

Part III

Appendices

Appendix 1

Definition and ICD codes of Neural Tube Defects, Anencephaly and Spina Bifida

(Extract from EUROCAT Guide 1.2)

Subgroup	ICD9-BPA	ICD10-BPA	Exclusions
<u>Neural Tube Defects:</u> Neural tube defects include Anencephalus, encephalocele, spina bifida and iniencephaly	7400-7420	Q00,Q01, Q05, Q070	
<u>Anencephalus and similar:</u> Absence or deficiency of a major portion of the cranial vault, the covering skin and the brain tissue	7400-7401	Q000 and Q001	
<u>Spina Bifida:</u> Midline defect of the osseous spine usually affecting the posterior arches resulting in a herniation or exposure of the spinal cord and/or meninges	7410, 7419	Q050-Q059, Q070	Exclude association with Anencephalus

Appendix 2

Methods and Results of Poisson Regression Analysis

METHODS

The analysis included all registries and years for which data were available on the prevalence of neural tube defects (including information on induced abortions). Table A2 shows the years of data and the folic acid policy codes used for the analysis. Registries were analysed in two separate groups: UK plus Ireland and Continental Europe. Neural Tube Defect total prevalence rates are calculated by dividing the number of cases (liveborn, fetal deaths from 20 weeks gestation, or induced abortions following prenatal diagnosis) by the number of births. Neural tube defect total prevalence rates per 10,000 births were calculated for individual registries, by year, and by folic acid policy code. Folic acid policy codes were:

- A**= official policy of folic acid supplementation plus health education campaign
- B1**=official of folic acid supplementation policy with no education campaign
- B2**=official policy of encouraging diet rich in folate with / without an education campaign
- C** = no policy or education campaign
- D** = pre 1992 data: this code represents births which took place in years prior to conclusion evidence being available about the role of folic acid in the prevention of neural tube defects; thus distinguishing these years from code C in which although there was no policy in the country clinicians and some individuals may have been aware of the benefit of taking folic acid supplements.

The analysis was undertaken using two folic acid policy classifications, the first essentially examines whether folic acid supplementation affects NTD rates, and the second examines the possible additional effect of an education campaign on the folic acid supplementation policy. In these analyses dietary folate has been classified as equivalent to no policy:

Analysis 1 (3 levels):

- D
- C and B2 combined
- A and B1 combined

Analysis 2 (4 levels):

- D
- C and B2 combined
- B1
- A

Prevalence rates and 95% confidence intervals were calculated in Stata (Stata Statistical Software, Release 7.0, College Station, TX: Stata Corporation) using the tabrate command (authors David Clayton, MRC Biostatistical Research Unit, Cambridge, Michael Hills, London School of Hygiene and Tropical Medicine, London) which calculates exact Poisson confidence intervals (Hamilton 1990; Hoel 1984). Chi squared tests for heterogeneity and trend were also performed in STATA using the tabrate command.

Poisson regression was used to model the effect of folic acid supplementation policy on NTD rate. Incident rate ratios were obtained for the effect of policy on the NTD rate using pre 1992

years as the baseline (RR = 1.0) controlling for the effect of registry, year (as both a linear and quadratic term) and any interaction between registry and year. Likelihood ratio tests were performed to assess the significance of registry, year and their interaction in the model and to test for the effect of policy on the NTD rate.

Table A2.1: Years of data by Registry and Policy Type for the years for which NTD data were available

Registry	Country	Policy Type* (relevant years)				
		A	B1	B2	C	D
Antwerp	Belgium	-	-	-	1993-1999	1990-1992
Asturias	Spain	-	-	-	1993-1999	1990-1992
Barcelona	Spain	-	-	-	1993-1999	1992
Basque Country	Spain	-	-	-	1993-2000	1990-1992
Bulgaria	Bulgaria	-	-	-	1996-1999	-
Campania	Italy	-	-	-	1996-2000	-
Central East France	France	-	-	-	1993-2000	1985-1992
Croatia	Croatia	-	-	-	1993-2000	1983-1992
Dublin	Ireland	1994-2000	-	-	1993	1980-1992
Finland	Finland	-	-	1996-2000	1993-1995	-
Galway	Ireland	1994-1999	-	-	1993	1981-1992
Glasgow	UK	1996-1999	1993-1995	-	-	1980-1992
Hainaut	Belgium	-	-	-	1993-1999	1980-1992
Mainz	Germany	-	-	-	1993-1998	1990-1992
Malta	Malta	-	-	1995-2000	1993-1994	1986-1992
Mersey	UK	1996-1999	1995	-	-	-
North Thames (West)	UK	1996-1999	1993-1995	-	-	1991-1992
North-East Italy	Italy	-	-	-	1993-1999	1988-1992
Northern Netherlands	Netherlands	1996-2000	1993-1995	-	-	1981-1992
Norway	Norway	1999-2000	-	-	-	-
Odense		1998-2000	-	-	1993-1997	1980-1992
Paris	France	-	-	-	1993-2000	1981-1992
Saxony-Anhalt	Germany	-	-	-	1993-2000	1987-1992
Southern Portugal	Portugal	-	1999-2000	-	1993-1998	1990-1992
Strasbourg	France	-	-	-	1993-2000	1982-1992
Styria	Austria	-	-	-	1993-1999	1985-1992
Tuscany	Italy	-	-	-	2000	1980-1992
Vaud	Switzerland	-	1997-2000	-	1996	1989-1992
Wales	UK	1998-2000	-	-	-	-

* A= folic acid supplementation + health education; B1=folic acid supplementation, no education; B2= diet rich in folate +/- education; C = no policy or education; D = pre 1992 data before MRC vitamin study.

Results

Univariate Analysis

Prevalence Rates by year and policy type

The NTD rate showed a consistent decline across years from 47.12 in 1980 to only 13.65 in 2000, less than a third of the 1980 rate. This decline was statistically significant ($p < 0.001$) (Table 3).

Table A2.2: NTD Total Prevalence (per 10,000 births) by registry, UK and Ireland only, Chi^2 for heterogeneity 192.53 $p < 0.001$

Registry	Cases	Births	Prevalence (95% CI)
Dublin	940	441654	21.28 (19.97-22.69)
Galway	84	54509	15.41 (12.44-19.09)
Glasgow	627	243634	25.74 (23.80-27.83)
North Thames (West)	618	471189	13.12 (12.12-14.19)
Mersey	179	139867	12.80 (11.05-14.82)
Wales	168	97325	17.26 (14.84-20.08)

The prevalence of NTDs by policy type is shown in Table A2.4. The trend in prevalence across policy type levels is also significant ($p < 0.001$).

Table A2.3: NTD total prevalence by year, UK and Ireland only, Chi^2 for trend 460.43, $p < 0.001$

Year	Cases	Births	Prevalence	(95% CI)
1980	188	39898	47.12	(40.84 - 54.36)
1981	155	42547	36.43	(31.12 - 42.64)
1982	154	41310	37.28	(31.83 - 43.66)
1983	121	39410	30.70	(25.69 - 36.69)
1984	102	38363	26.59	(21.90 - 32.28)
1985	124	38299	32.38	(27.15 - 38.61)
1986	112	37876	29.57	(24.57 - 35.59)
1987	84	36806	22.82	(18.43 - 28.26)
1988	68	35596	19.10	(15.06 - 24.23)
1989	58	33839	17.14	(13.25 - 22.17)
1990	55	34555	15.92	(12.22 - 20.73)
1991	118	82539	14.30	(11.94 - 17.12)
1992	131	81431	16.09	(13.56 - 19.09)
1993	111	79781	13.91	(11.55 - 16.76)
1994	100	79720	12.54	(10.31 - 15.26)
1995	146	108323	13.48	(11.46 - 15.85)
1996	151	109153	13.83	(11.79 - 16.23)
1997	140	109180	12.82	(10.87 - 15.13)
1998	202	142546	14.17	(12.35 - 16.27)
1999	162	138815	11.67	(10.01 - 13.61)
2000	134	98191	13.65	(11.52 - 16.17)

Table A2.4: NTD prevalence (per 10,000 births) by folic acid code, UK and Ireland only, Chi² for trend code group 1: 307.21 p<0.001, and code group 2: 284.38, p<0.001

Code	Cases	Births	Prevalence	(95% CI)
Code Group 1:				
D	1339	501038	26.73	(25.33 - 28.20)
B2 and C	155	102567	15.11	(12.91 - 17.69)
A and B1	1122	844573	13.29	(12.53 - 14.09)
Code Group 2:				
D	1339	501038	26.73	(25.33 - 28.20)
B2 and C	155	102567	15.11	(12.91 - 17.69)
B1	284	204915	13.86	(12.34 - 15.57)
A	838	639658	13.10	(12.24 - 14.02)

The NTD rate in continental Europe in contrast to the UK and Ireland registries does not show a consistent decline over time (Table A2.6) ; 1980 and 1981 have slightly higher rates but thereafter the rates fluctuate around 7-9 per 10,000 births with no notable trend (p=0.39, 1980-2000).

Table A2.5: NTD prevalence (per 10,000 births) by registry, Continental Europe, Chi² for heterogeneity 579.63, p<0.001

Registry	Cases	Births	Prevalence	(95% CI)
Hainaut (Belgium)	232	214340	10.82	(9.52 - 12.31)
Odense (Denmark)	131	111970	11.70	(9.86 - 13.89)
Paris (France)	887	738666	12.01	(11.24 - 12.83)
Tuscany (Italy)	254	333133	7.63	(6.74 - 8.62)
(Northern Netherlands	341	308594	11.05	(9.94 - 12.29)
Strasbourg (France)	275	254048	10.83	(9.62 - 12.18)
Vaud (Switzerland)	93	92089	10.10	(8.24 - 12.38)
Croatia	59	109070	5.41	(4.19 - 6.98)
Malta	83	75626	10.98	(8.85 - 13.61)
North-East Italy	402	619204	6.49	(5.89 - 7.16)
Southern Portugal	79	131991	5.99	(4.80 - 7.46)
Antwerp (Belgium)	98	109002	8.99	(7.38 - 10.96)
Basque Country (Spain)	203	178583	11.37	(9.91 - 13.04)
Asturias (Spain)	90	68897	13.06	(10.63 - 16.06)
Saxony-Anhalt (Germany)	185	161920	11.43	(9.89 - 13.20)
Mainz (Germany)	70	37616	18.61	(14.72 - 23.52)
Barcelona (Spain)	90	99248	9.07	(7.38 - 11.15)
Finland	423	486577	8.69	(7.90 - 9.56)
Styria (Austria)	153	192348	7.95	(6.79 - 9.32)
Bulgaria	72	38257	18.82	(14.94 - 23.71)
Campania (Italy)	176	246252	7.15	(6.17 - 8.29)
Central East France	850	1588618	5.35	(5.00 - 5.72)
Norway	131	120122	10.91	(9.19 - 12.94)

The prevalence rates of NTD by policy type are shown in Table A2.7. There is no significant trend in prevalence by policy however for either code group ($p=0.63$, $p=0.20$).

Table A2.6: NTD prevalence (per 10,000 births) by year, Continental Europe, Chi² for trend 0.71, $p=0.39$

Year	Cases	Births	Prevalence	(95% CI)
1980	30	23293	12.88	(9.01 - 18.42)
1981	74	66952	11.05	(8.80 - 13.88)
1982	68	80102	8.49	(6.69 - 10.77)
1983	91	80984	11.24	(9.15 - 13.80)
1984	96	81543	11.77	(9.64 - 14.38)
1985	154	187626	8.21	(7.01 - 9.61)
1986	161	200568	8.03	(6.88 - 9.37)
1987	171	215396	7.94	(6.83 - 9.22)
1988	204	262819	7.76	(6.77 - 8.90)
1989	239	292700	8.17	(7.19 - 9.27)
1990	321	343429	9.35	(8.38 - 10.43)
1991	266	338666	7.85	(6.97 - 8.86)
1992	289	365438	7.91	(7.05 - 8.88)
1993	334	419546	7.96	(7.15 - 8.86)
1994	344	421082	8.17	(7.35 - 9.08)
1995	358	431266	8.30	(7.48 - 9.21)
1996	467	495164	9.43	(8.61 - 10.33)
1997	406	503303	8.07	(7.32 - 8.89)
1998	449	501867	8.95	(8.16 - 9.81)
1999	464	563604	8.23	(7.52 - 9.02)
2000	391	440823	8.87	(8.03 - 9.79)

Table A2.7: NTD prevalence (per 10,000 births) by folic acid code, continental Europe, Chi² for trend code group 1: 0.24, $p=0.63$, and code group2: 1.62, $p<0.20$

Code	Cases	Births	Prevalence	(95% CI)
Code Group 1:				
D	1875	2174078	8.62	(8.24 - 9.02)
B2 and C	3182	3818080	8.33	(8.05 - 8.63)
A and B1	320	324013	9.88	(8.85 - 11.02)
Code Group 2:				
D	1875	2174078	8.62	(8.24 - 9.02)
B2 and C	3182	3818080	8.33	(8.05 - 8.63)
B1	77	88049	8.75	(7.00 - 10.93)
A	243	235964	10.30	(9.08 - 11.68)

Regression analysis

Table A2.8 shows the results of the multivariate analysis for continental Europe and UK plus Ireland separately. The three level analysis in continental Europe shows a decreasing trend in the rate of NTD by policy type, with a significant rate ratio of 0.67 in the policy type A and B1 combined (ie. policy with or without education campaign) compared with years in which there was no intervention. In the four level analysis the additional effect of an education campaign is associated with a (non-significant) increase in the rate ratio compared with the group with folic acid supplementation policy and no education campaign. The likelihood ratio tests show that whilst the association between year and NTD rate is not significant ($p > 0.5$), both linear and quadratic year and the interactions between linear and quadratic year and registry are significant in the model ($p \leq 0.02$) as is the effect of registry (< 0.001). Removing policy from the model does not significantly alter the model either for the 3 level model ($p = 0.097$) or the 4 level model ($p = 0.096$).

