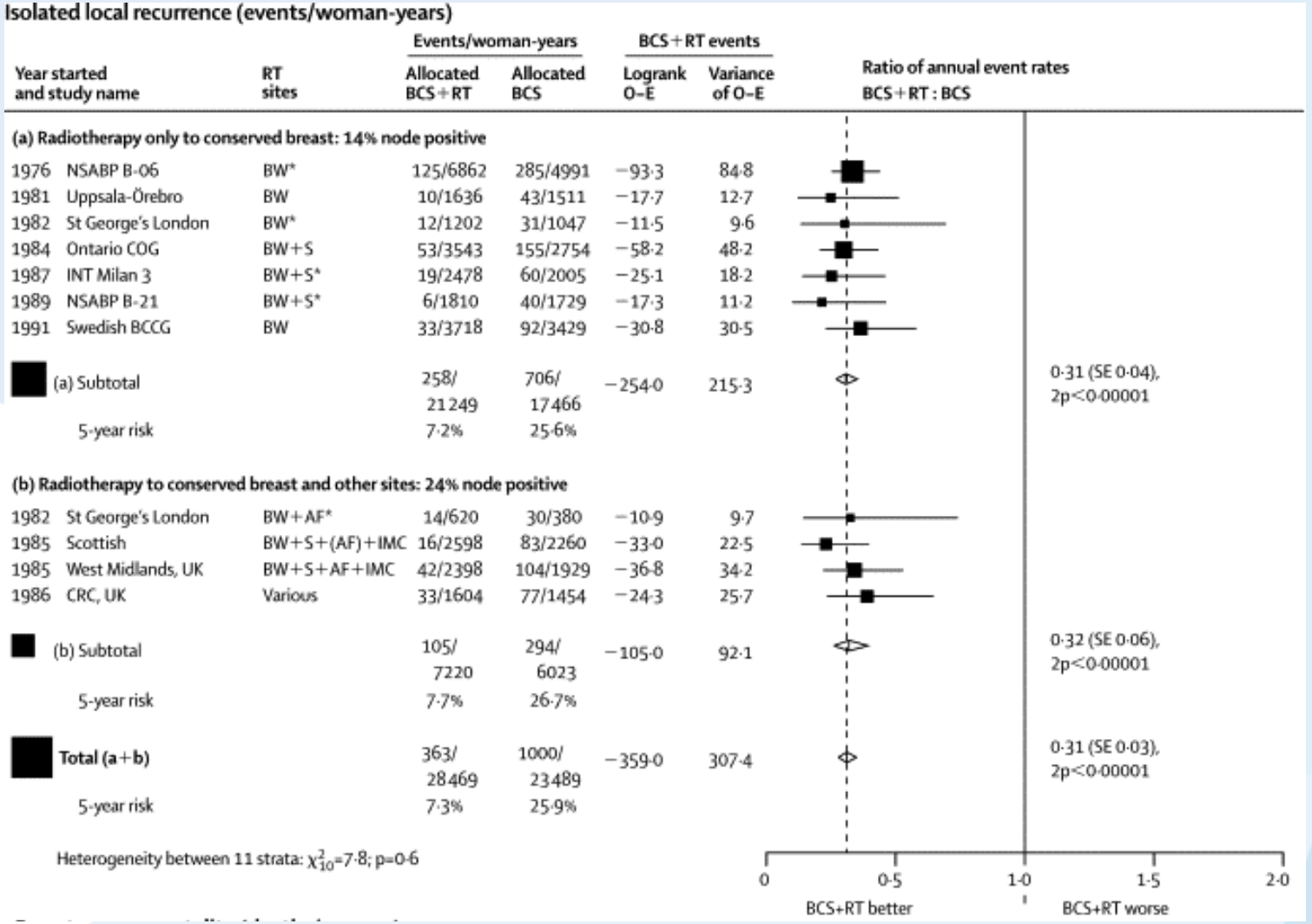
En este contexto la radioterapia





Clarke M, Collins R, Darby S, Davies C, Elphinstone P, Evans V, Godwin J, Gray R, Hicks C, James S, MacKinnon E, McGale P, McHugh T, Peto R, Taylor C, Wang Y; Early Breast Cancer Trialists' Collaborative Group (EBCTCG). Effects of radiotherapy and of differences in the extent of surgery for early breast cancer on local recurrence and 15-year survival: an overview of the randomised trials. Lancet. 2005 Dec 17;366(9503):2087-106. doi: 10.1016/S0140-6736(05)67887-7. PMID: 16360786.

