

¿Cáncer de mama: donde estamos?

¿Ha aumentado la incidencia?

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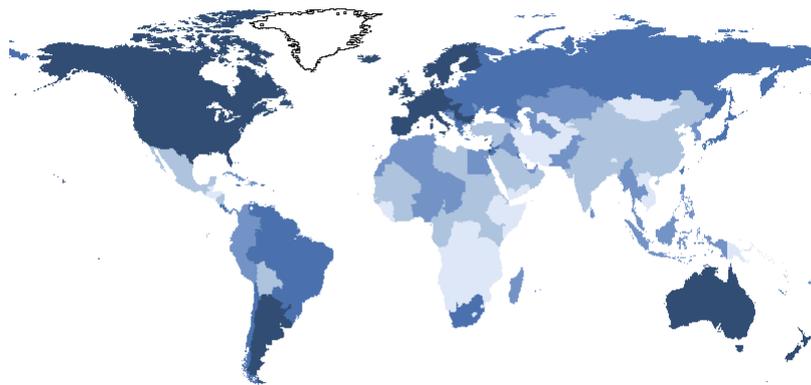
Mortalidad e incidencia del cáncer de mama en el mundo



- El cáncer de mama y el de cuello de útero son los mas frecuentes en las mujeres en el mundo
- Tanto la incidencia como la mortalidad siguen un patrón de distribución diferencial según el nivel de desarrollo de los países



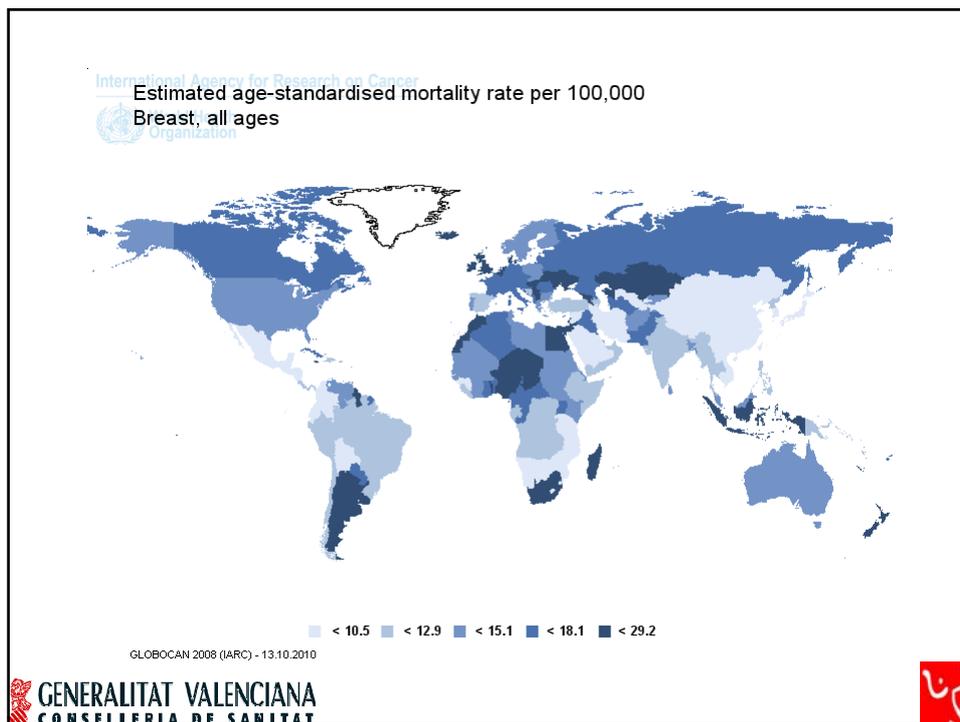
International Agency for Research on Cancer
Organization
Estimated age-standardised incidence rate per 100,000
Breast, all ages