The analysis of NTD and policy for the UK and Ireland shows an increase in NTD prevalence by policy type ($p < ?$) although this is not significant in any one policy group compared to the pre-1992 baseline. In these countries the association between year and NTD rate is significant ($p < 0.001$) and likelihood ratio tests indicate that year and the interaction between year and registry is also significant for both linear and quadratic year ($p < 0.01$). Removing policy from the model does not have a significant effect (likelihood ratio tests for the 3 level model = 0.53 and for the 4 level model $p = 0.65$).

Table A2.8: Multivariate analysis results (all rate ratios adjusted for year [linear and quadratic], registry and any interaction between year and registry).

Europe			
Cases	RR	95% CI	p value
Baseline (D)	1.0	-	-
Dietary or no policy compared with pre 1992	0.97	(0.86 - 1.10)	0.66
Supplementation with or without education campaign compared with pre 1992	0.67	(0.47 - 0.97)	0.03
Baseline (D)	1.0	-	-
Dietary or no policy compared with pre 1992	0.98	(0.87 - 1.12)	0.80
Supplementation without education campaign compared with pre 1992	0.65	(0.45 - 0.95)	0.03
Supplementation with education campaign compared with pre 1992	0.89	(0.51 - 1.57)	0.70
UK/Ireland			
Baseline (D)	1.0	-	-
Dietary or no policy compared with pre 1992	1.12	(0.91 - 1.39)	0.28
Supplementation with or without education campaign compared with pre 1992	1.14	(0.86 - 1.51)	0.37
Baseline (D)	1.0	-	-
Dietary or no policy compared with pre 1992	1.14	(0.92 - 1.42)	0.24
Supplementation without education campaign compared with pre 1992	1.14	(0.86 - 1.52)	0.36
Supplementation with education campaign compared with pre 1992	1.22	(0.85 - 1.76)	0.29

Appendix 3

NTD, Anencephaly and Spina Bifida:

Number of cases by type of birth¹, population (births), total prevalence rate and livebirth prevalence rate² (per 10,000 births) by year and registry: 32 EUROCAT registries, 1980-2000

¹ Fetal deaths from 20 weeks gestation (including stillbirths), induced abortion following prenatal diagnosis

² For simplicity livebirth prevalence rates have been calculated using all births as denominators

Table A3.1: Neural Tube Defects: Number of cases by type of birth¹, population (births), total prevalence rate and livebirth prevalence rate (per 10,000 births) by year and registry: 32 EUROCAT registries, 1980-2000

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Styria (Austria)																							
total cases						10	12	9	8	11	14	10	12	10	12	11	7	10	8	9		153	153
livebirths						7	8	4	1	5	6	6	5	4	5	8	4	6	2	4		75	75
fetal deaths						0	0	1	0	1	2	1	4	1	0	1	0	0	0	1		12	12
induced abortions						3	4	4	7	5	6	3	3	5	7	2	3	4	6	4		66	66
population:						13663	13303	13276	13340	13161	13349	13794	13744	13395	12988	12276	12465	11768	11026	10800		192348	192348
Total Prevalence						7.32	9.02	6.78	6.00	8.36	10.49	7.25	8.73	7.47	9.24	8.96	5.62	8.50	7.26	8.33		7.95	7.95
Livebirth Prevalence						5.12	6.01	3.01	0.75	3.80	4.49	4.35	3.64	2.99	3.85	6.52	3.21	5.10	1.81	3.70		3.90	3.90
Antwerp (Belgium)																							
total cases											9	8	2	9	12	8	8	16	15	11		98	98
livebirths											4	2	0	7	6	4	2	2	6	1		34	34
fetal deaths											2	1	0	0	1	0	0	0	0	0		4	4
induced abortions											3	5	2	2	5	4	6	14	9	10		60	60
population:											3740	4688	6180	7555	10964	10899	10796	18282	17930	17968		109002	109002
Total Prevalence											24.06	17.06	3.24	11.91	10.94	7.34	7.41	8.75	8.37	6.12		8.99	8.99
Livebirth Prevalence											10.70	4.27	0.00	9.27	5.47	3.67	1.85	1.09	3.35	0.56		3.12	3.12
Hainaut (Belgium)																							
total cases	10	11	4	7	10	9	12	14	4	14	18	17	17	11	10	11	17	12	14	10		232	232
livebirths	6	4	2	2	5	2	4	3	0	7	6	6	6	5	5	5	7	1	3	3		82	82
fetal deaths	0	5	0	2	0	2	2	1	0	2	5	2	1	0	2	0	0	0	1	0		25	25
induced abortions	4	2	2	3	5	5	6	10	4	5	7	9	10	6	3	6	10	11	10	7		125	125
population:	8449	8204	8209	7862	8066	8182	8380	8518	8805	13579	13503	13595	13328	12583	12273	11933	12416	12314	12044	12097		214340	214340
Total Prevalence	11.84	13.41	4.87	8.90	12.40	11.00	14.32	16.44	4.54	10.31	13.33	12.50	12.76	8.74	8.15	9.22	13.69	9.75	11.62	8.27		10.82	10.82
Livebirth Prevalence	7.10	4.88	2.44	2.54	6.20	2.44	4.77	3.52	0.00	5.16	4.44	4.41	4.50	3.97	4.07	4.19	5.64	0.81	2.49	2.48		3.83	3.83
Bulgaria																							
total cases																	16	17	23	16		72	72
livebirths																	9	9	6	8		32	32
fetal deaths																	5	2	7	4		18	18
induced abortions																	2	6	10	4		22	22
population:																	9908	9004	9177	10168		38257	38257
Total Prevalence																	16.15	18.88	25.06	15.74		18.82	18.82
Livebirth Prevalence																	9.08	10.00	6.54	7.87		8.36	8.36

Neural Tube Defects (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Croatia																							
total cases				2	4	2	4	3	4	4	5	5	5	5	2	0	0	5	5	2	2	57	59
livebirths				0	4	1	3	3	2	4	5	5	5	4	2	0	0	1	2	2	1	43	44
fetal deaths				2	0	1	1	0	2	0	0	0	0	0	0	0	0	2	0	0	0	8	8
induced abortions				0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	0	1	6	7
population:				4023	4029	3784	6867	6686	6183	7329	6948	7003	6481	6532	6135	6280	6435	6337	6170	6033	5815	103255	109070
Total Prevalence				4.97	9.93	5.29	5.82	4.49	6.47	5.46	7.20	7.14	7.71	7.65	3.26	0.00	0.00	7.89	8.10	3.32	3.44	5.52	5.41
Livebirth Prevalence				0.00	9.93	2.64	4.37	4.49	3.23	5.46	7.20	7.14	7.71	6.12	3.26	0.00	0.00	1.58	3.24	3.32	1.72	4.16	4.03
Odense (Denmark)																							
total cases	9	5	4	8	8	1	6	10	5	7	6	10	3	4	4	10	6	5	5	8	7	124	131
livebirths	4	2	2	5	3	0	2	5	3	5	2	6	1	4	2	5	4	2	2	6	5	65	70
fetal deaths	4	3	1	1	1	0	3	2	0	1	1	2	1	0	1	1	1	2	1	0	1	26	27
induced abortions	1	0	1	2	4	1	1	3	2	1	3	2	1	0	1	4	1	1	2	2	1	33	34
population:	5148	4604	4478	4309	4471	4698	4849	4852	5066	5287	5694	5752	6059	5946	6108	6153	5875	5807	5429	5689	5696	106274	111970
Total Prevalence	17.48	10.86	8.93	18.57	17.89	2.13	12.37	20.61	9.87	13.24	10.54	17.39	4.95	6.73	6.55	16.25	10.21	8.61	9.21	14.06	12.29	11.67	11.70
Livebirth Prevalence	7.77	4.34	4.47	11.60	6.71	0.00	4.12	10.31	5.92	9.46	3.51	10.43	1.65	6.73	3.27	8.13	6.81	3.44	3.68	10.55	8.78	6.12	6.25
Paris (France)																							
total cases		36	27	43	38	46	41	40	38	55	51	46	41	44	42	57	46	40	41	55	60	827	887
livebirths		18	11	10	7	3	5	10	3	7	7	5	3	5	3	5	6	5	5	1	5	119	124
fetal deaths		10	7	11	5	7	12	3	4	6	4	2	2	2	1	0	0	0	2	4	2	82	84
induced abortions		8	9	22	26	36	24	27	31	42	40	39	36	37	38	52	40	35	34	50	53	626	679
population:	36917	36741	35781	35902	36536	36384	36080	36672	36866	37302	37541	36469	35819	35918	36884	37237	37272	38160	38785	39400	699266	738666	
Total Prevalence	9.75	7.35	12.02	10.58	12.59	11.27	11.09	10.36	14.92	13.67	12.25	11.24	12.28	11.69	15.45	12.35	10.73	10.74	14.18	15.23	11.83	12.01	
Livebirth Prevalence	4.88	2.99	2.79	1.95	0.82	1.37	2.77	0.82	1.90	1.88	1.33	0.82	1.40	0.84	1.36	1.61	1.34	1.31	0.26	1.27	1.70	1.68	
Strasbourg (France)																							
total cases			14	10	20	9	15	9	12	13	13	12	17	14	12	15	19	15	16	20	20	255	275
livebirths			7	6	7	1	6	0	2	0	2	1	4	2	2	0	4	2	4	2	2	52	54
fetal deaths			2	2	2	1	2	3	2	0	2	0	1	0	1	0	1	2	2	0	0	23	23
induced abortions			5	2	11	7	7	6	8	13	9	11	12	12	9	15	14	11	10	18	18	180	198
population:			13662	12519	12924	13166	13112	12895	13595	13425	13775	13770	13736	13148	12865	13313	13185	13237	13656	13827	14238	239810	254048
Total Prevalence			10.25	7.99	15.48	6.84	11.44	6.98	8.83	9.68	9.44	8.71	12.38	10.65	9.33	11.27	14.41	11.33	11.72	14.46	14.05	10.63	10.82
Livebirth Prevalence			5.12	4.79	5.42	0.76	4.58	0.00	1.47	0.00	1.45	0.73	2.91	1.52	1.55	0.00	3.03	1.51	2.93	1.45	1.40	2.17	2.13

Neural Tube Defects (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Mainz (Germany)																							
total cases											4	3	5	8	4	7	12	12	10	5		70	70
livebirths											2	2	5	1	2	6	9	9	6	3		45	45
fetal deaths											1	0	0	0	1	1	1	1	1	0		6	6
induced abortions											1	1	0	7	1	0	2	2	3	2		19	19
population:											3903	4113	3941	4020	3769	3560	3603	3890	3542	3275		37616	37616
Total Prevalence											10.25	7.29	12.69	19.90	10.61	19.66	33.31	30.85	28.23	15.27		18.61	18.61
Livebirth Prevalence											5.12	4.86	12.69	2.49	5.31	16.85	24.98	23.14	16.94	9.16		11.96	11.96
Saxony-Anhalt (Germany)																							
total cases								32	23	24	22	1	1	4	5	5	15	15	9	11	18	167	185
livebirths								12	8	8	9	1	1	2	2	2	5	5	2	4	5	61	66
fetal deaths								6	2	1	3	0	0	1	1	0	0	0	0	0	0	14	14
induced abortions								14	13	15	10	0	0	1	2	3	10	10	7	7	13	92	105
population:								17165	16623	15202	14536	9123	7633	6910	7557	7707	8928	9606	10554	11500	18876	143044	161920
Total Prevalence								18.64	13.84	15.79	15.13	1.10	1.31	5.79	6.62	6.49	16.80	15.62	8.53	9.57	9.54	11.67	11.43
Livebirth Prevalence								6.99	4.81	5.26	6.19	1.10	1.31	2.89	2.65	2.60	5.60	5.21	1.90	3.48	2.65	4.26	4.08
Dublin (Ireland)																							
total cases	123	99	96	79	64	56	51	47	41	29	30	27	34	23	23	21	15	19	22	23	18	922	940
livebirths	78	65	67	61	41	36	41	30	27	19	21	20	24	20	19	18	12	16	18	17	17	650	667
fetal deaths	45	34	29	18	23	20	10	17	14	10	9	7	10	3	4	3	3	3	4	6	1	272	273
induced abortions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
population:	26460	25510	24822	23352	22312	22131	21708	20768	19830	18914	19393	19800	18933	18491	18412	18550	19288	20257	20887	20746	21090	420564	441654
Total Prevalence	46.49	38.81	38.68	33.83	28.68	25.30	23.49	22.63	20.68	15.33	15.47	13.64	17.96	12.44	12.49	11.32	7.78	9.38	10.53	11.09	8.53	21.92	21.28
Livebirth Prevalence	29.48	25.48	26.99	26.12	18.38	16.27	18.89	14.45	13.62	10.05	10.83	10.10	12.68	10.82	10.32	9.70	6.22	7.90	8.62	8.19	8.06	15.46	15.10
Galway (Ireland)																							
total cases		6	7	7	4	13	10	6	6	1	3	4	8	1	3	2	0	2	1	0		84	84
livebirths		6	5	4	3	11	8	4	5	1	3	3	7	1	2	1	0	1	1	0		66	66
fetal deaths		0	2	3	1	2	2	2	1	0	0	1	1	0	1	1	0	1	0	0		18	18
induced abortions		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
population:		3546	3604	3397	3268	3079	3155	3051	2858	2636	2691	2578	2666	2645	2375	2436	2534	2588	2747	2655		54509	54509
Total Prevalence		16.92	19.42	20.61	12.24	42.22	31.70	19.67	20.99	3.79	11.15	15.52	30.01	3.78	12.63	8.21	0.00	7.73	3.64	0.00		15.41	15.41
Livebirth Prevalence		16.92	13.87	11.78	9.18	35.73	25.36	13.11	17.49	3.79	11.15	11.64	26.26	3.78	8.42	4.11	0.00	3.86	3.64	0.00		12.11	12.11