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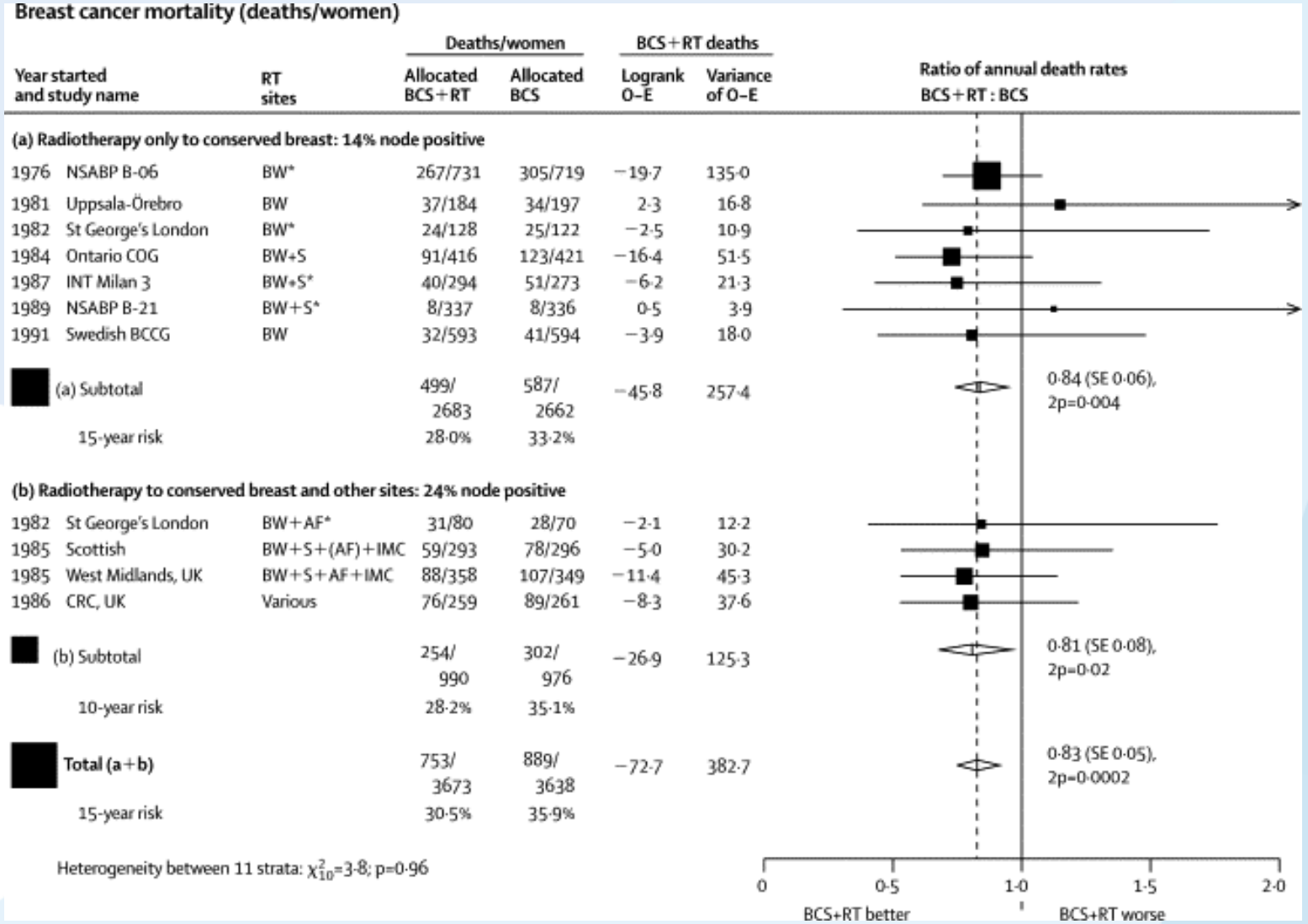

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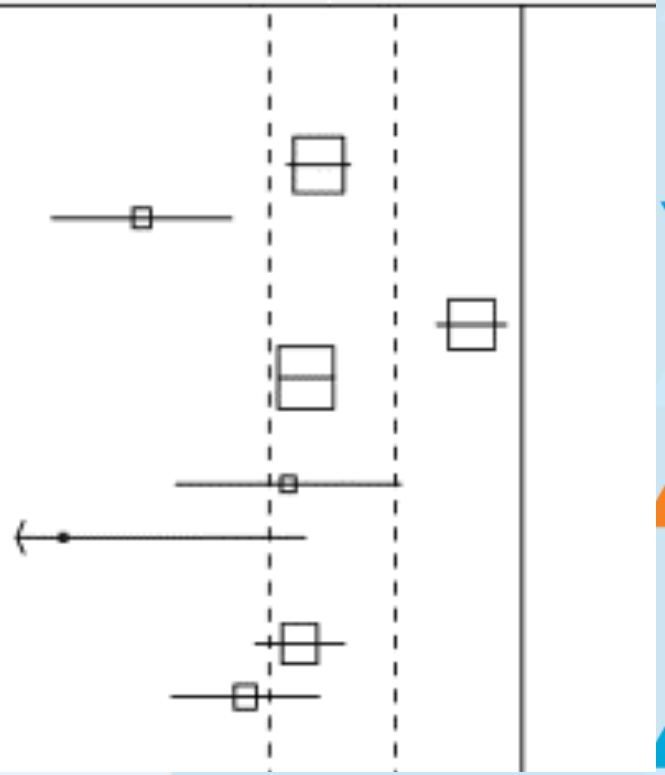
Type of local treatment comparison	Isolated local recurrences (events): cumulative risk by year 5 after randomisation					
	Events by year 5/ women randomised*		5-year risk (actuarial %)		Absolute reduction in 5-year risk (%), control–active	
	Active	Control	Active	Control	Reduction (SE)	Reduction (99% CI)
RT versus no RT, but same surgery						
BCS then RT versus no RT (10 trials)						
Node-negative	216/3071	637/3026	6·7	22·9	16·1% (1·0)	
Node-positive	66/602	221/612	11·0	41·1	30·1% (2·8)	
Mastectomy + AC then RT versus no RT (25 trials)						
Node-negative	13/662	41/691	2·3	6·3	4·0% (1·1)	
Node-positive	214/4170	778/4170	5·8	22·8	17·1% (0·9)	
Mastectomy + AS then RT versus no RT (4 trials)						
Node-negative	13/225	52/224	6·1	24·5	18·5% (3·5)	
Node-positive	11/95	43/103	13·8	50·1	36·3% (7·5)	
Mastectomy alone then RT versus no RT (7 trials)						
Node-negative	70/1427	307/1477	5·6	23·3	17·6% (1·4)	
Node-positive	88/837	243/836	11·6	33·5	21·9% (2·3)	