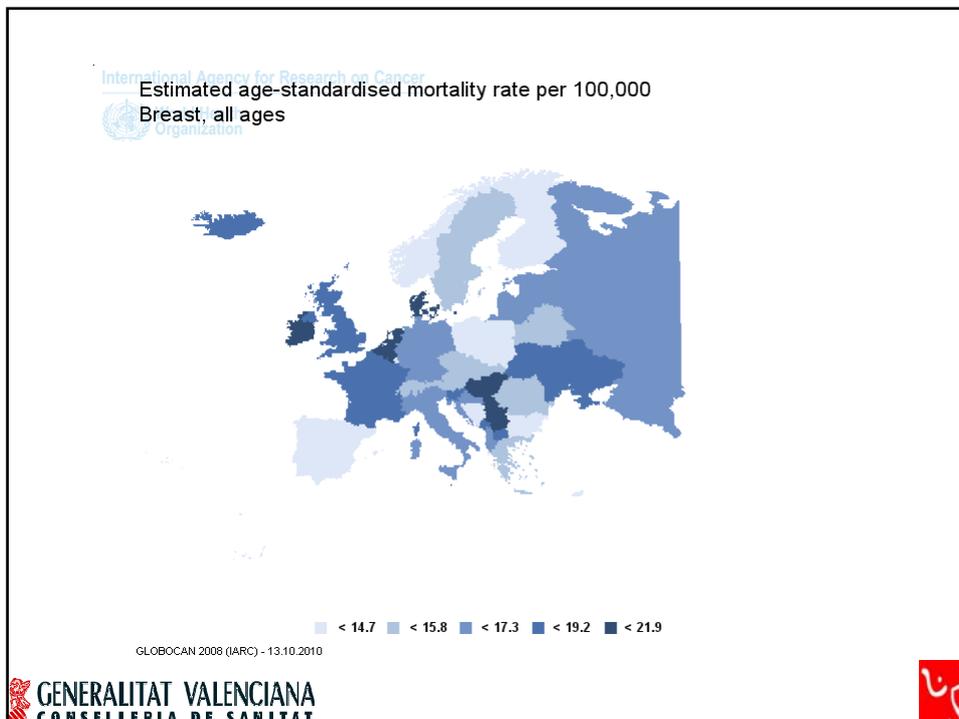
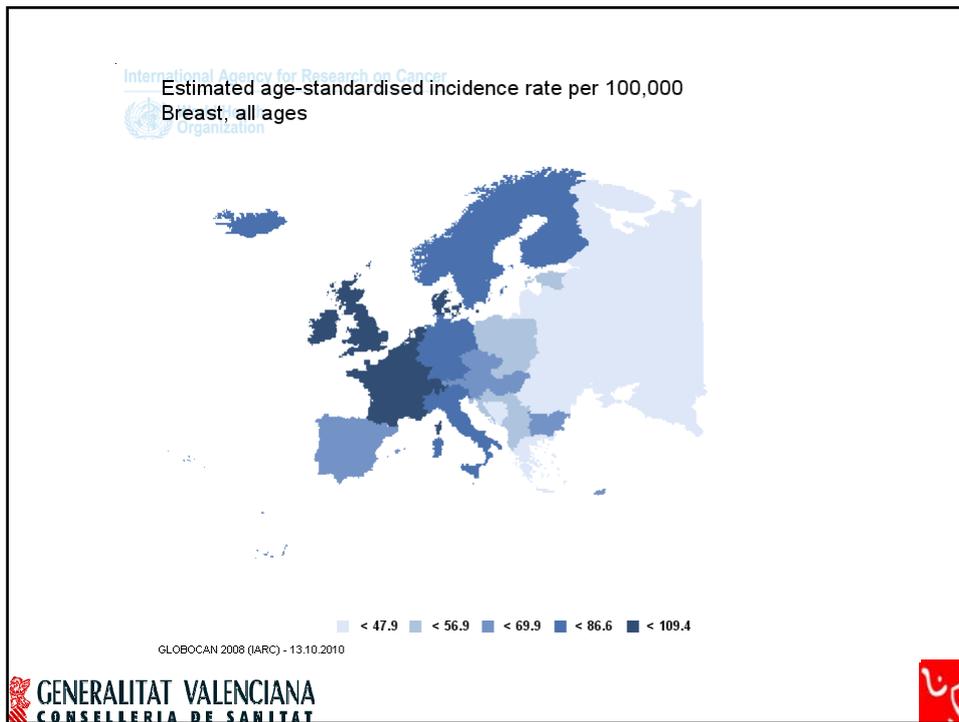
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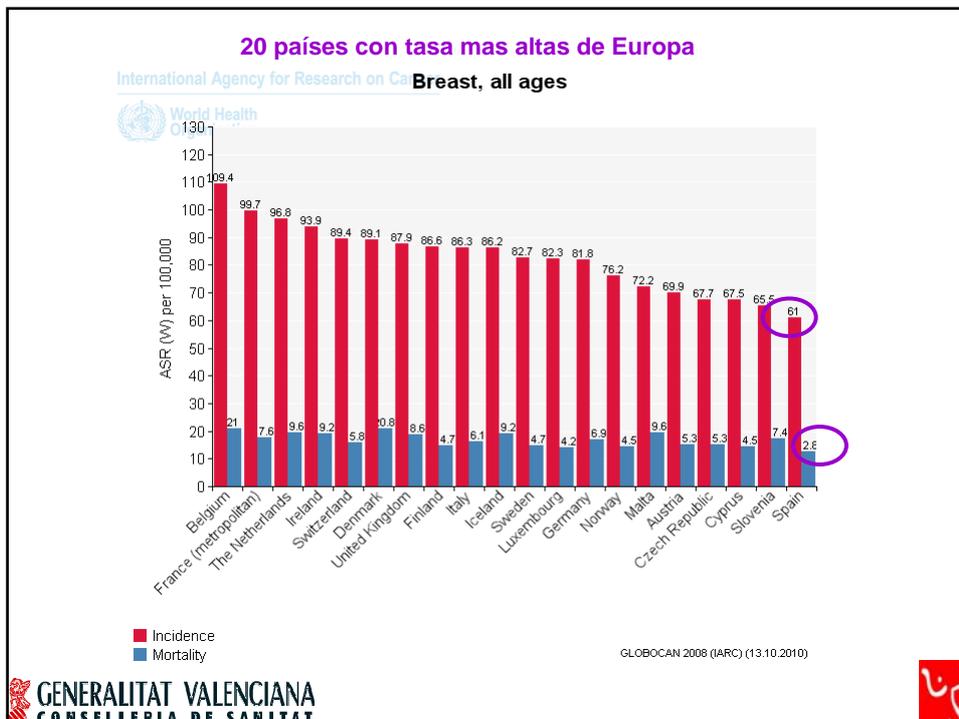
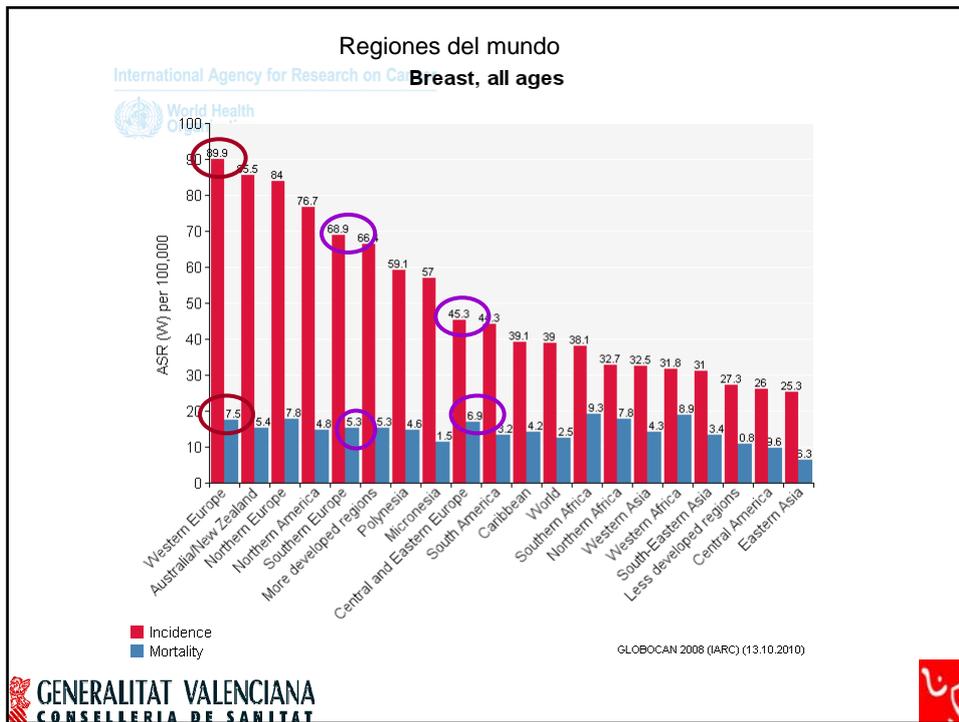
GLOBOCAN 2008 (IARC) - 13.10.2010

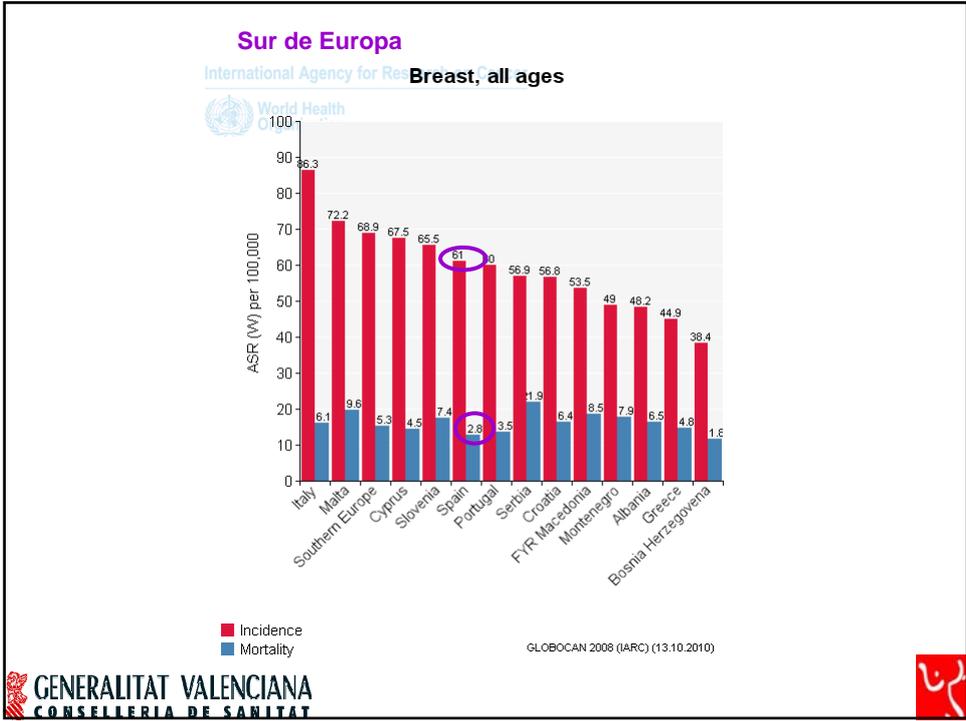




- En Europa también hay un patrón de distribución diferente entre los países del norte y del sur.
- En los últimos años las diferencias principales se observan entre los países del este y del oeste de Europa