Neural Tube Defects (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Campania (Italy)																							
total cases																	45	30	30	32	39	176	176
livebirths																	19	14	6	12	16	67	67
fetal deaths																	1	1	3	2	0	7	7
induced abortions																	25	15	21	18	23	102	102
population:																	46658	50458	51568	47397	50171	246252	246252
Total Prevalence																	9.64	5.95	5.82	6.75	7.77	7.15	7.15
Livebirth Prevalence																	4.07	2.77	1.16	2.53	3.19	2.72	2.72
Emilia Romagna (Italy)																							
total cases		7	10	16	11	13	18	10	6	10	12	15	11	9	10	5	5	7	16	7	18	198	216
livebirths		7	8	13	11	12	16	10	5	9	12	15	9	8	8	5	4	7	8	5	2	172	174
fetal deaths		0	2	3	0	1	2	0	1	1	0	0	0	1	1	0	0	0	0	2	1	14	15
induced abortions		0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	8	0	15	12	27
population:	13189	18364	21769	23155	24016	22868	22726	22760	23380	23524	25095	25002	24533	25886	26359	28873	28859	20928	24003	24839	445289	470128	
Total Prevalence	5.31	5.45	7.35	4.75	5.41	7.87	4.40	2.64	4.28	5.10	5.98	4.40	3.67	3.86	1.90	1.73	2.43	7.65	2.92	7.25	4.45	4.59	
Livebirth Prevalence	5.31	4.36	5.97	4.75	5.00	7.00	4.40	2.20	3.85	5.10	5.98	3.60	3.26	3.09	1.90	1.39	2.43	3.82	2.08	0.81	3.86	3.70	
North-East Italy																							
total cases		27	22	25	34	15	23	25	32	38	39	28	28	29	37	29	49	32	42	19	573	573	
livebirths		20	21	21	27	14	18	23	16	13	18	10	10	8	8	6	11	9	14	5	272	272	
fetal deaths		7	1	4	7	1	5	0	3	6	2	1	2	0	1	1	1	1	1	0	44	44	
induced abortions		0	0	0	0	0	0	2	13	19	19	17	16	21	28	22	37	22	27	14	257	257	
population:	27708	36321	41195	43202	43401	41265	42048	45307	47515	52205	51093	50340	49735	49443	51486	56869	55908	54939	54364	894344	894344		
Total Prevalence	9.74	6.06	6.07	7.87	3.46	5.57	5.95	7.06	8.00	7.47	5.48	5.56	5.83	7.48	5.63	8.62	5.72	7.64	3.49	6.41	6.41		
Livebirth Prevalence	7.22	5.78	5.10	6.25	3.23	4.36	5.47	3.53	2.74	3.45	1.96	1.99	1.61	1.62	1.17	1.93	1.61	2.55	0.92	3.04	3.04		
South East Sicily (Italy)																							
total cases												15	15	10	10	4	5	6	9	10	15	84	99
livebirths												14	11	9	10	4	5	6	9	10	6	78	84
fetal deaths												1	4	1	0	0	0	0	0	0	0	6	6
induced abortions																					9	0	9
population:												19430	20273	19746	20031	18986	18054	18795	16922	16942	15304	169179	184483
Total Prevalence												7.72	7.40	5.06	4.99	2.11	2.77	3.19	5.32	5.90	9.80	4.97	5.37
Livebirth Prevalence												7.21	5.43	4.56	4.99	2.11	2.77	3.19	5.32	5.90	3.92	4.61	4.55

Neural Tube Defects (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Tuscany (Italy)																							
total cases	11	14	8	7	5	16	9	8	6	13	11	2	18	18	12	13	14	14	22	14	19	235	254
livebirths	8	10	4	5	3	6	1	2	1	6	4	0	5	8	2	5	4	1	6	5	4	86	90
fetal deaths	3	4	1	0	0	1	0	0	0	2	0	0	1	0	0	0	1	0	1	0	1	14	15
induced abortions	0	0	3	2	2	9	8	6	5	5	7	2	12	10	10	8	9	13	15	9	14	135	149
population:	9696	9350	9281	8948	8592	8980	8477	8511	8869	8556	8751	8657	25670	24504	24487	24520	24606	24535	25468	26059	26616	306517	333133
Total Prevalence	11.34	14.97	8.62	7.82	5.82	17.82	10.62	9.40	6.77	15.19	12.57	2.31	7.01	7.35	4.90	5.30	5.69	5.71	8.64	5.37	7.14	7.67	7.62
Livebirth Prevalence	8.25	10.70	4.31	5.59	3.49	6.68	1.18	2.35	1.13	7.01	4.57	0.00	1.95	3.26	0.82	2.04	1.63	0.41	2.36	1.92	1.50	2.81	2.70
Malta																							
total cases							9	6	5	7	3	4	6	5	6	6	5	4	6	7	4	79	83
livebirths							6	5	5	6	2	4	5	5	6	6	3	4	5	4	4	66	70
fetal deaths							3	1	0	1	1	0	1	0	0	0	2	0	1	3	0	13	13
induced abortions							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
population:							5310	5375	5461	5617	5400	5328	5503	5172	4863	4633	4978	4864	4511	4339	4272	71354	75626
Total Prevalence							16.95	11.16	9.16	12.46	5.56	7.51	10.90	9.67	12.34	12.95	10.04	8.22	13.30	16.13	9.36	11.07	10.98
Livebirth Prevalence							11.30	9.30	9.16	10.68	3.70	7.51	9.09	9.67	12.34	12.95	6.03	8.22	11.08	9.22	9.36	9.25	9.26
Northern Netherlands																							
total cases		8	11	14	11	17	13	4	25	16	29	28	23	16	16	18	22	18	15	20	17	324	341
livebirths		5	8	7	7	7	7	2	13	11	18	21	15	7	9	10	10	9	9	9	10	184	194
fetal deaths		2	1	2	2	2	2	1	3	1	6	3	1	2	1	1	2	2	3	2	3	39	42
induced abortions		1	2	5	2	8	4	1	9	4	5	4	7	7	6	7	10	7	3	9	4	101	105
population:	7877	7731	7542	7559	7792	11936	11847	11595	19093	19635	19853	19140	19387	19283	19296	19033	19397	19941	20167	20490	288104	308594	
Total Prevalence	10.16	14.23	18.56	14.55	21.82	10.89	3.38	21.56	8.38	14.77	14.10	12.02	8.25	8.30	9.33	11.56	9.28	7.52	9.92	8.30	11.25	11.05	
Livebirth Prevalence	6.35	10.35	9.28	9.26	8.98	5.86	1.69	11.21	5.76	9.17	10.58	7.84	3.61	4.67	5.18	5.25	4.64	4.51	4.46	4.88	6.39	6.29	
Poland																							
total cases																					129	129	
livebirths																					119	119	
fetal deaths																					10	10	
induced abortions																						0	0
population:																					158923	158923	
Total Prevalence																					8.12	8.12	
Livebirth Prevalence																					7.49	7.49	

Neural Tube Defects (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Southern Portugal																							
total cases											6	4	4	1	7	8	13	8	2	14	12	67	79
livebirths											3	2	4	1	7	4	6	5	2	4	4	38	42
fetal deaths											0	2	0	0	0	2	1	0	0	0	1	5	6
induced abortions											3	0	0	0	0	2	6	3	0	10	7	24	31
population:											5461	5554	7391	7152	7000	14959	15439	16293	16312	17047	19383	112608	131991
Total Prevalence											10.99	7.20	5.41	1.40	10.00	5.35	8.42	4.91	1.23	8.21	6.19	5.95	5.99
Livebirth Prevalence											5.49	3.60	5.41	1.40	10.00	2.67	3.89	3.07	1.23	2.35	2.06	3.37	3.18
Asturias (Spain)																							
total cases											13	10	9	10	9	7	10	4	15	3		90	90
livebirths											4	2	1	0	1	2	2	1	2	0		15	15
fetal deaths											0	0	1	0	0	0	0	0	0	0		1	1
induced abortions											9	8	7	10	8	5	8	3	13	3		74	74
population:											7722	7693	7474	7012	6626	6553	6507	6473	6321	6516		68897	68897
Total Prevalence											16.84	13.00	12.04	14.26	13.58	10.68	15.37	6.18	23.73	4.60		13.06	13.06
Livebirth Prevalence											5.18	2.60	1.34	0.00	1.51	3.05	3.07	1.54	3.16	0.00		2.18	2.18
Barcelona (Spain)																							
total cases													14	13	10	11	10	8	14	10		90	90
livebirths													2	1	4	4	1	0	4	0		16	16
fetal deaths													1	1	0	1	1	1	1	2		8	8
induced abortions													11	11	6	6	8	7	9	8		66	66
population:													13477	12738	12609	12199	12031	12240	11684	12270		99248	99248
Total Prevalence													10.39	10.21	7.93	9.02	8.31	6.54	11.98	8.15		9.07	9.07
Livebirth Prevalence													1.48	0.79	3.17	3.28	0.83	0.00	3.42	0.00		1.61	1.61
Basque Country (Spain)																							
total cases											23	13	19	12	22	14	19	16	13	30	22	181	203
livebirths											12	7	5	3	7	3	2	4	2	6	4	51	55
fetal deaths											1	0	0	0	1	1	0	1	0	0	1	4	5
induced abortions											10	6	14	9	14	10	17	11	11	24	17	126	143
population:											16438	16291	16316	15891	15357	15397	16060	16397	16169	16859	17408	161175	178583
Total Prevalence											13.99	7.98	11.65	7.55	14.33	9.09	11.83	9.76	8.04	17.79	12.64	11.23	11.37
Livebirth Prevalence											7.30	4.30	3.06	1.89	4.56	1.95	1.25	2.44	1.24	3.56	2.30	3.16	3.08

Neural Tube Defects (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Vaud (Switzerland)																							
total cases										6	6	8	9	7	8	7	15	3	7	5	12	81	93
livebirths										0	2	1	2	2	1	0	5	1	2	1	5	17	22
fetal deaths										0	0	0	0	1	0	1	0	0	0	0	0	2	2
induced abortions										6	4	7	7	4	7	6	10	2	5	4	7	62	69
population:										7212	7697	8211	8076	7700	7683	7697	7730	7562	7438	7465	7618	84471	92089
Total Prevalence										8.32	7.80	9.74	11.14	9.09	10.41	9.09	19.40	3.97	9.41	6.70	15.75	9.59	10.10
Livebirth Prevalence										0.00	2.60	1.22	2.48	2.60	1.30	0.00	6.47	1.32	2.69	1.34	6.56	2.01	2.39
Glasgow (UK:Scotland)																							
total cases	65	50	51	35	34	55	51	31	21	28	22	19	22	18	21	22	31	12	21	18	627	627	
livebirths	18	7	18	8	10	17	17	4	9	7	3	5	4	5	8	4	6	1	5	8	164	164	
fetal deaths	13	9	3	1	0	3	2	2	0	1	2	1	2	2	0	5	1	3	1	1	52	52	
induced abortions	34	34	30	26	24	35	32	25	12	20	17	13	16	11	13	13	24	8	15	9	411	411	
population:	13438	13491	12884	12661	12783	13089	13013	12987	12908	12289	12471	12831	12339	11883	11407	11227	10976	10997	10239	9721	243634	243634	
Total Prevalence	48.37	37.06	39.58	27.64	26.60	42.02	39.19	23.87	16.27	22.78	17.64	14.81	17.83	15.15	18.41	19.60	28.24	10.91	20.51	18.52	25.74	25.74	
Livebirth Prevalence	13.39	5.19	13.97	6.32	7.82	12.99	13.06	3.08	6.97	5.70	2.41	3.90	3.24	4.21	7.01	3.56	5.47	0.91	4.88	8.23	6.73	6.73	
Mersey (UK:England)																							
total cases																34	43	49	29	24	179	179	
livebirths																3	6	5	4	6	24	24	
fetal deaths																1	0	3	4	1	9	9	
induced abortions																30	37	41	21	17	146	146	
population:																28786	29031	27983	27514	26553	139867	139867	
Total Prevalence																11.81	14.81	17.51	10.54	9.04	12.80	12.80	
Livebirth Prevalence																1.04	2.07	1.79	1.45	2.26	1.72	1.72	
North Thames (West) (UK:England)																							
total cases												68	67	69	53	67	62	58	66	41	67	551	618
livebirths												9	9	7	4	13	4	7	5	3	8	61	69
fetal deaths												3	2	4	3	8	4	3	1	3	4	31	35
induced abortions												56	56	58	46	46	54	48	60	35	55	459	514
population:												47330	47493	46762	47526	47324	47324	47355	47549	46874	45652	425537	471189
Total Prevalence												14.37	14.11	14.76	11.15	14.16	13.10	12.25	13.88	8.75	14.68	12.95	13.12
Livebirth Prevalence												1.90	1.90	1.50	0.84	2.75	0.85	1.48	1.05	0.64	1.75	1.43	1.46