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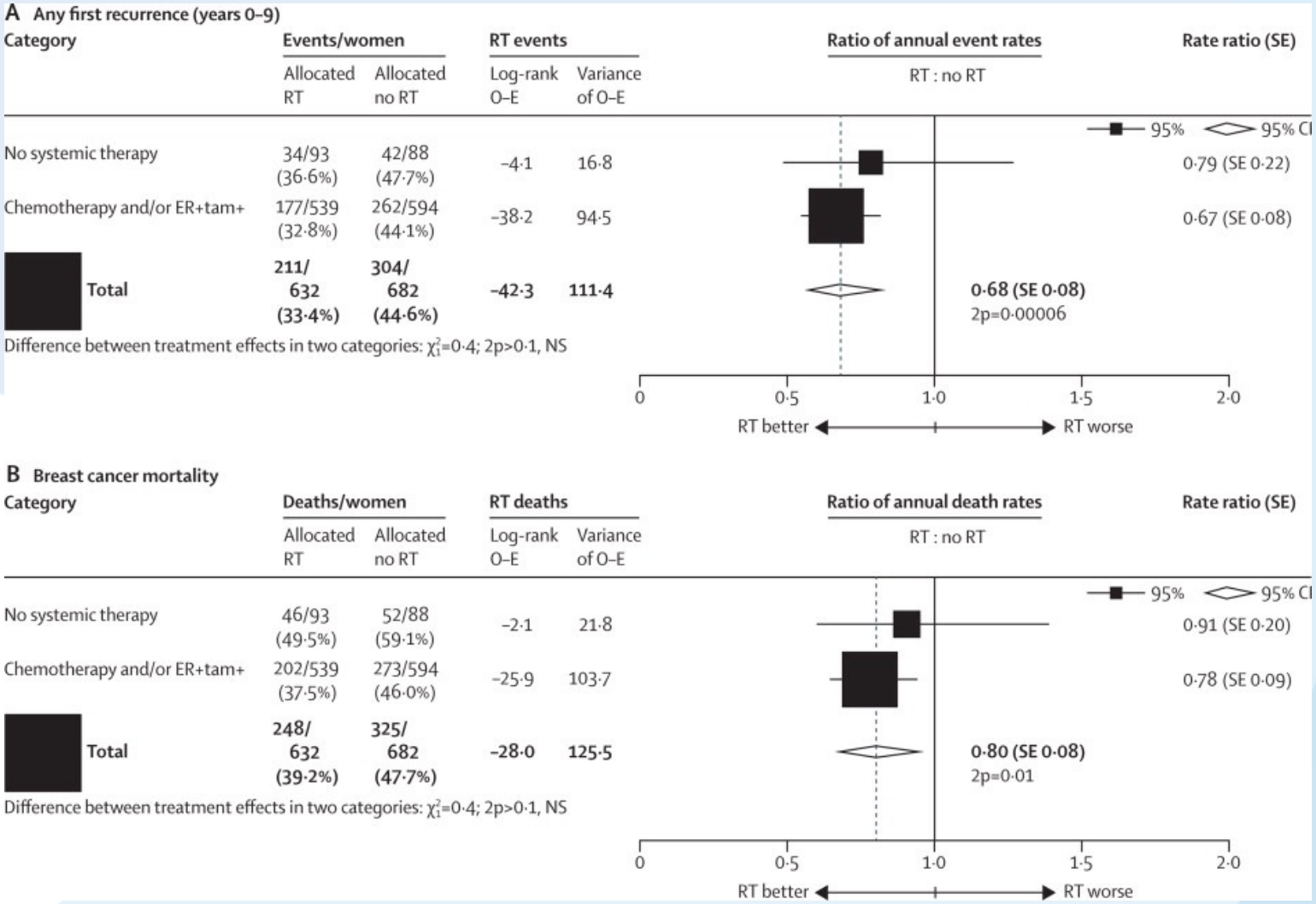
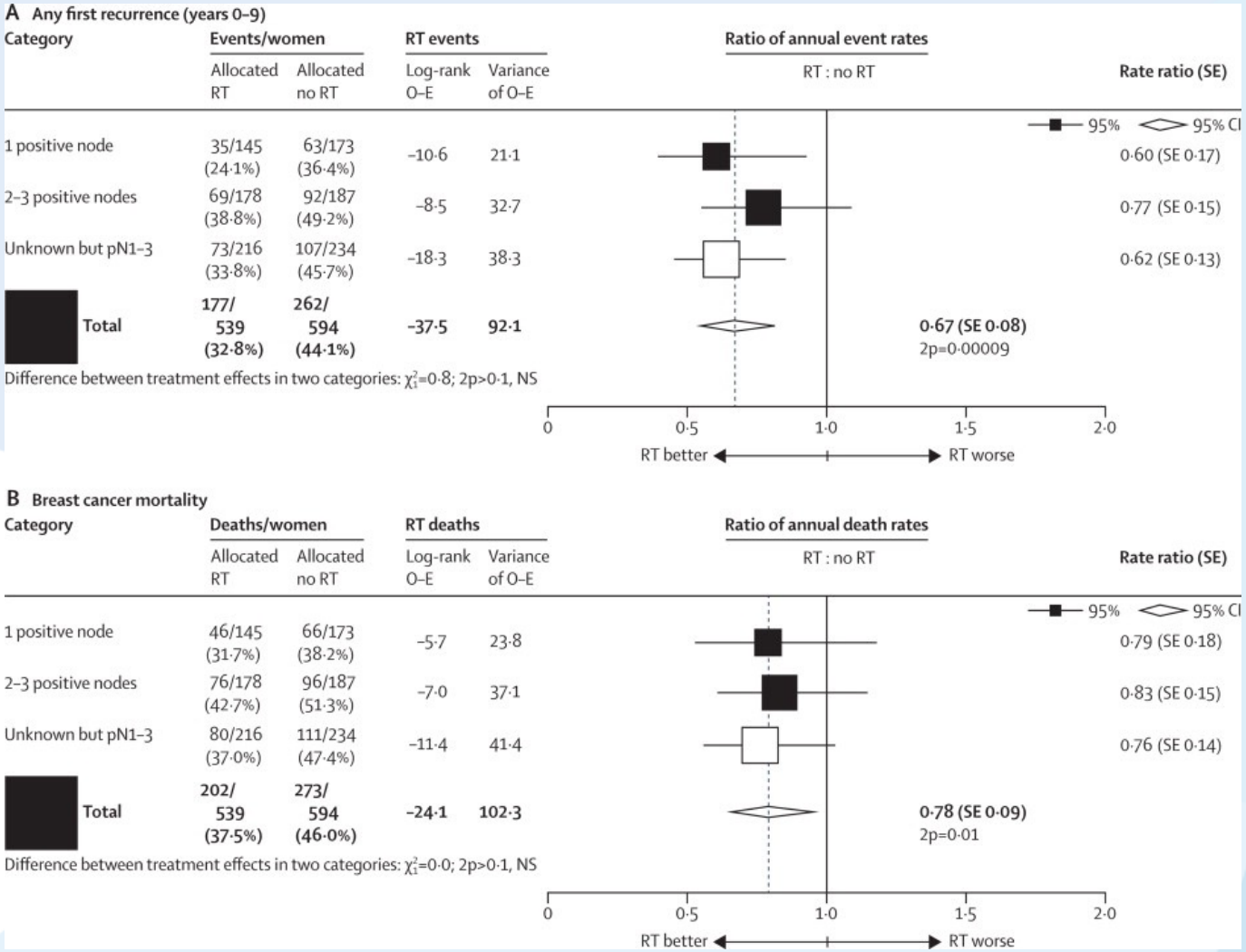