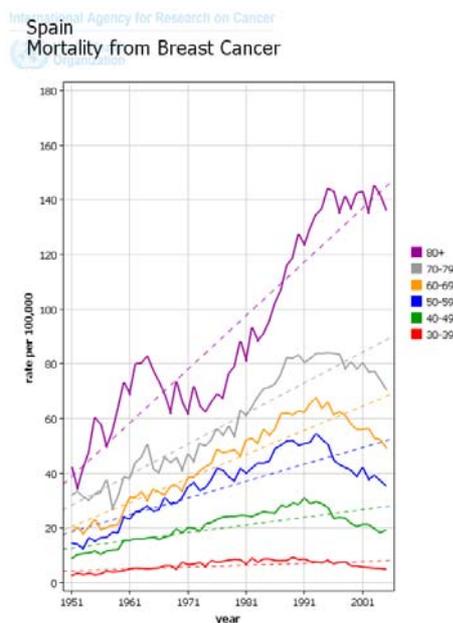
Tendencias de mortalidad e
incidencia de cáncer de mama
en España

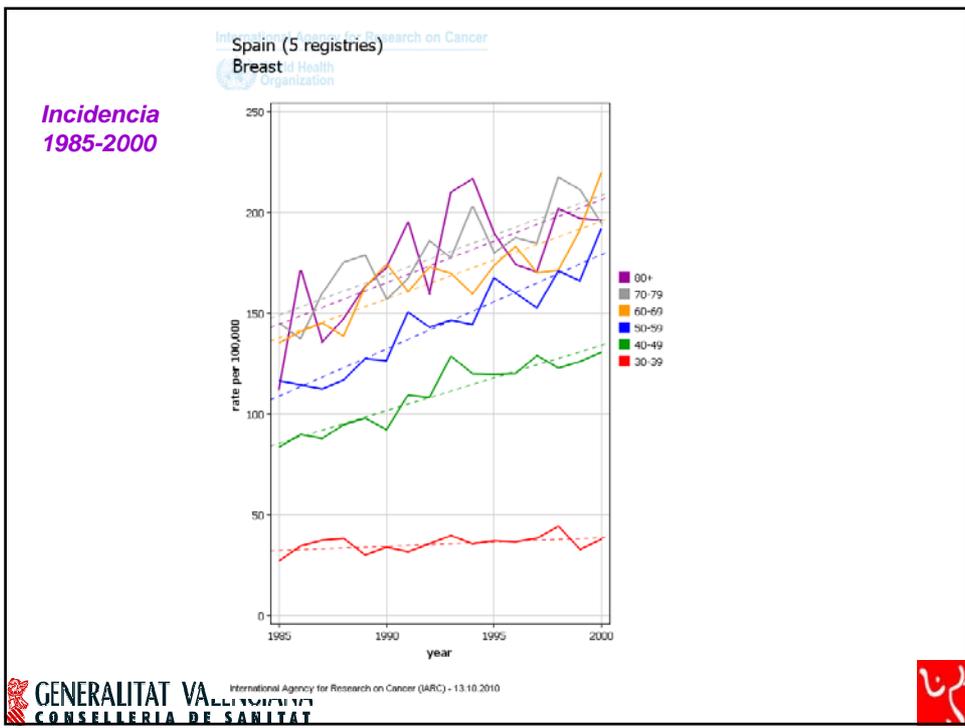
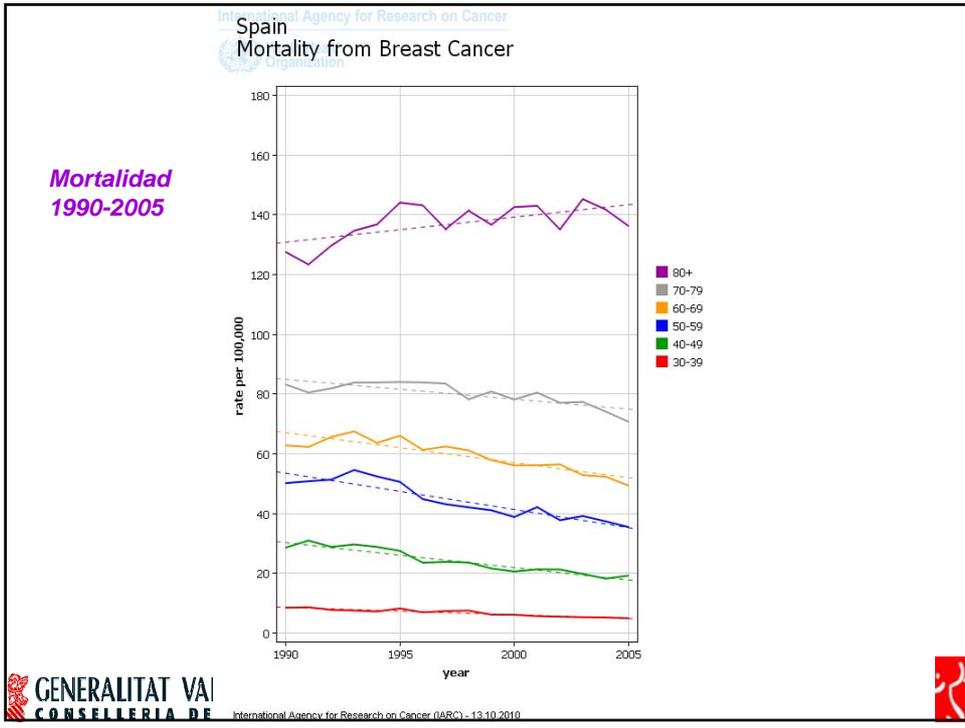
GENERALITAT VALENCIANA
CONSELLERIA DE SANITAT

- Desde los años 50 se observa una tendencia al incremento de la mortalidad y de la incidencia
- A partir de los años 90 la mortalidad tiende a disminuir.
- La incidencia aumenta fundamentalmente en los grupos de edad donde se realiza cribado.