Neural Tube Defects (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Wales (UK)																							
total cases																			63	56	49	119	168
livebirths																			4	8	4	12	16
fetal deaths																			0	2	1	2	3
induced abortions																			59	46	42	105	147
population:																			33610	32266	31449	65876	97325
Total Prevalence																			18.74	17.36	15.58	18.06	17.26
Livebirth Prevalence																			1.19	2.48	1.27	1.82	1.64
Total (Full Member Registries)																							
total cases	218	263	254	253	243	262	274	254	236	276	339	357	390	350	350	392	509	437	539	480	528	6676	7204
livebirths	114	144	153	142	128	117	142	117	100	108	145	147	143	119	125	123	150	133	144	137	221	2631	2852
fetal deaths	65	74	49	49	41	41	46	39	32	33	41	27	35	19	20	28	25	28	34	33	26	759	785
induced abortions	39	45	52	62	74	104	86	98	104	135	153	183	212	212	205	241	334	276	361	310	279	3286	3565
population:	63191	150396	176097	183358	186263	202517	210627	226785	229872	250061	294138	359123	387664	379259	381565	419413	486839	498478	522435	522385	527240	6130466	6657706
Total Prevalence	34.50	17.49	14.42	13.80	13.05	12.94	13.01	11.20	10.27	11.04	11.53	9.94	10.06	9.23	9.17	9.35	10.46	8.77	10.32	9.19	10.01	10.89	10.82
Livebirth Prevalence	18.04	9.57	8.69	7.74	6.87	5.78	6.74	5.16	4.35	4.32	4.93	4.09	3.69	3.14	3.28	2.93	3.08	2.67	2.76	2.62	4.19	4.29	4.28
Associate Member Registries																							
Finland																							
total cases														48	52	49	54	60	72	44	44	379	423
livebirths														27	15	19	20	29	22	16	18	148	166
fetal deaths														1	2	2	4	5	2	1	1	17	18
induced abortions														20	35	28	30	26	48	27	25	214	239
population:														65098	65480	63368	60965	59569	57345	57782	56970	429607	486577
Total Prevalence														7.37	7.94	7.73	8.86	10.07	12.56	7.61	7.72	8.82	8.69
Livebirth Prevalence														4.15	2.29	3.00	3.28	4.87	3.84	2.77	3.16	3.45	3.41
Central East France																							
total cases	33	25	32	34	31	44	40	36	42	31	49	57	56	66	62	72	65	62	65	59	44	961	1005
livebirths	31	23	29	30	27	37	27	21	29	17	25	28	29	24	21	25	26	18	18	12	4	497	501
fetal deaths	2	2	3	4	4	3	2	1	2	0	2	0	2	2	0	1	0	0	1	3	0	34	34
induced abortions						4	11	14	11	14	22	29	25	40	41	46	39	44	46	44	40	430	470
population:	75332	76220	75813	86433	86904	90825	91950	90191	91303	99858	107370	106607	104480	99249	99674	102153	103440	102090	102483	102982	93963	1895357	1989320
Total Prevalence	4.38	3.28	4.22	3.93	3.57	4.84	4.35	3.99	4.60	3.10	4.56	5.35	5.36	6.65	6.22	7.05	6.28	6.07	6.34	5.73	4.68	5.07	5.05
Livebirth Prevalence	4.12	3.02	3.83	3.47	3.11	4.07	2.94	2.33	3.18	1.70	2.33	2.70	2.78	2.42	2.11	2.45	2.51	1.76	1.76	1.17	0.43	2.62	2.52

Neural Tube Defects (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Norway																							
total cases	55	55	53	46	39	50	50	46	37	54	31	41	52	35	52	58	55	34	41	60	71	944	1015
livebirths	28	39	30	29	26	18	24	24	19	28	21	22	28	15	17	27	25	16	18	19	25	473	498
fetal deaths	27	16	23	17	13	23	18	12	12	13	6	8	7	8	11	11	11	5	9	12	7	262	269
induced abortions	0	0	0	0	0	9	8	10	6	13	4	11	17	12	24	20	19	13	14	29	39	209	248
population:	51495	51021	51642	50258	50576	51416	52885	54313	57936	59712	61523	61386	60636	60166	60306	60488	61092	59896	58482	60215	59907	1135444	1195351
Total Prevalence	10.68	10.78	10.26	9.15	7.71	9.72	9.45	8.47	6.39	9.04	5.04	6.68	8.58	5.82	8.62	9.59	9.00	5.68	7.01	9.96	11.85	8.31	8.49
Livebirth Prevalence	5.44	7.64	5.81	5.77	5.14	3.50	4.54	4.42	3.28	4.69	3.41	3.58	4.62	2.49	2.82	4.46	4.09	2.67	3.08	3.16	4.17	4.17	4.17
ECEMC (Spain)																							
total cases	65	56	65	63	67	83	43	35	43	39	57	65	46	38	38	33	34	36	29	21		956	956
livebirths	49	46	51	54	55	56	33	28	37	28	47	53	41	33	33	27	31	30	27	18		777	777
fetal deaths	16	10	14	9	12	27	10	7	6	11	10	12	5	5	5	6	3	6	2	3		179	179
induced abortions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
population:	56910	56102	61333	71812	69513	66720	58245	51051	52686	59046	84379	87708	91607	82925	87239	87372	94044	98945	96490	104337		1518464	1518464
Total Prevalence	11.42	9.98	10.60	8.77	9.64	12.44	7.38	6.86	8.16	6.61	6.76	7.41	5.02	4.58	4.36	3.78	3.62	3.64	3.01	2.01		6.30	6.30
Livebirth Prevalence	8.61	8.20	8.32	7.52	7.91	8.39	5.67	5.48	7.02	4.74	5.57	6.04	4.48	3.98	3.78	3.09	3.30	3.03	2.80	1.73		5.12	5.12
Total (Associate Member Registries)																							
total cases	153	136	150	143	137	177	133	117	122	124	137	163	154	187	204	212	208	192	207	184	159	3240	3399
livebirths	108	108	110	113	108	111	84	73	85	73	93	103	98	99	86	98	102	93	85	65	47	1895	1942
fetal deaths	45	28	40	30	29	53	30	20	20	24	18	20	14	16	18	20	18	16	14	19	8	492	500
induced abortions	0	0	0	0	0	13	19	24	17	27	26	40	42	72	100	94	88	83	108	100	104	853	957
population:	183737	183343	188788	208503	206993	208961	203080	195555	201925	218616	253272	255701	256723	307438	312699	313381	319541	320500	314800	325316	210840	4978872	5189712
Total Prevalence	8.33	7.42	7.95	6.86	6.62	8.47	6.55	5.98	6.04	5.67	5.41	6.37	6.00	6.08	6.52	6.76	6.51	5.99	6.58	5.66	7.54	6.51	6.55
Livebirth Prevalence	5.88	5.89	5.83	5.42	5.22	5.31	4.14	3.73	4.21	3.34	3.67	4.03	3.82	3.22	2.75	3.13	3.19	2.90	2.70	2.00	2.23	3.81	3.74
Total (All Registries)																							
total cases	371	399	404	396	380	439	407	371	358	400	476	520	544	537	554	604	717	629	746	664	687	9916	10603
livebirths	222	252	263	255	236	228	226	190	185	181	238	250	241	218	211	221	252	226	229	202	268	4526	4794
fetal deaths	110	102	89	79	70	94	76	59	52	57	59	47	49	35	38	48	43	44	48	52	34	1251	1285
induced abortions	39	45	52	62	74	117	105	122	121	162	179	223	254	284	305	335	422	359	469	339	383	4068	4451
population:	246928	333739	364885	391861	393256	411478	413707	422340	431797	468677	547410	614824	644387	686697	694264	732794	806380	818978	837235	847701	738080	11109338	11847418
Total Prevalence	15.02	11.96	11.07	10.11	9.66	10.67	9.84	8.78	8.29	8.53	8.70	8.46	8.44	7.82	7.98	8.24	8.89	7.68	8.91	7.83	9.31	8.93	8.95
Livebirth Prevalence	8.99	7.55	7.21	6.51	6.00	5.54	5.46	4.50	4.28	3.86	4.35	4.07	3.74	3.17	3.04	3.02	3.13	2.76	2.74	2.38	3.63	4.07	4.05

Table A3.2: Spina Bifida: Number of cases by type of birth, population (births), total prevalence rate and livebirth prevalence rate (per 10,000 births) by year and registry: 32 EUROCAT registries, 1980-2000

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000	
Styria (Austria)																								
total cases						6	10	7	4	7	9	8	7	7	6	10	2	5	5	4	97	97		
livebirths						6	8	3	1	5	5	6	4	4	5	8	2	5	1	2	65	65		
fetal deaths						0	0	1	0	1	1	1	2	1	0	0	0	0	0	0	7	7		
induced abortions						0	2	3	3	1	3	1	1	2	1	2	0	0	4	2	25	25		
population:						13663	13303	13276	13340	13161	13349	13794	13744	13395	12988	12276	12465	11768	11026	10800	192348	192348		
Total Prevalence						4.39	7.52	5.27	3.00	5.32	6.74	5.80	5.09	5.23	4.62	8.15	1.60	4.25	4.53	3.70	5.04	5.04		
Livebirth Prevalence						4.39	6.01	2.26	0.75	3.80	3.75	4.35	2.91	2.99	3.85	6.52	1.60	4.25	0.91	1.85	3.38	3.38		
Antwerp (Belgium)																								
total cases											6	2	0	7	8	5	4	2	14	1	49	49		
livebirths											4	0	0	6	6	4	2	2	6	1	31	31		
fetal deaths											1	0	0	0	1	0	0	0	0	0	2	2		
induced abortions											1	2	0	1	1	1	2	0	8	0	16	16		
population:											3740	4688	6180	7555	10964	10899	10796	18282	17930	17968	109002	109002		
Total Prevalence											16.04	4.27	0.00	9.27	7.30	4.59	3.71	1.09	7.81	0.56	4.50	4.50		
Livebirth Prevalence											10.70	0.00	0.00	7.94	5.47	3.67	1.85	1.09	3.35	0.56	2.84	2.84		
Hainaut (Belgium)																								
total cases	6	3	0	3	4	2	6	4	0	6	12	10	13	5	7	7	9	6	7	8	118	118		
livebirths	6	2	0	1	4	0	4	3	0	5	4	6	6	4	4	5	5	1	2	3	65	65		
fetal deaths	0	1	0	1	0	1	1	1	0	1	5	2	0	0	2	0	0	0	1	0	16	16		
induced abortions	0	0	0	1	0	1	1	0	0	0	3	2	7	1	1	2	4	5	4	5	37	37		
population:	8449	8204	8209	7862	8066	8182	8380	8518	8805	13579	13503	13595	13328	12583	12273	11933	12416	12314	12044	12097	214340	214340		
Total Prevalence	7.10	3.66	0.00	3.82	4.96	2.44	7.16	4.70	0.00	4.42	8.89	7.36	9.75	3.97	5.70	5.87	7.25	4.87	5.81	6.61	5.51	5.51		
Livebirth Prevalence	7.10	2.44	0.00	1.27	4.96	0.00	4.77	3.52	0.00	3.68	2.96	4.41	4.50	3.18	3.26	4.19	4.03	0.81	1.66	2.48	3.03	3.03		
Bulgaria																								
total cases																	10	10	13	10	43	43		
livebirths																	9	8	5	8	30	30		
fetal deaths																	1	1	2	1	5	5		
induced abortions																	0	1	6	1	8	8		
population:																	9908	9004	9177	10168	38257	38257		
Total Prevalence																	10.09	11.11	14.17	9.83	11.24	11.24		
Livebirth Prevalence																	9.08	8.88	5.45	7.87	7.84	7.84		