EBCTCG (Early Breast Cancer Trialists' Collaborative Group), McGale P, Taylor C, Correa C, Cutter D, Duane F, Ewertz M, Gray R, Mannu G, Peto R, Whelan T, Wang Y, Wang Z, Darby S. Effect of radiotherapy after mastectomy and axillary surgery on 10-year recurrence and 20-year breast cancer mortality: meta-analysis of individual patient data for 8135 women in 22 randomised trials. Lancet. 2014 Jun 21;383(9935):2127-35. doi: 10.1016/S0140-6736(14)60488-8. Epub 2014 Mar 19. Erratum in: Lancet. 2014 Nov 22;384(9957):1848. PMID: 24656685; PMCID: PMC5015598.



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Characteristic	RMH/GOC			START A			START B		Canadian	
No. of patient	1,410			2,236			2,215		1,234	
Age, <50 yr (%)	30.3			23			21		25	
Stage	T1-3/N0-1			pT1-3aN0-1			pT1-3aN0-1		pT1-2N0	
pN0 (%)	40			69			74		100	
Grade 3 (%)	-			28			23		19	
Lumpectomy (%)	100			85			92		100	
Chemotherapy (%)	13.9			35			22		11	
RNI (%)	21			14			7		0	
Boost (%)	75 (14 Gy/7 Fx)			61 (10 Gy/5 Fx)			39 (10 Gy/5 Fx)		0	
Dose/Fx	50 Gy/25 Fx	39 Gy/13 Fx	42.9 Gy/13 Fx	50 Gy/25 Fx	39 Gy/13 Fx	41.6 Gy/13 Fx	50 Gy/25 Fx	40 Gy/15 Fx	50 Gy/25 Fx	42.5 Gy/16 Fx

RMH/GOC, Royal Marsden Hospital trial; START, the UK Standardisation of Breast Radiotherapy trial; RNI, regional nodal irradiation; Fx, fraction; IBTR, ipsilateral breast tumor recurrence; LRR, locoregional recurrence; LR, local recurrence.

Kim KS, Shin KH, Choi N, Lee SW. Hypofractionated whole breast irradiation: new standard in early breast cancer after breast-conserving surgery. Radiat Oncol J. 2016 Jun;34(2):81-7. doi: 10.3857/roj.2016.01697. Epub 2016 Jun 17. PMID: 27306774; PMCID: PMC4938347.

EQD2 of tumor (Gy, α/β = 3.5)	50.0	46.1	53.0	50.0	46.1	50.7	50.0	44.8	50.0	47.6
EQD2 of breast (Gy, α/β = 3.1)	50.0	46.6	53.8	50.0	46.6	51.4	50.0	45.2	50.0	48.0
Local control	IBTR, 10 yr (%)			LRR, 10 yr (%)			LRR, 10 yr (%)		LR, 10 yr (%)	
	12.1	14.8	9.6	7.4	8.8	6.3	5.5	4.3	6.7	6.2
Normal tissue toxicity	Any change in breast appearance at 5-years (%)			Beast induration			Breast shrinkage		Good or excellent cosmetic outcome (%)	
				Telangiectasia			Telangiectasia			
				Breast edema			Breast edema			
	39.6	30.3	45.7	Favor 39 Gy than 50 Gy			Favor 40 Gy		71.3	69.8

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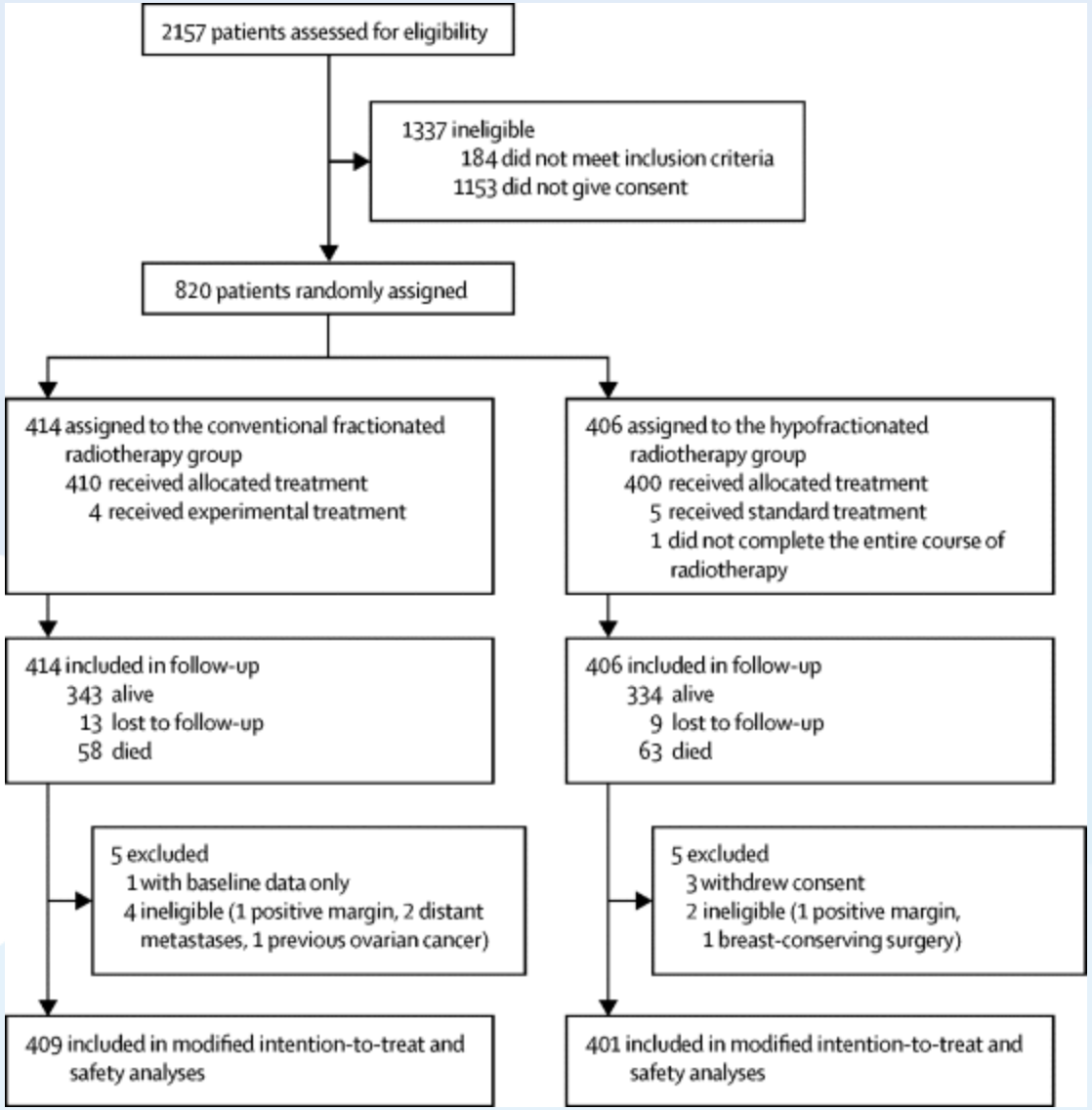