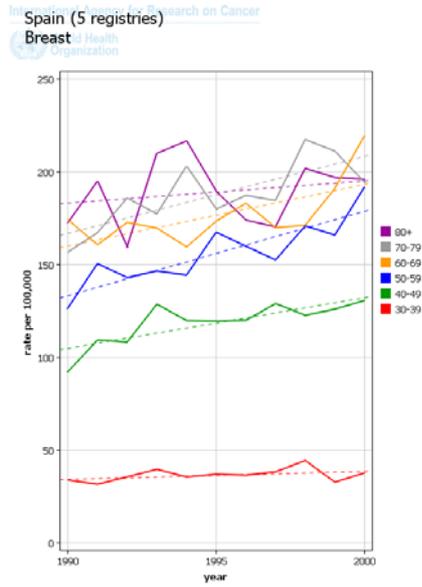


**Mortalidad
1951-2005**





**Incidencia
1990-2000**



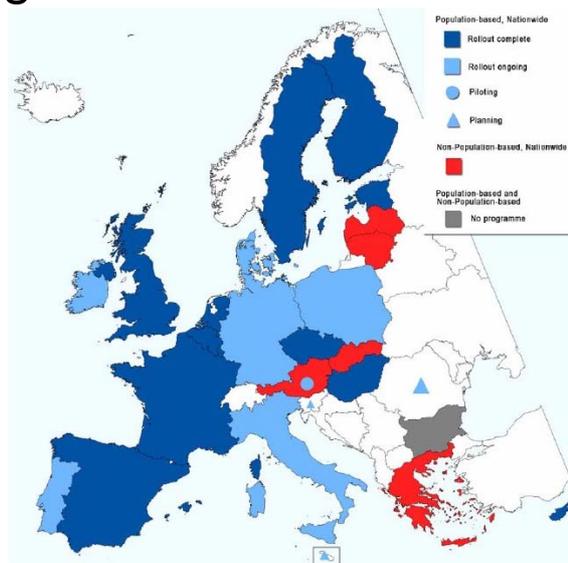
Contribución del cribado a la
disminución de la mortalidad por
cáncer de mama



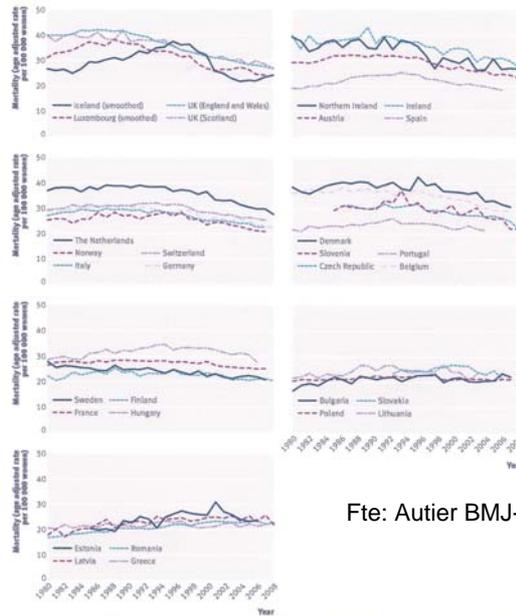
- La tendencia a la disminución de la mortalidad en los diferentes países se asocia al inicio de los programas de cribado.
- Existen controversias sobre cuanto contribuye el cribado y cuanto la mejora en los tratamientos a la disminución de la mortalidad



Programas de cribado en Europa



Mortalidad



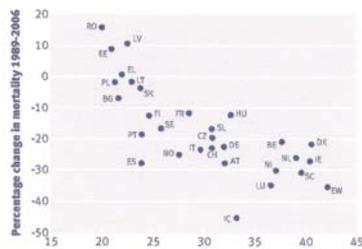
Fte: Autier BMJ-2010



Fig 1 | Temporal trends in breast cancer mortality in European countries. Countries have been grouped in graphs according to percentage change in mortality from 1989 to 2006. (Five-year smoothing was applied on Iceland and Luxembourg rates to avoid unstable trends because of small population size)



Mortalidad



Mean mortality in 1987-9 (age adjusted rate per 100 000 women)

Key:
 AT=Austria; BE=Belgium; BG=Bulgaria; CH=Switzerland; CZ=Czech Republic;
 DE=Germany; DK=Denmark; EL=Greece; EE=Estonia; ES=Spain;
 EW=England and Wales; FI=Finland; FR=France; HU=Hungary; IC=Iceland;
 IE=Republic of Ireland; IT=Italy; LI=Lithuania; LU=Luxemburg; LV=Latvia;
 NI=Northern Ireland; NL=Netherlands; NO=Norway; PL=Poland; PT=Portugal;
 RO=Romania; SC=Scotland; SE=Sweden; SI=Slovenia; SK=Slovakia

Fig 2 | Percentage changes in breast cancer mortality in European countries during 1989-2006 according to the mean breast cancer mortality in 1987-9

Fte: Autier BMJ-2010



Figure 2

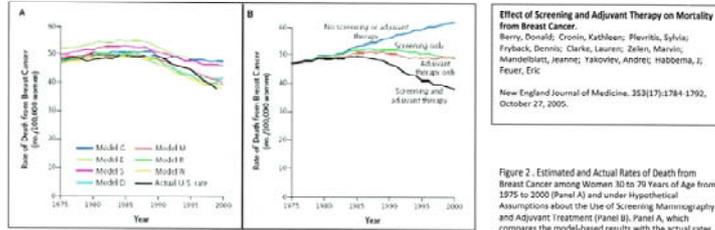


Figure 2. Estimated and Actual Rates of Death from Breast Cancer among Women 30 to 70 Years of Age from 1975 to 2000 (Panel A) and under Hypothetical Assumptions about the Use of Screening Mammography and Adjuvant Treatment (panel B). Panel A, which compares the model-based results with the actual rates in the United States from 1975 to 2000, shows the variability across the model estimates. Some of the models were calibrated according to the observed rate of death from breast cancer in the United States, and some were not. Panel B shows the results from model W (the University of Wisconsin-Madison) of estimated mortality trends for the four scenarios considered: no screening and no adjuvant treatment; base-case screening, but no adjuvant treatment; no screening, but base-case adjuvant treatment; base-case screening and adjuvant treatment. Rates in both panels are age-adjusted to the 2000 U.S. standard.

Fte: Berry-NEJM-2005



Table 3

Table 3. Estimated Reductions in the Rate of Death from Breast Cancer in 2000 Attributed to Adjuvant Treatments and Screening.^a

Model	Tamoxifen	Chemotherapy	Both Therapies	Screening	Overall
	<i>percent (percent of reduction)</i>				
D (Dana-Farber Cancer Institute)	6.1	6.1	12.0 (15)	22.7 (65)	32.9
E (Emory University Medical Center)	12.0	9.6	20.9 (58)	15.3 (42)	36.9
G (Georgetown University)	7.7	7.0	14.6 (54)	12.4 (46)	24.9
M (M.D. Anderson Cancer Center)	10.7	9.5	19.5 (65)	10.6 (35)	27.5
R (University of Rochester)	NA	NA	19.0 (72)	7.5 (28)	25.6
S (Stanford University)	3.9	6.9	14.9 (47)	16.9 (53)	20.9
W (University of Wisconsin-Madison)	12.5	8.9	20.8 (51)	20.3 (49)	38.3

^a Values are point estimates from each model; percentages in parentheses are the percentages of the overall reduction that are attributable to treatment or screening; NA denotes not applicable.