Spina Bifida (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Croatia																							
total cases				0	4	1	3	2	4	3	3	5	5	3	2	0	0	4	3	2	1	44	45
livebirths				0	4	1	3	2	2	3	3	5	5	3	2	0	0	1	2	2	1	38	39
fetal deaths				0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	4	4
induced abortions				0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
population:				4023	4029	3784	6867	6686	6183	7329	6948	7003	6481	6532	6135	6280	6435	6337	6170	6033	5815	103255	109070
Total Prevalence				0.00	9.93	2.64	4.37	2.99	6.47	4.09	4.32	7.14	7.71	4.59	3.26	0.00	0.00	6.31	4.86	3.32	1.72	4.26	4.13
Livebirth Prevalence				0.00	9.93	2.64	4.37	2.99	3.23	4.09	4.32	7.14	7.71	4.59	3.26	0.00	0.00	1.58	3.24	3.32	1.72	3.68	3.58
Odense (Denmark)																							
total cases	2	2	1	4	4	0	4	4	3	5	4	6	2	2	2	5	4	4	1	6	5	65	70
livebirths	2	2	1	4	3	0	2	3	2	4	1	6	1	2	1	4	4	2	1	6	5	51	56
fetal deaths	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	2	0	0	0	5	5
induced abortions	0	0	0	0	1	0	0	1	1	1	3	0	1	0	0	1	0	0	0	0	0	9	9
population:	5148	4604	4478	4309	4471	4698	4849	4852	5066	5287	5694	5752	6059	5946	6108	6153	5875	5807	5429	5689	5696	106274	111970
Total Prevalence	3.89	4.34	2.23	9.28	8.95	0.00	8.25	8.24	5.92	9.46	7.02	10.43	3.30	3.36	3.27	8.13	6.81	6.89	1.84	10.55	8.78	6.12	6.25
Livebirth Prevalence	3.89	4.34	2.23	9.28	6.71	0.00	4.12	6.18	3.95	7.57	1.76	10.43	1.65	3.36	1.64	6.50	6.81	3.44	1.84	10.55	8.78	4.80	5.00
Paris (France)																							
total cases		24	11	22	9	14	25	12	11	28	21	13	16	22	19	26	20	12	18	20	27	343	370
livebirths		16	7	9	5	2	5	5	2	5	5	3	3	1	1	2	3	2	4	0	3	80	83
fetal deaths		4	3	5	1	4	8	0	0	3	1	0	0	1	0	0	0	0	1	2	1	33	34
induced abortions		4	1	8	3	8	12	7	9	20	15	10	13	20	18	24	17	10	13	18	23	230	253
population:	36917	36741	35781	35902	36536	36384	36080	36672	36866	37302	37541	36469	35819	35918	36884	37237	37272	38160	38785	39400	699266	738666	
Total Prevalence	6.50	2.99	6.15	2.51	3.83	6.87	3.33	3.00	7.60	5.63	3.46	4.39	6.14	5.29	7.05	5.37	3.22	4.72	5.16	6.85	4.91	5.01	
Livebirth Prevalence	4.33	1.91	2.52	1.39	0.55	1.37	1.39	0.55	1.36	1.34	0.80	0.82	0.28	0.28	0.54	0.81	0.54	1.05	0.00	0.76	1.14	1.12	
Strasbourg (France)																							
total cases			9	5	8	4	12	2	4	6	4	4	6	5	7	4	11	4	12	13	10	120	130
livebirths			5	5	5	1	6	0	1	0	1	1	3	1	2	0	2	1	3	2	2	39	41
fetal deaths			2	0	0	0	2	0	1	0	1	0	0	0	1	0	1	0	1	0	0	9	9
induced abortions			2	0	3	3	4	2	2	6	2	3	3	4	4	4	8	3	8	11	8	72	80
population:			13662	12519	12924	13166	13112	12895	13595	13425	13775	13770	13736	13148	12865	13313	13185	13237	13656	13827	14238	239810	254048
Total Prevalence			6.59	3.99	6.19	3.04	9.15	1.55	2.94	4.47	2.90	2.90	4.37	3.80	5.44	3.00	8.34	3.02	8.79	9.40	7.02	5.00	5.12
Livebirth Prevalence			3.66	3.99	3.87	0.76	4.58	0.00	0.74	0.00	0.73	0.73	2.18	0.76	1.55	0.00	1.52	0.76	2.20	1.45	1.40	1.63	1.61

Spina Bifida (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Mainz (Germany)																							
total cases											3	2	4	2	3	6	10	10	7	4		51	51
livebirths											1	2	4	1	2	6	7	8	5	3		39	39
fetal deaths											1	0	0	0	0	0	1	1	1	0		4	4
induced abortions											1	0	0	1	1	0	2	1	1	1		8	8
population:											3903	4113	3941	4020	3769	3560	3603	3890	3542	3275		37616	37616
Total Prevalence											7.69	4.86	10.15	4.98	7.96	16.85	27.75	25.71	19.76	12.21		13.56	13.56
Livebirth Prevalence											2.56	4.86	10.15	2.49	5.31	16.85	19.43	20.57	14.12	9.16		10.37	10.37
Saxony-Anhalt (Germany)																							
total cases								17	14	14	17	0	1	1	4	3	6	6	4	5	11	92	103
livebirths								12	8	7	8	0	1	1	2	1	3	3	1	4	2	51	53
fetal deaths								2	2	1	2	0	0	0	1	0	0	0	0	0	0	8	8
induced abortions								3	4	6	7	0	0	0	1	2	3	3	3	1	9	33	42
population:								17165	16623	15202	14536	9123	7633	6910	7557	7707	8928	9606	10554	11500	18876	143044	161920
Total Prevalence								9.90	8.42	9.21	11.70	0.00	1.31	1.45	5.29	3.89	6.72	6.25	3.79	4.35	5.83	6.43	6.36
Livebirth Prevalence								6.99	4.81	4.60	5.50	0.00	1.31	1.45	2.65	1.30	3.36	3.12	0.95	3.48	1.06	3.57	3.27
Dublin (Ireland)																							
total cases	71	43	47	42	37	31	29	25	19	13	14	12	14	10	11	12	10	10	7	13	9	470	479
livebirths	63	39	44	39	32	28	27	21	16	10	13	10	13	10	11	12	9	9	7	11	9	424	433
fetal deaths	8	4	3	3	5	3	2	4	3	3	1	2	1	0	0	0	1	1	0	2	0	46	46
induced abortions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
population:	26460	25510	24822	23352	22312	22131	21708	20768	19830	18914	19393	19800	18933	18491	18412	18550	19288	20257	20887	20746	21090	420564	441654
Total Prevalence	26.83	16.86	18.93	17.99	16.58	14.01	13.36	12.04	9.58	6.87	7.22	6.06	7.39	5.41	5.97	6.47	5.18	4.94	3.35	6.27	4.27	11.18	10.85
Livebirth Prevalence	23.81	15.29	17.73	16.70	14.34	12.65	12.44	10.11	8.07	5.29	6.70	5.05	6.87	5.41	5.97	6.47	4.67	4.44	3.35	5.30	4.27	10.08	9.80
Galway (Ireland)																							
total cases		3	4	5	3	5	6	4	4	1	1	2	7	1	2	1	0	1	1	0		51	51
livebirths		3	4	4	3	5	6	3	4	1	1	2	6	1	2	0	0	1	1	0		47	47
fetal deaths		0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0		4	4
induced abortions		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
population:		3546	3604	3397	3268	3079	3155	3051	2858	2636	2691	2578	2666	2645	2375	2436	2534	2588	2747	2655		54509	54509
Total Prevalence		8.46	11.10	14.72	9.18	16.24	19.02	13.11	14.00	3.79	3.72	7.76	26.26	3.78	8.42	4.11	0.00	3.86	3.64	0.00		9.36	9.36
Livebirth Prevalence		8.46	11.10	11.78	9.18	16.24	19.02	9.83	14.00	3.79	3.72	7.76	22.51	3.78	8.42	0.00	0.00	3.86	3.64	0.00		8.62	8.62

Spina Bifida (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Campania (Italy)																							
total cases																	19	18	12	13	21	62	83
livebirths																	9	12	6	6	14	33	47
fetal deaths																	0	0	1	0	0	1	1
induced abortions																	10	6	5	7	7	28	35
population:																	46658	50458	51568	47397	50171	196081	246252
Total Prevalence																	4.07	3.57	2.33	2.74	4.19	3.16	3.37
Livebirth Prevalence																	1.93	2.38	1.16	1.27	2.79	1.68	1.91
Emilia Romagna (Italy)																							
total cases		3	6	12	9	9	11	7	5	8	9	13	10	7	8	3	3	4	10	3	11	140	151
livebirths		3	6	12	9	9	11	7	5	7	9	13	8	6	7	3	3	4	6	3	2	131	133
fetal deaths		0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	2
induced abortions		0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	4	0	9	7	16
population:	13189	18364	21769	23155	24016	22868	22726	22760	23380	23524	25095	25002	24533	25886	26359	28873	28859	20928	24003	24839	445289	470128	
Total Prevalence	2.27	3.27	5.51	3.89	3.75	4.81	3.08	2.20	3.42	3.83	5.18	4.00	2.85	3.09	1.14	1.04	1.39	4.78	1.25	4.43	3.14	3.21	
Livebirth Prevalence	2.27	3.27	5.51	3.89	3.75	4.81	3.08	2.20	2.99	3.83	5.18	3.20	2.45	2.70	1.14	1.04	1.39	2.87	1.25	0.81	2.94	2.83	
North-East Italy																							
total cases		15	11	14	22	8	15	18	13	11	20	11	16	13	18	15	25	14	30	6	295	295	
livebirths		14	11	14	21	8	13	18	10	10	15	9	10	6	7	3	9	6	13	3	200	200	
fetal deaths		1	0	0	1	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	6	6	
induced abortions		0	0	0	0	0	0	0	3	1	4	2	5	7	11	12	16	8	17	3	89	89	
population:	27708	36321	41195	43202	43401	41265	42048	45307	47515	52205	51093	50340	49735	49443	51486	56869	55908	54939	54364		894344	894344	
Total Prevalence	5.41	3.03	3.40	5.09	1.84	3.64	4.28	2.87	2.32	3.83	2.15	3.18	2.61	3.64	2.91	4.40	2.50	5.46	1.10		3.30	3.30	
Livebirth Prevalence	5.05	3.03	3.40	4.86	1.84	3.15	4.28	2.21	2.10	2.87	1.76	1.99	1.21	1.42	0.58	1.58	1.07	2.37	0.55		2.24	2.24	
South East Sicily (Italy)																							
total cases												11	7	8	9	4	3	5	3	9	50	59	
livebirths												11	6	7	9	4	3	5	3	5	48	53	
fetal deaths												0	1	1	0	0	0	0	0	0	2	2	
induced abortions																				4	0	4	
population:												19430	20273	19746	20031	18986	18054	18795	16922	15304	152237	167541	
Total Prevalence												5.66	3.45	4.05	4.49	2.11	1.66	2.66	1.77	5.88	3.28	3.52	
Livebirth Prevalence												5.66	2.96	3.55	4.49	2.11	1.66	2.66	1.77	3.27	3.15	3.16	

Spina Bifida (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Tuscany (Italy)																							
total cases	7	7	4	5	2	10	1	5	4	7	5	1	7	8	5	5	6	7	12	6	12	114	126
livebirths	6	6	3	4	2	6	0	2	1	3	3	0	2	4	1	4	2	0	5	3	3	57	60
fetal deaths	1	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	4	5
induced abortions	0	0	1	1	0	4	1	3	3	2	2	1	5	4	4	1	4	7	7	3	8	53	61
population:	9696	9350	9281	8948	8592	8980	8477	8511	8869	8556	8751	8657	25670	24504	24487	24520	24606	24535	25468	26059	26616	306517	333133
Total Prevalence	7.22	7.49	4.31	5.59	2.33	11.14	1.18	5.87	4.51	8.18	5.71	1.16	2.73	3.26	2.04	2.04	2.44	2.85	4.71	2.30	4.51	3.72	3.78
Livebirth Prevalence	6.19	6.42	3.23	4.47	2.33	6.68	0.00	2.35	1.13	3.51	3.43	0.00	0.78	1.63	0.41	1.63	0.81	0.00	1.96	1.15	1.13	1.86	1.80
Malta																							
total cases							3	4	3	4	3	4	3	2	3	5	2	2	3	3	2	44	46
livebirths							3	4	3	4	2	4	2	2	3	5	2	2	3	2	2	41	43
fetal deaths							0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	3	3
induced abortions							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
population:							5310	5375	5461	5617	5400	5328	5503	5172	4863	4633	4978	4864	4511	4339	4272	71354	75626
Total Prevalence							5.65	7.44	5.49	7.12	5.56	7.51	5.45	3.87	6.17	10.79	4.02	4.11	6.65	6.91	4.68	6.17	6.08
Livebirth Prevalence							5.65	7.44	5.49	7.12	3.70	7.51	3.63	3.87	6.17	10.79	4.02	4.11	6.65	4.61	4.68	5.75	5.69
Northern Netherlands																							
total cases		5	4	4	3	7	7	2	13	13	21	22	14	6	9	11	13	10	10	13	9	187	196
livebirths		4	4	3	3	6	5	2	10	11	16	18	11	4	8	9	10	7	8	7	9	146	155
fetal deaths		1	0	0	0	0	2	0	1	1	2	2	0	1	0	0	1	0	0	0	0	11	11
induced abortions		0	0	1	0	1	0	0	2	1	3	2	3	1	1	2	2	3	2	6	0	30	30
population:		7877	7731	7542	7559	7792	11936	11847	11595	19093	19635	19853	19140	19387	19283	19296	19033	19397	19941	20167	20490	288104	308594
Total Prevalence		6.35	5.17	5.30	3.97	8.98	5.86	1.69	11.21	6.81	10.70	11.08	7.31	3.09	4.67	5.70	6.83	5.16	5.01	6.45	4.39	6.49	6.35
Livebirth Prevalence		5.08	5.17	3.98	3.97	7.70	4.19	1.69	8.62	5.76	8.15	9.07	5.75	2.06	4.15	4.66	5.25	3.61	4.01	3.47	4.39	5.07	5.02
Poland																							
total cases																					85	85	
livebirths																					82	82	
fetal deaths																					3	3	
induced abortions																							0
population:																					158923	158923	
Total Prevalence																					5.35	5.35	
Livebirth Prevalence																					5.16	5.16	