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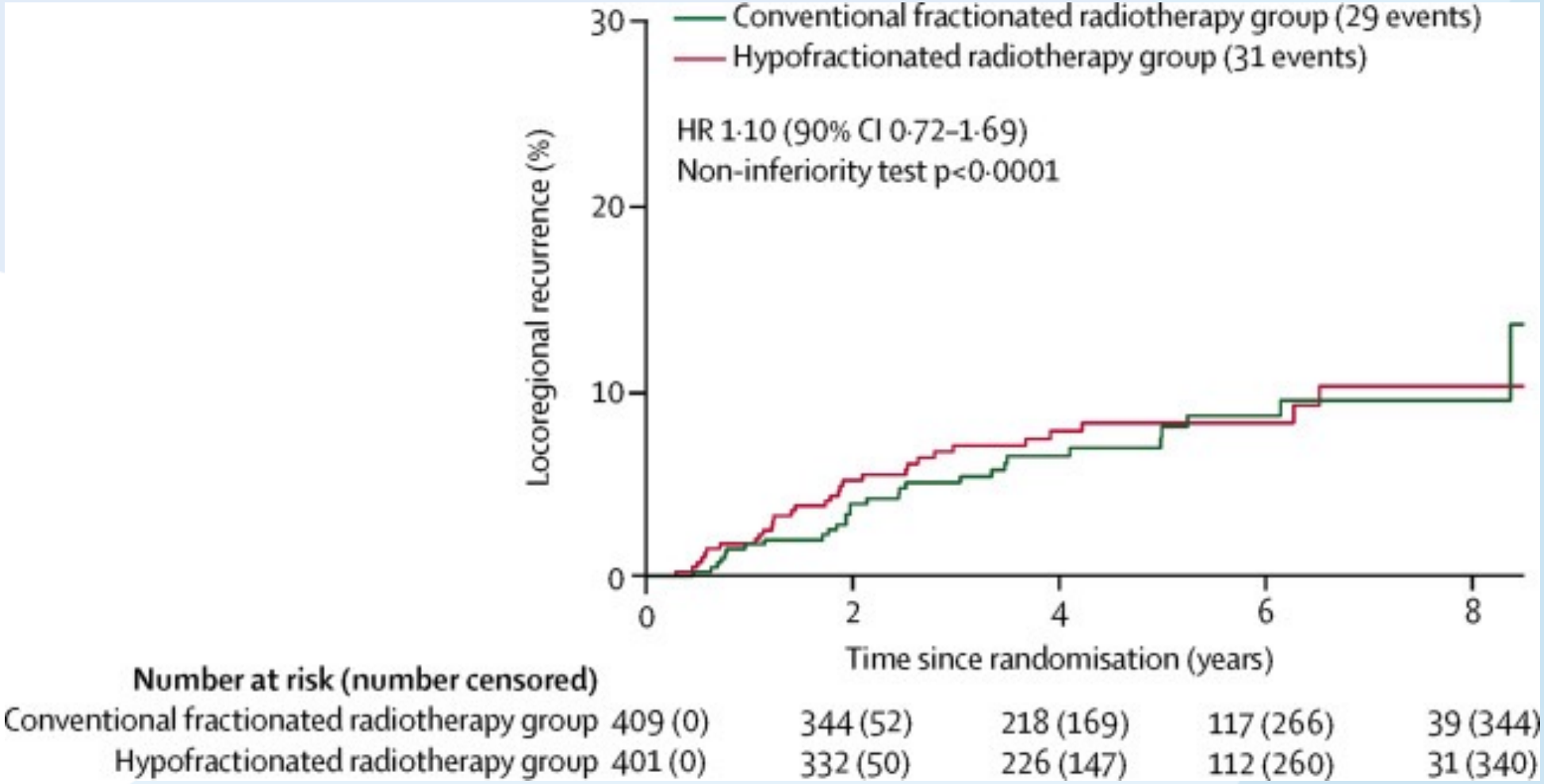