Effect of Screening and Adjuvant Therapy on Mortality from Breast Cancer.
 Berry, Donald; Cronin, Kathleen; Plevritis, Sylvia; Fryback, Dennis; Clarke, Lauren; Zelen, Marvin; Mandelblatt, Jeanne; Yakovlev, Andrei; Habbema, J; Feuer, Eric
 New England Journal of Medicine. 353(17):1784-1792, October 27, 2005.

Table 3. Estimated Reductions in the Rate of Death from Breast Cancer in 2000 Attributed to Adjuvant Treatments and Screening.

Fte: Berry-NEJM-2005



Cambios en la incidencia de cáncer de mama en España



- La mortalidad por cáncer de mama en España ha disminuido en las últimas dos décadas, y la supervivencia ha mejorado.
- La incidencia ha aumentado, los programas de cribado parecen tener alguna influencia en la evolución de la incidencia



Mortalidad

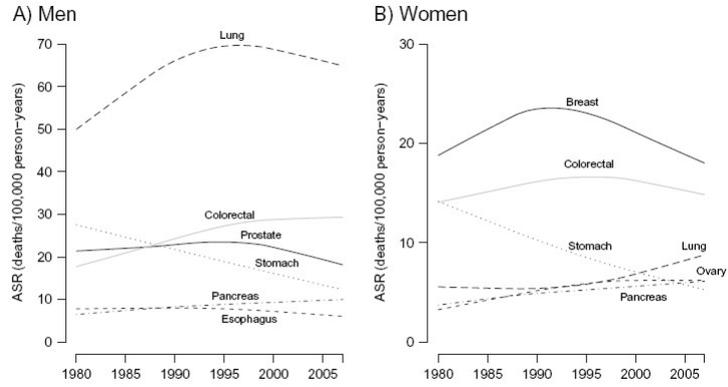


Figure 1. Mortality trends among men and women for selected types of cancer: Spain, 1980-2007.

Fte: Navarro. *Annals of oncology-volumen 21 supplement 3,2010*

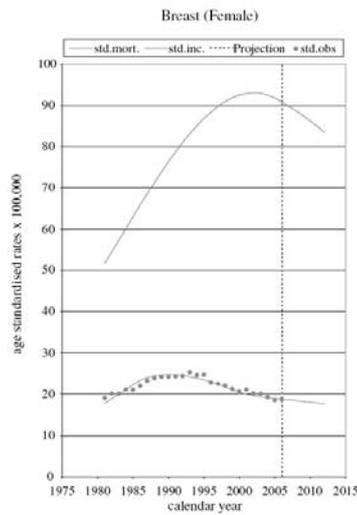
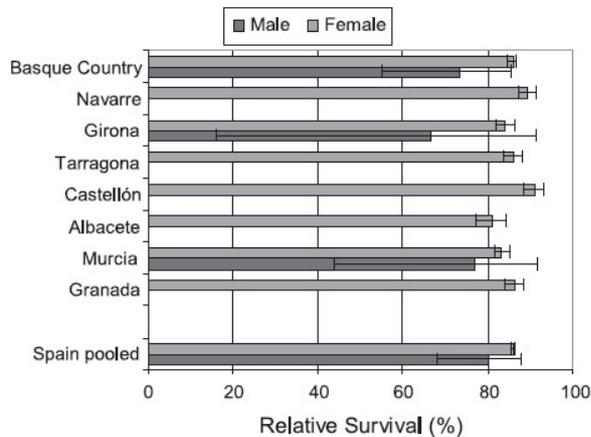


Figure 1. Mortality and incidence estimates (blue and red continuous lines) 1981-2012 for all cancers and for the major cancer sites in Spain, compared to the observed mortality data (dots). Men and women age-standardised rates (European population) per 100 000 person-years, age 0-94 years.

Fte: Sanchez. *Annals of oncology-volumen 21 supplement 3,2010*



Breast



* Rates adjusted using Brenner's method.
Horizontal lines indicate 95% confidence interval. In some regions adjusted RS could not be calculated due to the low number of cases across all age groups and/or negligible mortality.

Figure 2. Age-adjusted 5-year relative survival rates* by tumour type, sex and geographical area, individually and pooled.

Fte: Chirlaque. *Annals of oncology*-volumen 21
supplement 3,2010



Incidencia de cáncer de mama en mujeres de 25 o más años

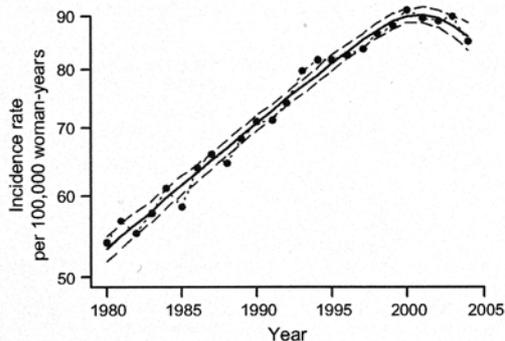
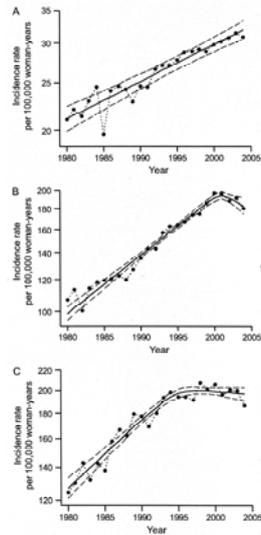


Figure 1. Age- and registry-adjusted incidence rates of invasive breast cancer over the period 1980–2004 among women aged 25 years or older included in all Spanish registries. The observed rates (dotted line) were obtained by using nominal categories for each single calendar year of diagnosis, and the estimated temporal trend (solid line) and its 95% confidence interval (dashed lines) were obtained from fitting a change-point model (see "Methods").

Fte: Marina Pollán JNCI-2009





Incidenca de càncer de mama en
mujeres de **25 – 44** años

Incidenca de càncer de mama en
mujeres de **44-64** años

Incidenca de càncer de mama en
mujeres de **64 o más** años

Figure 2. Age- and registry-adjusted incidence rates of invasive breast cancer over the period 1980–2004 among women who were included in all Spanish registries. A) Women aged 25–44 years. B) Women aged 45–64 years. C) Women aged 65 years or older. The observed rates (dotted lines) were obtained by using nominal categories for each single calendar year of diagnosis, and the estimated temporal trends (solid lines) and their 95% confidence intervals (dashed lines) were obtained from a log-linear model (A) and from change-point models (B and C) (see “Methods”).