Spina Bifida (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Southern Portugal																							
total cases											3	2	2	1	4	6	7	5	1	6	7	37	44
livebirths											2	1	2	1	4	4	6	4	1	3	3	28	31
fetal deaths											0	1	0	0	0	0	0	0	0	0	1	1	2
induced abortions											1	0	0	0	0	2	1	1	0	3	3	8	11
population:											5461	5554	7391	7152	7000	14959	15439	16293	16312	17047	19383	112608	131991
Total Prevalence											5.49	3.60	2.71	1.40	5.71	4.01	4.53	3.07	0.61	3.52	3.61	3.29	3.33
Livebirth Prevalence											3.66	1.80	2.71	1.40	5.71	2.67	3.89	2.46	0.61	1.76	1.55	2.49	2.35
Asturias (Spain)																							
total cases											6	6	7	5	4	3	5	1	7	0		44	44
livebirths											3	1	1	0	1	2	2	0	0	0		10	10
fetal deaths											0	0	1	0	0	0	0	0	0	0		1	1
induced abortions											3	5	5	5	3	1	3	1	7	0		33	33
population:											7722	7693	7474	7012	6626	6553	6507	6473	6321	6516		68897	68897
Total Prevalence											7.77	7.80	9.37	7.13	6.04	4.58	7.68	1.54	11.07	0.00		6.39	6.39
Livebirth Prevalence											3.89	1.30	1.34	0.00	1.51	3.05	3.07	0.00	0.00	0.00		1.45	1.45
Barcelona (Spain)																							
total cases													6	5	5	4	4	1	4	5		34	34
livebirths													2	1	4	2	1	0	1	0		11	11
fetal deaths													0	1	0	0	0	0	0	1		2	2
induced abortions													4	3	1	2	3	1	3	4		21	21
population:													13477	12738	12609	12199	12031	12240	11684	12270		99248	99248
Total Prevalence													4.45	3.93	3.97	3.28	3.32	0.82	3.42	4.07		3.43	3.43
Livebirth Prevalence													1.48	0.79	3.17	1.64	0.83	0.00	0.86	0.00		1.11	1.11
Basque Country (Spain)																							
total cases											10	4	8	6	11	7	5	8	5	10	9	74	83
livebirths											9	3	3	3	7	2	1	4	2	5	3	39	42
fetal deaths											0	0	0	0	0	1	0	1	0	0	0	2	2
induced abortions											1	1	5	3	4	4	4	3	3	5	6	33	39
population:											16438	16291	16316	15891	15357	15397	16060	16397	16169	16859	17408	161175	178583
Total Prevalence											6.08	2.46	4.90	3.78	7.16	4.55	3.11	4.88	3.09	5.93	5.17	4.59	4.65
Livebirth Prevalence											5.48	1.84	1.84	1.89	4.56	1.30	0.62	2.44	1.24	2.97	1.72	2.42	2.35

Spina Bifida (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Vaud (Switzerland)																							
total cases										2	3	3	4	3	4	2	10	2	5	3	7	41	48
livebirths										0	1	0	2	1	1	0	3	1	2	1	3	12	15
fetal deaths										0	0	0	0	1	0	0	0	0	0	0	0	1	1
induced abortions										2	2	3	2	1	3	2	7	1	3	2	4	28	32
population:										7212	7697	8211	8076	7700	7683	7697	7730	7562	7438	7465	7618	84471	92089
Total Prevalence										2.77	3.90	3.65	4.95	3.90	5.21	2.60	12.94	2.64	6.72	4.02	9.19	4.85	5.21
Livebirth Prevalence										0.00	1.30	0.00	2.48	1.30	1.30	0.00	3.88	1.32	2.69	1.34	3.94	1.42	1.63
Glasgow (UK:Scotland)																							
total cases	31	23	24	16	17	30	25	15	12	15	12	9	8	5	14	8	19	2	7	11	303	303	
livebirths	14	5	17	8	8	10	12	4	6	5	2	3	2	3	6	2	6	0	4	8	125	125	
fetal deaths	5	5	2	0	0	2	2	1	0	0	1	0	0	0	0	2	1	0	1	0	22	22	
induced abortions	12	13	5	8	9	18	11	10	6	10	9	6	6	2	8	4	12	2	2	3	156	156	
population:	13438	13491	12884	12661	12783	13089	13013	12987	12908	12289	12471	12831	12339	11883	11407	11227	10976	10997	10239	9721	243634	243634	
Total Prevalence	23.07	17.05	18.63	12.64	13.30	22.92	19.21	11.55	9.30	12.21	9.62	7.01	6.48	4.21	12.27	7.13	17.31	1.82	6.84	11.32	12.44	12.44	
Livebirth Prevalence	10.42	3.71	13.19	6.32	6.26	7.64	9.22	3.08	4.65	4.07	1.60	2.34	1.62	2.52	5.26	1.78	5.47	0.00	3.91	8.23	5.13	5.13	
Mersey (UK:England)																							
total cases																16	19	26	15	14	90	90	
livebirths																2	3	5	3	4	17	17	
fetal deaths																1	0	1	2	1	5	5	
induced abortions																13	16	20	10	9	68	68	
population:																28786	29031	27983	27514	26553	139867	139867	
Total Prevalence																5.56	6.54	9.29	5.45	5.27	6.43	6.43	
Livebirth Prevalence																0.69	1.03	1.79	1.09	1.51	1.22	1.22	
North Thames (West) (UK:England)																							
total cases												29	26	32	21	33	30	27	22	17	25	262	262
livebirths												5	3	5	2	7	3	5	4	2	5	41	41
fetal deaths												2	0	1	1	2	1	1	0	1	0	9	9
induced abortions												22	23	26	18	24	26	21	18	14	20	212	212
population:												47330	47493	46762	47526	47324	47324	47355	47549	46874	45652	471189	471189
Total Prevalence												6.13	5.47	6.84	4.42	6.97	6.34	5.70	4.63	3.63	5.48	5.56	5.56
Livebirth Prevalence												1.06	0.63	1.07	0.42	1.48	0.63	1.06	0.84	0.43	1.10	0.87	0.87

Spina Bifida (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Wales (UK)																							
total cases																			29	19	26	48	74
livebirths																			4	3	3	7	10
fetal deaths																			0	0	0	0	0
induced abortions																			25	16	21	41	62
population:																			33610	32266	31449	65876	97325
Total Prevalence																			8.63	5.89	8.27	7.29	7.60
Livebirth Prevalence																			1.19	0.93	0.95	1.06	1.03
Total (Full Member Registries)																							
total cases	117	128	121	132	122	127	157	128	113	143	186	179	193	166	186	201	256	206	267	215	286	3368	3629
livebirths	91	94	102	103	99	82	105	89	71	80	108	109	100	77	98	91	109	98	103	92	156	1906	2057
fetal deaths	14	17	10	10	7	10	21	10	9	13	18	10	8	8	7	7	7	10	10	9	6	215	221
induced abortions	12	17	9	19	16	35	31	29	33	50	60	60	85	81	81	103	140	98	154	114	122	1247	1349
population:	63191	150396	176097	183358	186263	202517	210627	226785	229872	250061	294138	359123	387664	379259	381565	419413	486839	498478	522435	505443	527240	6159176	6640764
Total Prevalence	18.52	8.51	6.87	7.20	6.55	6.27	7.45	5.64	4.92	5.72	6.32	4.98	4.98	4.38	4.87	4.79	5.26	4.13	5.11	4.25	5.42	5.47	5.46
Livebirth Prevalence	14.40	6.25	5.79	5.62	5.32	4.05	4.99	3.92	3.09	3.20	3.67	3.04	2.58	2.03	2.57	2.17	2.24	1.97	1.97	1.82	2.96	3.09	3.10
Associate Member Registries																							
Finland																							
total cases														28	26	26	26	33	40	21	20	200	220
livebirths														23	15	18	15	23	19	13	15	126	141
fetal deaths														1	1	1	3	2	1	1	0	10	10
induced abortions														4	10	7	8	8	20	7	5	64	69
population:														65098	65480	63368	60965	59569	57345	57782	56970	429607	486577
Total Prevalence														4.30	3.97	4.10	4.26	5.54	6.98	3.63	3.51	4.66	4.52
Livebirth Prevalence														3.53	2.29	2.84	2.46	3.86	3.31	2.25	2.63	2.93	2.90
Central East France																							
total cases	27	20	29	21	29	37	31	26	36	24	36	37	40	45	43	48	46	41	37	36	11	689	700
livebirths	26	19	26	21	27	32	24	15	27	15	20	20	21	18	14	14	16	11	13	5	2	384	386
fetal deaths	1	1	3	0	2	3	1	1	2	0	1	0	2	1	0	1	0	0	1	2	0	22	22
induced abortions						2	6	10	7	9	15	17	17	26	29	33	30	30	23	29	9	283	292
population:	75332	76220	75813	86433	86904	90825	91950	90191	91303	99858	107370	106607	104480	99249	99674	102153	103440	102090	102483	102982	93963	1895357	1989320
Total Prevalence	3.58	2.62	3.83	2.43	3.34	4.07	3.37	2.88	3.94	2.40	3.35	3.47	3.83	4.53	4.31	4.70	4.45	4.02	3.61	3.50	1.17	3.64	3.52
Livebirth Prevalence	3.45	2.49	3.43	2.43	3.11	3.52	2.61	1.66	2.96	1.50	1.86	1.88	2.01	1.81	1.40	1.37	1.55	1.08	1.27	0.49	0.21	2.03	1.94

Spina Bifida (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Norway																							
total cases	35	28	32	24	26	22	29	29	25	33	24	27	32	19	25	33	35	22	27	32	41	559	600
livebirths	25	26	24	21	23	16	20	22	19	25	19	20	26	11	14	24	23	13	15	16	20	402	422
fetal deaths	10	2	8	3	3	6	8	5	4	5	5	4	1	1	4	5	6	2	6	4	3	92	95
induced abortions	0	0	0	0	0	0	1	2	2	3	0	3	5	7	7	4	6	7	6	12	18	65	83
population:	51495	51021	51642	50258	50576	51416	52885	54313	57936	59712	61523	61386	60636	60166	60306	60488	61092	59896	58482	60215	59907	1135444	1195351
Total Prevalence	6.80	5.49	6.20	4.78	5.14	4.28	5.48	5.34	4.32	5.53	3.90	4.40	5.28	3.16	4.15	5.46	5.73	3.67	4.62	5.31	6.84	4.92	5.02
Livebirth Prevalence	4.85	5.10	4.65	4.18	4.55	3.11	3.78	4.05	3.28	4.19	3.09	3.26	4.29	1.83	2.32	3.97	3.76	2.17	2.56	2.66	3.34	3.54	3.53
ECEMC (Spain)																							
total cases	23	20	29	29	34	36	27	19	27	22	37	39	28	26	25	20	27	20	21	18		527	527
livebirths	22	18	26	26	31	33	25	17	27	21	35	36	28	24	25	19	26	19	20	15		493	493
fetal deaths	1	2	3	3	3	3	2	2	0	1	2	3	0	2	0	1	1	1	1	3		34	34
induced abortions																							0
population:	56910	56102	61333	71812	69513	66720	58245	51051	52686	59046	84379	87708	91607	82925	87239	87372	94044	98945	96490	104337		1518464	1518464
Total Prevalence	4.04	3.56	4.73	4.04	4.89	5.40	4.64	3.72	5.12	3.73	4.38	4.45	3.06	3.14	2.87	2.29	2.87	2.02	2.18	1.73		3.47	3.47
Livebirth Prevalence	3.87	3.21	4.24	3.62	4.46	4.95	4.29	3.33	5.12	3.56	4.15	4.10	3.06	2.89	2.87	2.17	2.76	1.92	2.07	1.44		3.25	3.25
Total (Associate Member Registries)																							
total cases	85	68	90	74	89	95	87	74	88	79	97	103	100	118	119	127	134	116	125	107	72	1975	2047
livebirths	73	63	76	68	81	81	69	54	73	61	74	76	75	76	68	75	80	66	67	49	37	1405	1442
fetal deaths	12	5	14	6	8	12	11	8	6	6	8	7	3	5	5	8	10	5	9	10	3	158	161
induced abortions	0	0	0	0	0	2	7	12	9	12	15	20	22	37	46	44	44	45	49	48	32	412	444
population:	183737	183343	188788	208503	206993	208961	203080	195555	201925	218616	253272	255701	256723	307438	312699	313381	319541	320500	314800	325316	210840	4978872	5189712
Total Prevalence	4.63	3.71	4.77	3.55	4.30	4.55	4.28	3.78	4.36	3.61	3.83	4.03	3.90	3.84	3.81	4.05	4.19	3.62	3.97	3.29	3.41	3.97	3.94
Livebirth Prevalence	3.97	3.44	4.03	3.26	3.91	3.88	3.40	2.76	3.62	2.79	2.92	2.97	2.92	2.47	2.17	2.39	2.50	2.06	2.13	1.51	1.75	2.82	2.78
Total (All Registries)																							
total cases	202	196	211	206	211	222	244	202	201	222	283	282	293	284	305	328	390	322	392	322	358	5343	5676
livebirths	164	157	178	171	180	163	174	143	144	141	182	185	175	153	166	166	189	164	170	141	193	3311	3499
fetal deaths	26	22	24	16	15	22	32	18	15	19	26	17	11	13	12	15	17	15	19	19	9	373	382
induced abortions	12	17	9	19	16	37	38	41	42	62	75	80	107	118	127	147	184	143	203	134		1611	1611
population:	246928	333739	364885	391861	393256	411478	413707	422340	431797	468677	547410	614824	644387	686697	694264	732794	806380	818978	837235	830759	738080	11138048	11830476
Total Prevalence	8.18	5.87	5.78	5.26	5.37	5.40	5.90	4.78	4.65	4.74	5.17	4.59	4.55	4.14	4.39	4.48	4.84	3.93	4.68	3.88	4.85	4.80	4.80
Livebirth Prevalence	6.64	4.70	4.88	4.36	4.58	3.96	4.21	3.39	3.33	3.01	3.32	3.01	2.72	2.23	2.39	2.27	2.34	2.00	2.03	1.70	2.61	2.97	2.96