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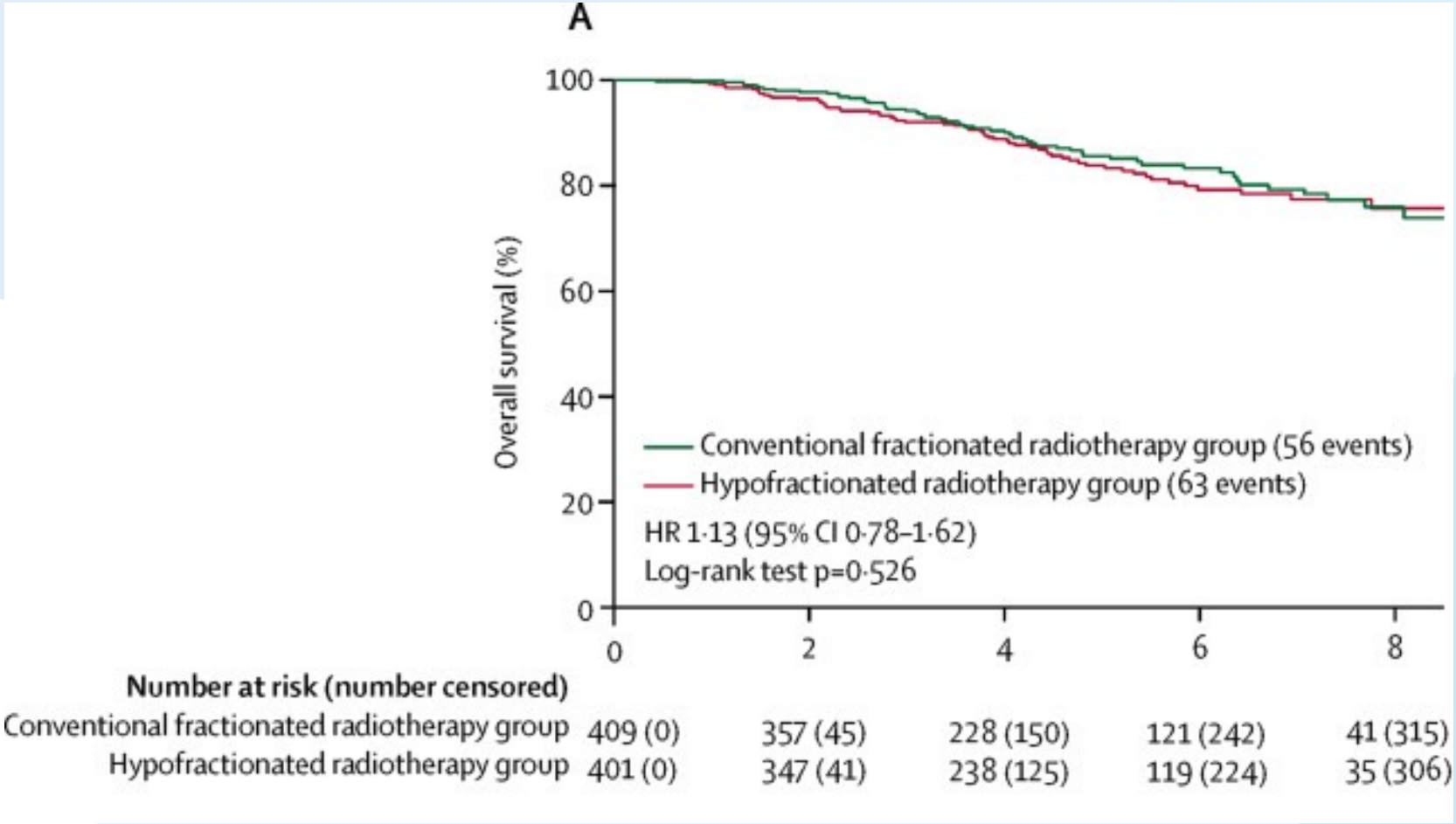