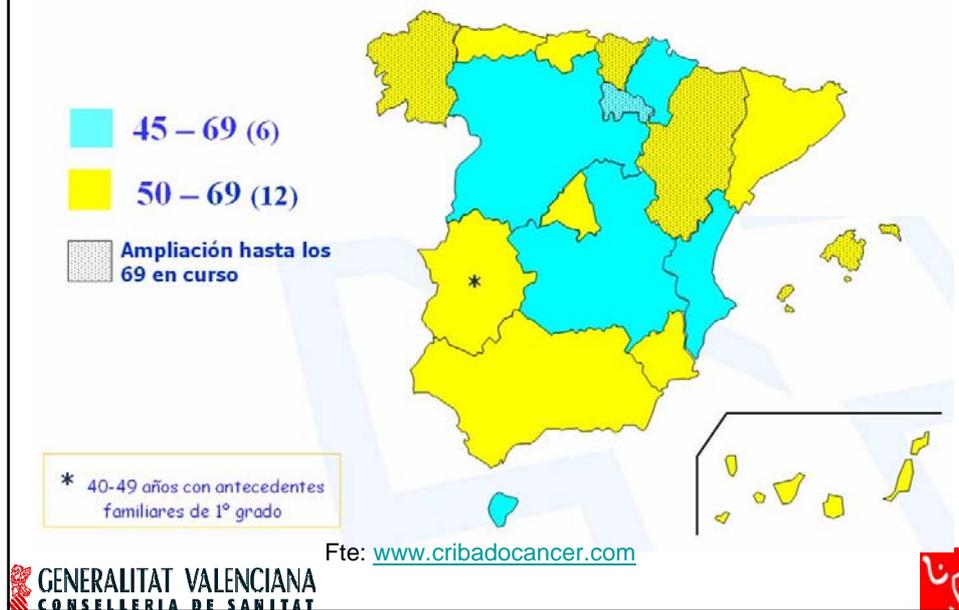
Fte: Marina Pollán JNCI-2009



Cambios en la incidencia del
càncer de mama en relación con
el cribado en España



Programas de cribado en España



- La incidencia del cáncer de mama varía según los periodos de implantación de los programas.
- Al principio de la implantación del cribado se incrementa la incidencia.
- Después disminuye la incidencia para estabilizarse o incrementarse.

Table 1. Age-adjusted breast cancer incidence per 100 000 woman-years using the European standard population and age-adjusted rate ratios

Registry and years	1980-84				1985-89				1990-94				1995-99				2000-04			
	Cases	Rate	RR ^a	95% CI ^a	Cases	Rate	RR ^a	95% CI ^a	Cases	Rate	RR ^a	95% CI ^a	Cases	Rate	RR ^a	95% CI ^a	Cases	Rate	RR ^a	95% CI ^a
Navarra 1980-2004	734	56.6	1.03	0.97-1.11	900	65.6	1.10	1.03-1.18	1307	90.7	1.30	1.23-1.37	1324	86.1	1.10	1.04-1.16	1536	91.3	1.10	1.04-1.16
Asturias 1982-2004	980	51.8	0.95	0.89-1.00	1873	56.2	0.94	0.90-0.99	2187	63.8	0.91	0.88-0.95	2518	71.6	0.92	0.88-0.95	2861	77.9	0.94	0.90-0.97
Zaragoza 1980-2003	1158	51.2	0.94	0.89-0.98	1333	55.5	0.93	0.89-0.98	1616	63.6	0.91	0.87-0.96	1937	73.4	0.94	0.90-0.98	1938	86.7	1.04	1.00-1.09
Tarragona 1980-2004	865	64.5	1.18	1.11-1.25	985	69.1	1.16	1.09-1.24	1270	79.9	1.14	1.08-1.21	1405	83.3	1.06	1.01-1.12	1735	93.0	1.12	1.07-1.17
Girona 1980-2004	622	55.9	1.02	0.95-1.10	839	67.7	1.14	1.06-1.22	745	84.0	1.20	1.12-1.30	1364	86.7	1.11	1.05-1.17	1646	95.5	1.15	1.09-1.21
Murcia 1983-2003	470	51.7	0.94	0.86-1.03	1354	56.4	0.95	0.90-1.00	1618	62.7	0.90	0.86-0.94	2139	76.5	0.98	0.94-1.02	2057	83.5	1.00	0.96-1.05
Granada 1985-2004					906	47.7	0.80	0.75-0.85	1107	55.4	0.79	0.75-0.84	1343	63.3	0.81	0.77-0.85	1704	75.8	0.91	0.87-0.96
Basque Country 1986-2004																				
Bizkaia					1549	63.1	1.06	1.01-1.11	2248	69.1	0.99	0.95-1.03	2946	86.5	1.11	1.07-1.14	3125	86.6	1.04	1.01-1.08
Guipúzcoa					910	62.6	1.05	0.99-1.12	1398	72.6	1.04	0.99-1.09	1787	89.7	1.15	1.09-1.20	1782	81.6	0.98	0.94-1.03
Araba					312	60.8	1.02	0.91-1.14	520	74.4	1.07	0.98-1.16	696	89.3	1.14	1.06-1.23	719	82.2	0.99	0.92-1.06
Mallorca 1988-2000					429	67.8	1.14	1.03-1.25	1196	71.4	1.02	0.97-1.08	1412	78.0	1.00	0.95-1.05	341	88.9	1.07	0.96-1.19
Canarias 1993-2004									995	81.5	1.17	1.10-1.24	2732	79.8	1.02	0.98-1.06	3342	83.9	1.01	0.98-1.04
Albacete 1991-2002									502	69.5	1.00	0.91-1.10	667	72.6	0.93	0.86-1.00	422	71.3	0.86	0.78-0.95
Cuenca 1993-2004									155	63.1	0.90	0.76-1.07	386	65.4	0.84	0.75-0.93	414	67.3	0.81	0.73-0.90
La Rioja 1993-2002									283	91.7	1.31	1.16-1.49	576	73.4	0.94	0.86-1.02	376	76.2	0.92	0.82-1.02
Castello 1995-2004													1007	76.8	0.98	0.92-1.05	1096	74.0	0.89	0.84-0.95
Overall 1980-2004	4829	54.8	1.00		11390	59.5	1.00		17147	69.8	1.00		24239	78.2	1.00		25094	83.1	1.00	

^aRate ratios (RR) and their 95% confidence intervals (95% CI) in the corresponding 5-year period, taking as reference the incidence obtained combining all available registries.

Fte: Pollán. *Annals of oncology-volumen 21 supplement 3,2010*



Table 3. Breast cancer incidence trend in women aged ≥65 years, during and after the implementation of the corresponding breast cancer screening programme