Table A3.3: Anencephalus: Number of cases by type of birth, population (births), total prevalence rate and livebirth prevalence rate (per 10,000 births) by year and registry: 32 EUROCAT registries, 1980-2000

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000	
Styria (Austria)																								
total cases						4	1	1	3	3	3	1	3	3	4	0	4	4	2	2	38	38		
livebirths						1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3	3		
fetal deaths						0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	2		
induced abortions						3	1	1	3	3	3	1	1	3	4	0	3	4	2	1	33	33		
population:						13663	13303	13276	13340	13161	13349	13794	13744	13395	12988	12276	12465	11768	11026	10800	192348	192348		
Total Prevalence						2.93	0.75	0.75	2.25	2.28	2.25	0.72	2.18	2.24	3.08	0.00	3.21	3.40	1.81	1.85	1.98	1.98		
Livebirth Prevalence						0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.16	0.16		
Antwerp (Belgium)																								
total cases											3	5	2	2	4	2	4	11	0	8	41	41		
livebirths											0	1	0	1	0	0	0	0	0	0	2	2		
fetal deaths											1	1	0	0	0	0	0	0	0	0	2	2		
induced abortions											2	3	2	1	4	2	4	11	0	8	37	37		
population:											3740	4688	6180	7555	10964	10899	10796	18282	17930	17968	109002	109002		
Total Prevalence											8.02	10.67	3.24	2.65	3.65	1.84	3.71	6.02	0.00	4.51	3.77	3.76		
Livebirth Prevalence											0.00	2.13	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18		
Hainaut (Belgium)																								
total cases	4	6	2	3	5	5	5	8	4	6	5	5	3	4	1	4	3	5	6	2	86	86		
livebirths	0	1	0	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	1	0	6	6		
fetal deaths	0	3	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	5		
induced abortions	4	2	2	2	5	4	5	8	4	4	3	5	3	4	1	4	3	5	5	2	75	75		
population:	8449	8204	8209	7862	8066	8182	8380	8518	8805	13579	13503	13595	13328	12583	12273	11933	12416	12314	12044	12097	214340	214340		
Total Prevalence	4.73	7.31	2.44	3.82	6.20	6.11	5.97	9.39	4.54	4.42	3.70	3.68	2.25	3.18	0.81	3.35	2.42	4.06	4.98	1.65	4.01	4.01		
Livebirth Prevalence	0.00	1.22	0.00	1.27	0.00	0.00	0.00	0.00	0.00	0.74	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.28	0.28		
Bulgaria																								
total cases																	6	5	10	6	27	27		
livebirths																	0	0	1	0	1	1		
fetal deaths																	4	0	5	3	12	12		
induced abortions																	2	5	4	3	14	14		
population:																	9908	9004	9177	10168	38257	38257		
Total Prevalence																	6.06	5.55	10.90	5.90	7.06	7.06		
Livebirth Prevalence																	0.00	0.00	1.09	0.00	0.26	0.26		

Anencephalus (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Croatia																							
total cases				2	0	1	1	0	0	0	1	0	0	1	0	0	0	1	2	0	1	9	10
livebirths				0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
fetal deaths				2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
induced abortions				0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	1	4	5
population:				4023	4029	3784	6867	6686	6183	7329	6948	7003	6481	6532	6135	6280	6435	6337	6170	6033	5815	103255	109070
Total Prevalence				4.97	0.00	2.64	1.46	0.00	0.00	0.00	1.44	0.00	0.00	1.53	0.00	0.00	0.00	1.58	3.24	0.00	1.72	0.87	0.92
Livebirth Prevalence				0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.09
Odense (Denmark)																							
total cases	5	2	2	2	3	1	2	5	1	2	2	4	1	1	1	4	2	1	2	2	2	45	47
livebirths	0	0	1	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	5	5
fetal deaths	4	2	1	0	1	0	1	2	0	1	1	2	1	0	0	1	1	0	1	0	1	19	20
induced abortions	1	0	0	2	2	1	1	2	1	0	0	2	0	0	1	3	1	1	1	2	1	21	22
population:	5148	4604	4478	4309	4471	4698	4849	4852	5066	5287	5694	5752	6059	5946	6108	6153	5875	5807	5429	5689	5696	106274	111970
Total Prevalence	9.71	4.34	4.47	4.64	6.71	2.13	4.12	10.31	1.97	3.78	3.51	6.95	1.65	1.68	1.64	6.50	3.40	1.72	3.68	3.52	3.51	4.23	4.20
Livebirth Prevalence	0.00	0.00	2.23	0.00	0.00	0.00	0.00	2.06	0.00	1.89	1.76	0.00	0.00	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.45
Paris (France)																							
total cases		12	8	18	22	22	13	19	20	20	17	26	23	12	14	25	16	19	20	27	22	353	375
livebirths		2	1	0	1	0	0	2	0	0	1	0	0	0	0	1	1	0	0	0	0	9	9
fetal deaths		6	3	5	3	0	3	3	2	2	0	2	1	1	1	0	0	0	0	1	1	33	34
induced abortions		4	4	13	18	22	10	14	18	18	16	24	22	11	13	24	15	19	20	26	21	311	332
population:	36917	36741	35781	35902	36536	36384	36080	36672	36866	37302	37541	36469	35819	35918	36884	37237	37272	38160	38785	39400	699266	738666	
Total Prevalence	3.25	2.18	5.03	6.13	6.02	3.57	5.27	5.45	5.43	4.56	6.93	6.31	3.35	3.90	6.78	4.30	5.10	5.24	6.96	5.58	5.05	5.08	
Livebirth Prevalence	0.54	0.27	0.00	0.28	0.00	0.00	0.55	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.27	0.27	0.00	0.00	0.00	0.00	0.13	0.12	
Strasbourg (France)																							
total cases			0	3	8	4	3	6	5	6	8	8	11	7	5	8	4	4	2	7	10	99	109
livebirths			0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	2
fetal deaths			0	2	1	1	0	3	1	0	1	0	1	0	0	0	0	0	0	0	0	10	10
induced abortions			0	1	7	3	3	3	4	6	7	8	9	7	5	8	3	4	2	7	10	87	97
population:			13662	12519	12924	13166	13112	12895	13595	13425	13775	13770	13736	13148	12865	13313	13185	13237	13656	13827	14238	239810	254048
Total Prevalence			0.00	2.40	6.19	3.04	2.29	4.65	3.68	4.47	5.81	5.81	8.01	5.32	3.89	6.01	3.03	3.02	1.46	5.06	7.02	4.13	4.29
Livebirth Prevalence			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.00	0.00	0.76	0.00	0.00	0.00	0.00	0.08	0.08

Anencephalus (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Mainz (Germany)																							
total cases											0	0	0	4	0	0	1	1	2	1		9	9
livebirths											0	0	0	0	0	0	1	0	0	0		1	1
fetal deaths											0	0	0	0	0	0	0	0	0	0		0	0
induced abortions											0	0	0	4	0	0	0	1	2	1		8	8
population:											3903	4113	3941	4020	3769	3560	3603	3890	3542	3275		37616	37616
Total Prevalence											0.00	0.00	0.00	9.95	0.00	0.00	2.78	2.57	5.65	3.05		2.39	2.39
Livebirth Prevalence											0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	0.00		0.27	0.27
Saxony-Anhalt (Germany)																							
total cases								12	9	6	4	0	0	2	1	2	8	5	2	2	3	53	56
livebirths								0	0	0	0	0	0	0	0	1	1	2	0	0	1	4	5
fetal deaths								3	0	0	1	0	0	1	0	0	0	0	0	0	0	5	5
induced abortions								9	9	6	3	0	0	1	1	1	7	3	2	2	2	44	46
population:								17165	16623	15202	14536	9123	7633	6910	7557	7707	8928	9606	10554	11500	18876	143044	161920
Total Prevalence								6.99	5.41	3.95	2.75	0.00	0.00	2.89	1.32	2.60	8.96	5.21	1.90	1.74	1.59	3.71	3.46
Livebirth Prevalence								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	1.12	2.08	0.00	0.00	0.53	0.28	0.31
Dublin (Ireland)																							
total cases	48	42	42	32	24	22	20	19	20	11	15	10	11	9	8	5	5	6	8	7	6	364	370
livebirths	12	15	18	17	7	6	12	7	10	5	7	6	4	6	5	2	3	4	5	3	5	154	159
fetal deaths	36	27	24	15	17	16	8	12	10	6	8	4	7	3	3	3	2	2	3	4	1	210	211
induced abortions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
population:	26460	25510	24822	23352	22312	22131	21708	20768	19830	18914	19393	19800	18933	18491	18412	18550	19288	20257	20887	20746	21090	420564	441654
Total Prevalence	18.14	16.46	16.92	13.70	10.76	9.94	9.21	9.15	10.09	5.82	7.73	5.05	5.81	4.87	4.34	2.70	2.59	2.96	3.83	3.37	2.84	8.66	8.38
Livebirth Prevalence	4.54	5.88	7.25	7.28	3.14	2.71	5.53	3.37	5.04	2.64	3.61	3.03	2.11	3.24	2.72	1.08	1.56	1.97	2.39	1.45	2.37	3.66	3.60
Galway (Ireland)																							
total cases		2	3	2	1	6	4	2	2	0	2	2	1	0	1	1	0	1	0	0		30	30
livebirths		2	1	0	0	4	2	1	1	0	2	1	1	0	0	1	0	0	0	0		16	16
fetal deaths		0	2	2	1	2	2	1	1	0	0	1	0	0	1	0	0	1	0	0		14	14
induced abortions		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
population:		3546	3604	3397	3268	3079	3155	3051	2858	2636	2691	2578	2666	2645	2375	2436	2534	2588	2747	2655		54509	54509
Total Prevalence		5.64	8.32	5.89	3.06	19.49	12.68	6.56	7.00	0.00	7.43	7.76	3.75	0.00	4.21	4.11	0.00	3.86	0.00	0.00		5.50	5.50
Livebirth Prevalence		5.64	2.77	0.00	0.00	12.99	6.34	3.28	3.50	0.00	7.43	3.88	3.75	0.00	0.00	4.11	0.00	0.00	0.00	0.00		2.94	2.94