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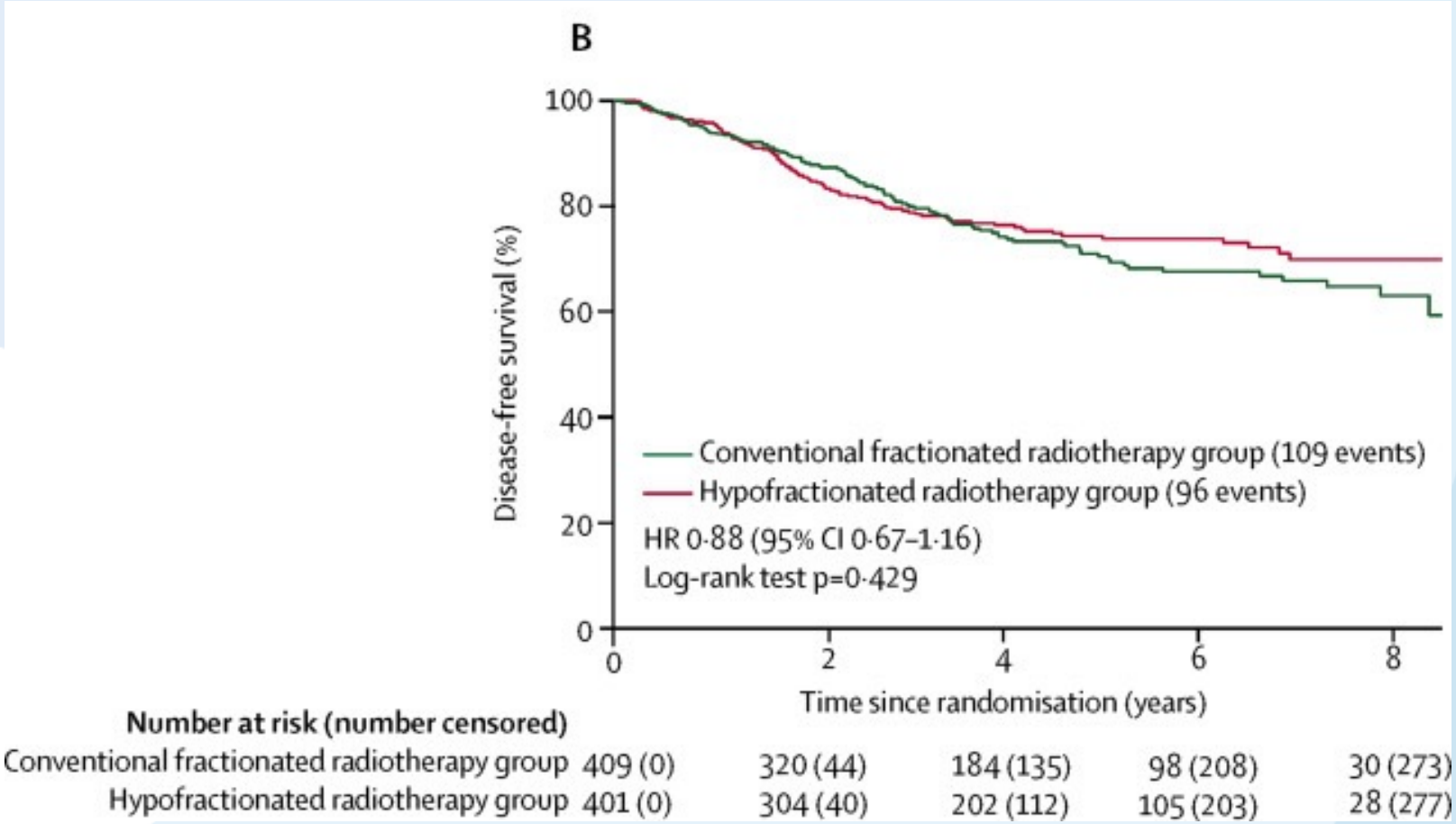

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Y aún hay más

- Hablemos del FAST

Offer 26 Gy/5 fractions over 1 week for whole breast radiotherapy	Very strongly supported
Offer 26 Gy/5 fractions over 1 week for chest wall radiotherapy	Very strongly supported
Consider 26 Gy/5 fractions over 1 week for chest wall radiotherapy with reconstruction	Strongly supported
Offer 26 Gy/5 fractions over 1 week for partial breast radiotherapy	Very strongly supported
Consider 28.5 Gy/5 fractions over 5 weeks instead of 26 Gy/5 fraction over 1 week for patients with significant comorbidity and/or frailty that make daily radiotherapy difficult	Very strongly supported
Consider 26 Gy/5 fractions for nodal radiotherapy (excluding internal mammary chain) only for patients with significant comorbidities while awaiting the 2-year normal tissue results of the FAST-Forward nodal substudy	Strongly supported
For patients requiring a boost, offer: 26 Gy/5 fractions whole breast radiotherapy plus either a sequential normofractionated boost or a hypofractionated boost (delivered in no more than 5 fractions) or 15 fractions simultaneous integrated boost, e.g. 48 Gy to boost volume and 40 Gy to rest of breast all over 3 weeks	Strongly supported

Lewis P, Brunt AM, Coles C, Griffin S, Locke I, Roques T; Breast Radiotherapy Consensus Working Group. Moving Forward Fast with FAST-Forward. Clin Oncol (R Coll Radiol). 2021 Jul;33(7):427-429. doi: 10.1016/j.clon.2021.04.007. Epub 2021 May 14. PMID: 33994270.

A total of 1,434 physicians responded to the breast survey scenarios, with 1251 (87%) from high-income (HICs) and upper middle-income countries (UMICs) and 183 (13%) from lower middle-income countries (LMICs). The most common HF fraction size was between 2.5 and 2.9 Gy delivered in a total of 15 fractions for curative indications (30%); only 1% of respondents reported using a 5-fraction regimen.

Mushonga, Melinda. "Hypofractionated Radiotherapy for Breast Cancer: Findings From an International ESTRO-GIRO Survey." International Journal of Radiation Oncology, Biology, Physics 111.3 (2021): e202-e203.

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Gracias