Registry	First screening round (%)	Participation (%)	Before screening ^a			Screening implementation			After screening: first period ^b			After screening: second period ^c		
			Period	APC ^d (95% CI)	P	Period	APC ^d (95% CI)	P	Period	APC ^d (95% CI)	P	Period	APC ^d (95% CI)	P
Navarra 1990-1992	87%		1980-1989	3.9 (2.0, 5.9)	<0.001	1989-1992	7.5 (4.4, 14.0)	0.015	1992-1995	-6.0 (-11.5, -0.1)	0.047	1995-2000	1.6 (0.2, 3.1)	0.024
Basque Country 1995-1997	83%		1986-1994	4.8 (1.8, 7.9)	0.002	1994-1997	13.1 (4.2, 22.7)	0.003	1997-2000	-7.6 (-14.8, 0.2)	0.055	2000-2000	1.4 (-4.3, 7.4)	0.641
Gipuzkoa 1997-1998	80%		1987-1996	2.7 (1.2, 4.1)	<0.001	1996-1998	13.4 (4.9, 22.6)	<0.001	1998-2001	-9.9 (-14.2, -5.2)	<0.001	2001-2000	3.8 (-1.3, 9.3)	0.149
Bizkaia 1997-1999	77%		1986-1996	3.2 (2.0, 4.3)	<0.001	1996-1999	4.9 (0.9, 9.0)	0.015	1999-2002	-2.36 (-6.0, 1.5)	0.222	2002-2000	0.77 (-5.1, 7.0)	0.802
Asturias 1991-2000	74%		1982-1990	3.1 (1.6, 4.6)	<0.001	1990-2000	2.5 (1.5, 3.4)	<0.001	2000-2004	-1.1 (-3.8, 1.8)	0.460			
Murcia 1995-1999	71%		1985-1994	3.4 (2.0, 4.9)	<0.001	1994-1999	2.5 (-0.1, 5.1)	0.059	1999-2003	0.3 (-2.7, 3.4)	0.847			
Tarragona 1998-2001	58%		1988-1997	2.5 (1.0, 4.0)	0.001	1997-2001	5.9 (1.9, 10.0)	0.003	2001-2004	-2.2 (-7.1, 2.9)	0.384			
Girona 1999-2002	84%		1992-1998	0.5 (-2.0, 3.0)	0.716	1998-2002	6.3 (2.5, 10.4)	0.002	2002-2004	-1.5 (-9.1, 6.7)	0.707			
Granada 1998-2003	72%		1988-1997	2.6 (0.9, 4.2)	0.002	1997-2003	3.4 (1.1, 5.8)	0.004						
Mallorca 1999-2002	79%		1989-1998	1.5 (0.1, 3.1)	0.043	1998-2000	7.9 (-0.9, 17.4)	0.080						
Canarias 1999-2005	53%		1993-1998	-0.63 (-2.8, 1.6)	0.580	1998-2004	-2.3 (-3.9, -0.8)	0.004						
Zaragoza 1999-2006	56%		1989-1998	2.9 (1.6, 4.2)	<0.001	1998-2003	3.6 (1.2, 6.1)	0.003						

All registries included provided information before starting the screening programme.
^aTrend before screening considered, when possible, 10 years before starting the screening programme.
^bTime after screening was divided into periods, considering the first 3 years after finishing the first round and the rest.
^cAPC (95% CI), annual percentage change (95% confidence interval).

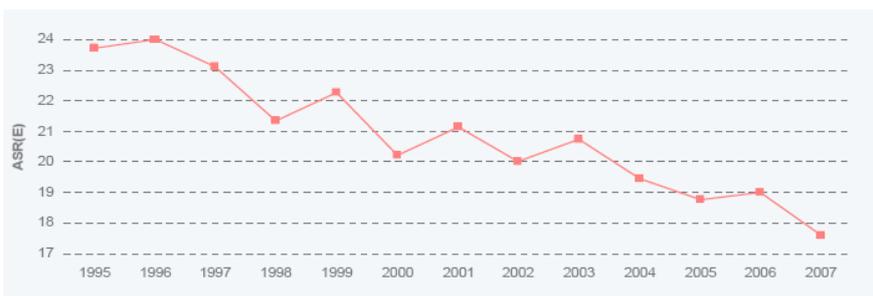
Fte: Pollán. *Annals of oncology-volumen 21 supplement 3,2010*



Comunitat Valenciana



Figura 2.13.1 Mama Femenina. Evolución de las tasas ajustadas de mortalidad - ASR(E) - CV 1995-2007



ASR(E): tasas ajustadas por edad método directo (población estándar europea) por 100.000 habitantes con su I. de C. al 95%
Fuente: Registro de Mortalidad de la CV y Centro Nacional de Epidemiología
Elaboración: Servicio de Estudios Epidemiológicos y Estadísticas Sanitarias, DGSP

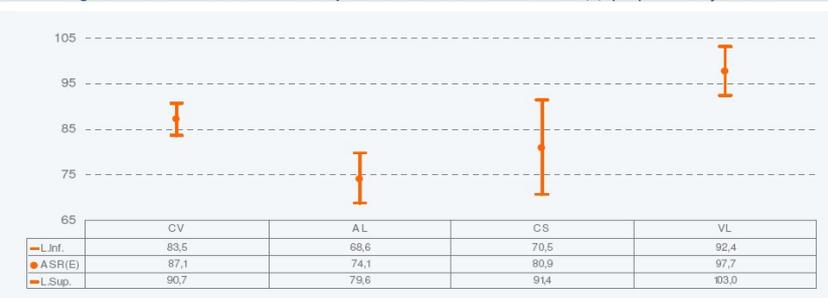


Figura 2.13.1 Mama femeniana. Indicadores de incidencia estimada por sexo. CV 2005

Sexo	Nº de Casos	Tasa Bruta	Ts Acumulada 0-74 años (%)	Ts Ajustada (Pobl. Europea)	I. de C. (95 %)	Ts Ajustada (Pobl. Mundial)	I. de C. (95 %)
Mujeres	2.396	101,5	7,2	87,1	(83,5 ; 90,7)	65,1	(62,3 ; 67,9)

Tasas bruta y ajustadas por 100.000 habitantes
 Tasa Acumulada: Suma de tasas de incidencia específica por edad hasta los 74 años, como aproximación al riesgo acumulado de desarrollar un cáncer
 Fuente: SIO Altas 2005
 Elaboración : Servicio de Estudios Epidemiológicos y Estadísticas Sanitarias. DGSP.

Figura 2.13.2 Mama femeniana. Tasas ajustadas de incidencia estimada -ASR(E)- por provincias y CV 2005



ASR(E): Tasas ajustadas por edad método directo (población estándar europea) por 100.000 habitantes, con su Intervalo de Confianza al 95%
 Fuente: SIO Altas 2005
 Elaboración : Servicio de Estudios Epidemiológicos y Estadísticas Sanitarias. DGSP.

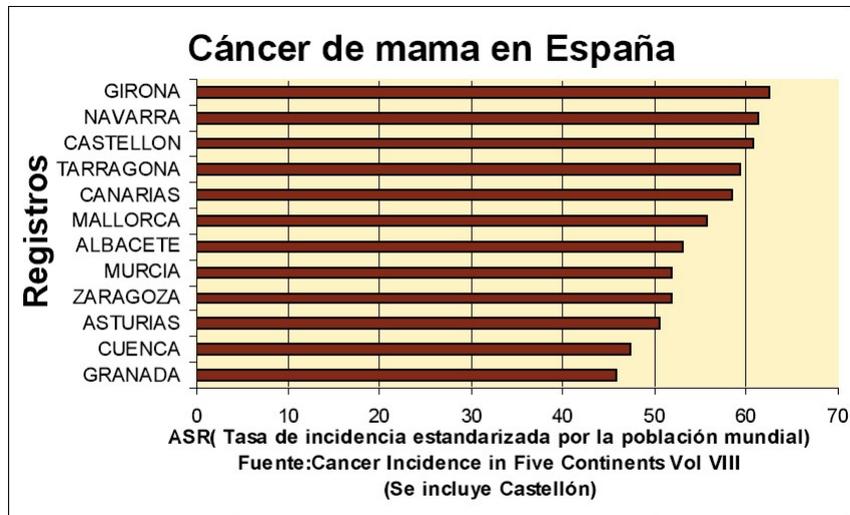


Figura 2.13.3 Mama femeniana. Tasas de incidencia estimada, específicas por edad y sexo. CV 2005

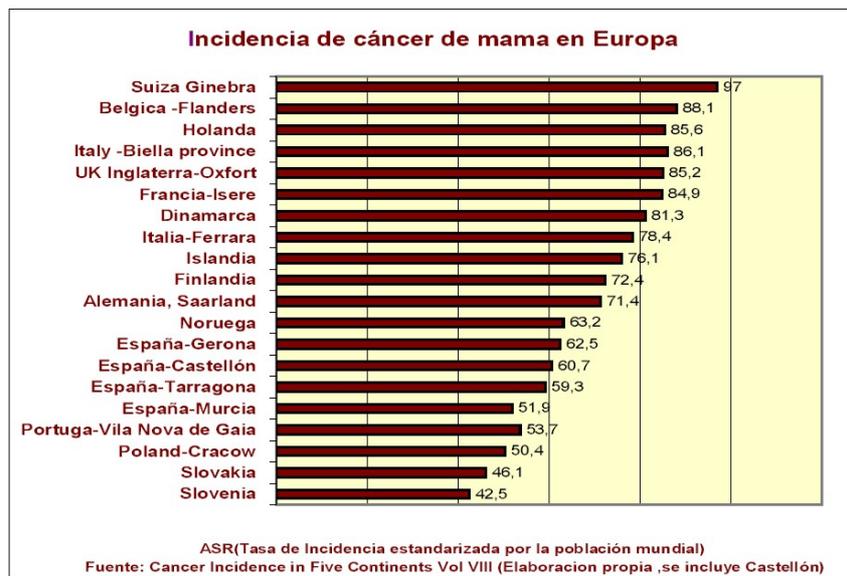


Fuente: SIO Altas 2005
 Elaboración : Servicio de Estudios Epidemiológicos y Estadísticas Sanitarias. DGSP.



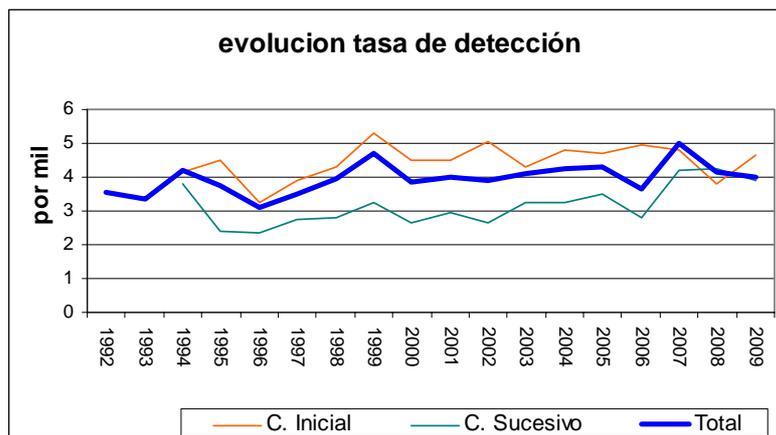
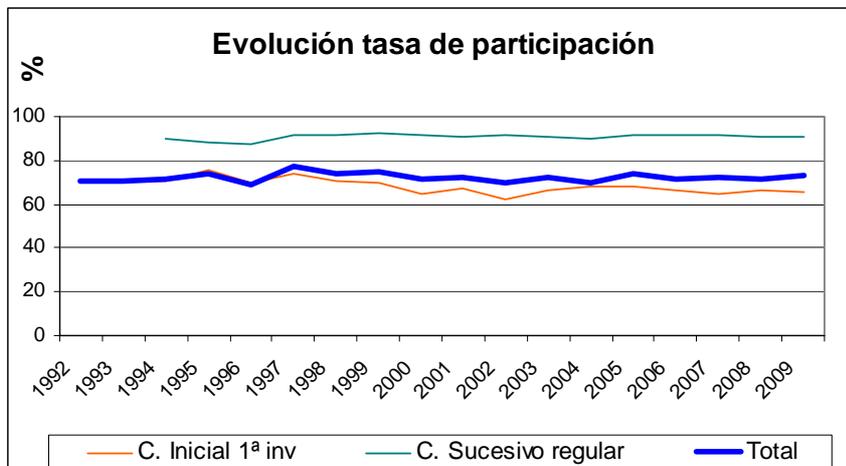


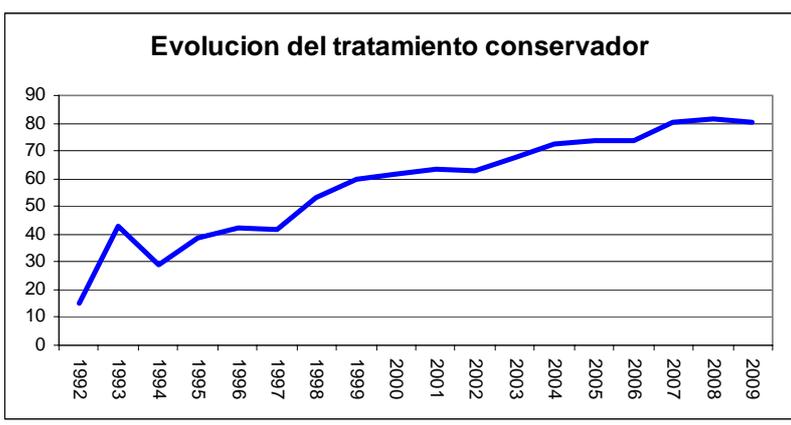
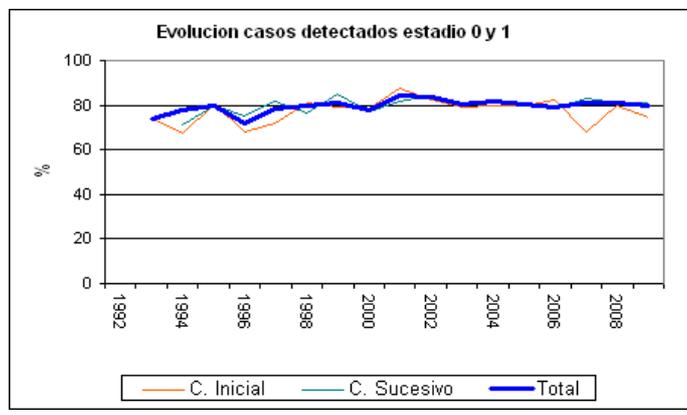
Comparación con otros registros españoles



Comparación con otros registros europeos







Conclusiones

- La mortalidad por cáncer de mama ha disminuido en los países con programas de cribado y buen acceso a los tratamientos.
- Existen controversias respecto la contribución del cribado y de los tratamientos a esta disminución de la mortalidad
- La incidencia aumenta con la implantación del cribado para después disminuir y luego estabilizarse o aumentar



- Es importante evaluar sistemáticamente el impacto de los programas de cribado:
 - Posibles beneficios: disminución de la mortalidad y mejoras en la calidad de vida.
 - Posibles efectos adversos: Falsos positivos, Falsos negativos, sobrediagnósticos y sobretratamientos.
- Hay que fomentar la decisión informada de las mujeres para la participación en los programas de cribado