Anencephalus (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Campania (Italy)																							
total cases																	19	7	15	14	18	55	73
livebirths																	4	1	0	4	2	9	11
fetal deaths																	1	1	2	2	0	6	6
induced abortions																	14	5	13	8	16	40	56
population:																	46658	50458	51568	47397	50171	196081	246252
Total Prevalence																	4.07	1.39	2.91	2.95	3.59	2.80	2.96
Livebirth Prevalence																	0.86	0.20	0.00	0.84	0.40	0.46	0.45
Emilia Romagna (Italy)																							
total cases		2	3	4	2	2	2	2	1	0	0	1	0	2	1	1	2	0	5	4	6	34	40
livebirths		2	1	1	2	2	1	2	0	0	0	1	0	2	0	1	1	0	1	2	0	19	19
fetal deaths		0	2	3	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	2	1	10	11
induced abortions		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0	5	5	10
population:	13189	18364	21769	23155	24016	22868	22726	22760	23380	23524	25095	25002	24533	25886	26359	28873	28859	20928	24003	24839	445289	470128	
Total Prevalence	1.52	1.63	1.84	0.86	0.83	0.87	0.88	0.44	0.00	0.00	0.40	0.00	0.82	0.39	0.38	0.69	0.00	2.39	1.67	2.42	0.76	0.85	
Livebirth Prevalence	1.52	0.54	0.46	0.86	0.83	0.44	0.88	0.00	0.00	0.00	0.40	0.00	0.82	0.00	0.38	0.35	0.00	0.48	0.83	0.00	0.43	0.40	
North-East Italy																							
total cases		11	6	5	7	5	6	5	16	19	15	13	8	13	14	11	18	11	9	10	202	202	
livebirths		5	5	1	2	4	3	3	5	1	2	0	0	1	0	2	0	1	1	1	37	37	
fetal deaths		6	1	4	5	1	3	0	3	3	1	1	1	0	1	1	1	1	1	0	34	34	
induced abortions		0	0	0	0	0	0	2	8	15	12	12	7	12	13	8	17	9	7	9	131	131	
population:	27708	36321	41195	43202	43401	41265	42048	45307	47515	52205	51093	50340	49735	49443	51486	56869	55908	54939	54364		894344	894344	
Total Prevalence	3.97	1.65	1.21	1.62	1.15	1.45	1.19	3.53	4.00	2.87	2.54	1.59	2.61	2.83	2.14	3.17	1.97	1.64	1.84		2.26	2.26	
Livebirth Prevalence	1.80	1.38	0.24	0.46	0.92	0.73	0.71	1.10	0.21	0.38	0.00	0.00	0.20	0.00	0.39	0.00	0.18	0.18	0.18		0.41	0.41	
South East Sicily (Italy)																							
total cases											1	4	0	0	0	0	1	1	1		6	8	14
livebirths											0	1	0	0	0	0	1	1	1		1	4	5
fetal deaths											1	3	0	0	0	0	0	0	0		0	4	4
induced abortions																					5	0	5
population:											19430	20273	19746	20031	18986	18054	18795	16922		15304	152237	167541	
Total Prevalence											0.51	1.97	0.00	0.00	0.00	0.55	0.53	0.59		3.92	0.53	0.84	
Livebirth Prevalence											0.00	0.49	0.00	0.00	0.00	0.55	0.53	0.59		0.65	0.26	0.30	

Anencephalus (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Tuscany (Italy)																							
total cases	2	4	4	0	2	6	7	3	2	4	4	1	8	5	7	6	4	4	9	5	7	87	94
livebirths	0	1	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	1	1	7	8
fetal deaths	2	3	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	9	9
induced abortions	0	0	2	0	2	5	7	3	2	3	4	1	7	4	6	6	4	4	7	4	6	71	77
population:	9696	9350	9281	8948	8592	8980	8477	8511	8869	8556	8751	8657	25670	24504	24487	24520	24606	24535	25468	26059	26616	306517	333133
Total Prevalence	2.06	4.28	4.31	0.00	2.33	6.68	8.26	3.52	2.26	4.68	4.57	1.16	3.12	2.04	2.86	2.45	1.63	1.63	3.53	1.92	2.63	2.84	2.82
Livebirth Prevalence	0.00	1.07	1.08	0.00	0.00	0.00	0.00	0.00	0.00	1.17	0.00	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.39	0.38	0.38	0.23	0.24
Malta																							
total cases							6	1	1	3	0	0	3	1	2	1	3	1	3	3	0	28	28
livebirths							3	0	1	2	0	0	3	1	2	1	1	1	2	1	0	18	18
fetal deaths							3	1	0	1	0	0	0	0	0	0	2	0	1	2	0	10	10
induced abortions							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
population:							5310	5375	5461	5617	5400	5328	5503	5172	4863	4633	4978	4864	4511	4339	4272	71354	75626
Total Prevalence							11.30	1.86	1.83	5.34	0.00	0.00	5.45	1.93	4.11	2.16	6.03	2.06	6.65	6.91	0.00	3.92	3.70
Livebirth Prevalence							5.65	0.00	1.83	3.56	0.00	0.00	5.45	1.93	4.11	2.16	2.01	2.06	4.43	2.30	0.00	2.52	2.38
Northern Netherlands																							
total cases		2	4	9	7	7	5	2	10	3	5	5	3	7	5	7	8	6	4	5	7	104	111
livebirths		0	2	3	3	0	1	0	2	0	1	2	0	0	0	1	0	1	1	1	1	18	19
fetal deaths		1	1	2	2	1	0	1	2	0	2	1	0	1	0	1	1	2	2	2	3	22	25
induced abortions		1	1	4	2	6	4	1	6	3	2	2	3	6	5	5	7	3	1	2	3	64	67
population:		7877	7731	7542	7559	7792	11936	11847	11595	19093	19635	19853	19140	19387	19283	19296	19033	19397	19941	20167	20490	288104	308594
Total Prevalence		2.54	5.17	11.93	9.26	8.98	4.19	1.69	8.62	1.57	2.55	2.52	1.57	3.61	2.59	3.63	4.20	3.09	2.01	2.48	3.42	3.61	3.60
Livebirth Prevalence		0.00	2.59	3.98	3.97	0.00	0.84	0.00	1.72	0.00	0.51	1.01	0.00	0.00	0.00	0.52	0.00	0.52	0.50	0.50	0.49	0.62	0.62
Poland																							
total cases																						28	28
livebirths																						23	23
fetal deaths																						5	5
induced abortions																						0	0
population:																						158923	158923
Total Prevalence																						1.76	1.76
Livebirth Prevalence																						1.45	1.45

Anencephalus (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Southern Portugal																							
total cases											2	1	1	0	2	2	6	3	0	6	4	23	27
livebirths											0	1	1	0	2	0	0	1	0	1	1	6	7
fetal deaths											0	0	0	0	0	2	1	0	0	0	0	3	3
induced abortions											2	0	0	0	0	0	5	2	0	5	3	14	17
population:											5461	5554	7391	7152	7000	14959	15439	16293	16312	17047	19383	112608	131991
Total Prevalence											3.66	1.80	1.35	0.00	2.86	1.34	3.89	1.84	0.00	3.52	2.06	2.04	2.05
Livebirth Prevalence											0.00	1.80	1.35	0.00	2.86	0.00	0.00	0.61	0.00	0.59	0.52	0.53	0.53
Asturias (Spain)																							
total cases											7	4	2	3	5	3	4	1	7	2		38	38
livebirths											1	1	0	0	0	0	0	0	1	0		3	3
fetal deaths											0	0	0	0	0	0	0	0	0	0		0	0
induced abortions											6	3	2	3	5	3	4	1	6	2		35	35
population:											7722	7693	7474	7012	6626	6553	6507	6473	6321	6516		68897	68897
Total Prevalence											9.07	5.20	2.68	4.28	7.55	4.58	6.15	1.54	11.07	3.07		5.52	5.52
Livebirth Prevalence											1.30	1.30	0.00	0.00	0.00	0.00	0.00	0.00	1.58	0.00			0.44
Barcelona (Spain)																							
total cases													8	8	5	5	4	6	8	5		49	49
livebirths													0	0	0	1	0	0	1	0		2	2
fetal deaths													1	0	0	1	0	1	1	1		5	5
induced abortions													7	8	5	3	4	5	6	4		42	42
population:													13477	12738	12609	12199	12031	12240	11684	12270		99248	99248
Total Prevalence													5.94	6.28	3.97	4.10	3.32	4.90	6.85	4.07		4.94	4.94
Livebirth Prevalence													0.00	0.00	0.00	0.82	0.00	0.00	0.86	0.00		0.20	0.20
Basque Country (Spain)																							
total cases											8	6	9	6	9	7	13	8	4	17	11	87	98
livebirths											0	1	0	0	0	1	1	0	0	1	0	4	4
fetal deaths											0	0	0	0	1	0	0	0	0	0	1	1	2
induced abortions											8	5	9	6	8	6	12	8	4	16	10	82	92
population:											16438	16291	16316	15891	15357	15397	16060	16397	16169	16859	17408	161175	178583
Total Prevalence											4.87	3.68	5.52	3.78	5.86	4.55	8.09	4.88	2.47	10.08	6.32	5.40	5.49
Livebirth Prevalence											0.00	0.61	0.00	0.00	0.00	0.65	0.62	0.00	0.00	0.59	0.00	0.25	0.22

Anencephalus (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Vaud (Switzerland)																							
total cases										4	2	4	5	3	3	5	5	1	2	2	4	36	40
livebirths										0	0	0	0	0	0	0	2	0	0	0	1	2	3
fetal deaths										0	0	0	0	0	0	1	0	0	0	0	0	1	1
induced abortions										4	2	4	5	3	3	4	3	1	2	2	3	33	36
population:										7212	7697	8211	8076	7700	7683	7697	7730	7562	7438	7465	7618	84471	92089
Total Prevalence										5.55	2.60	4.87	6.19	3.90	3.90	6.50	6.47	1.32	2.69	2.68	5.25	4.26	4.34
Livebirth Prevalence										0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.59	0.00	0.00	0.00	1.31	0.24	0.33
Glasgow (UK:Scotland)																							
total cases	27	19	23	19	14	16	23	15	6	9	7	8	8	10	5	10	11	4	11	7	252	252	
livebirths	1	0	0	0	1	2	4	0	1	0	0	2	0	0	1	0	0	0	1	0	13	13	
fetal deaths	7	3	0	1	0	0	0	1	0	0	1	1	1	2	0	2	0	1	0	1	21	21	
induced abortions	19	16	23	18	13	14	19	14	5	9	6	5	7	8	4	8	11	3	10	6	218	218	
population:	13438	13491	12884	12661	12783	13089	13013	12987	12908	12289	12471	12831	12339	11883	11407	11227	10976	10997	10239	9721	243634	243634	
Total Prevalence	20.09	14.08	17.85	15.01	10.95	12.22	17.67	11.55	4.65	7.32	5.61	6.23	6.48	8.42	4.38	8.91	10.02	3.64	10.74	7.20	10.34	10.34	
Livebirth Prevalence	0.74	0.00	0.00	0.00	0.78	1.53	3.07	0.00	0.77	0.00	0.00	1.56	0.00	0.00	0.88	0.00	0.00	0.00	0.98	0.00	0.53	0.53	
Mersey (UK:England)																							
total cases																17	19	20	13	4	73	73	
livebirths																1	0	0	1	0	2	2	
fetal deaths																0	0	2	2	0	4	4	
induced abortions																16	19	18	10	4	67	67	
population:																28786	29031	27983	27514	26553	139867	139867	
Total Prevalence																5.91	6.54	7.15	4.72	1.51	5.22	5.22	
Livebirth Prevalence																0.35	0.00	0.00	0.36	0.00	0.14	0.14	
North Thames (West) (UK:England)																							
total cases												25	33	25	27	26	24	20	35	17	34	266	266
livebirths												0	4	1	2	6	1	2	1	1	3	21	21
fetal deaths												1	1	2	1	5	3	1	0	2	3	19	19
induced abortions												24	28	22	24	15	20	17	34	14	28	226	226
population:												47330	47493	46762	47526	47324	47324	47355	47549	46874	45652	471189	471189
Total Prevalence												5.28	6.95	5.35	5.68	5.49	5.07	4.22	7.36	3.63	7.45	5.65	5.65
Livebirth Prevalence												0.00	0.84	0.21	0.42	1.27	0.21	0.42	0.21	0.21	0.66	0.45	0.45

Anencephalus (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000	
Wales (UK)																								
total cases																			28	26	19	54	73	
livebirths																			0	3	0	3	3	
fetal deaths																			0	1	1	1	2	
induced abortions																			28	22	18	50	68	
population:																			33610	32266	31449	65876	97325	
Total Prevalence																			8.33	8.06	6.04	8.20	7.50	
Livebirth Prevalence																			0.00	0.93	0.00	0.46	0.31	
Total (Full Member Registries)																								
total cases	86	102	97	99	95	101	98	100	100	96	110	130	147	128	124	152	194	156	210	191	188	2550	2704	
livebirths	13	28	30	23	16	19	26	16	20	11	18	16	16	14	13	19	19	14	19	19	39	369	408	
fetal deaths	49	51	35	36	30	24	22	27	20	14	16	15	19	10	9	17	16	12	19	22	17	463	480	
induced abortions	24	23	32	40	49	58	50	57	60	71	76	99	112	104	102	116	159	130	172	150	132	1684	1816	
population:	63191	150396	176097	183358	186263	202517	210627	226785	229872	250061	294138	359123	387664	379259	381565	419413	486839	498478	522435	505443	527240	6113524	6640764	
Total Prevalence	13.61	6.78	5.51	5.40	5.10	4.99	4.65	4.41	4.35	3.84	3.74	3.62	3.79	3.38	3.25	3.62	3.98	3.13	4.02	3.78	3.57	4.17	4.07	
Livebirth Prevalence	2.06	1.86	1.70	1.25	0.86	0.94	1.23	0.71	0.87	0.44	0.61	0.45	0.41	0.37	0.34	0.45	0.39	0.28	0.36	0.38	0.74	0.60	0.61	
Associate Member Registries																								
Finland																								
total cases															15	14	16	22	16	23	18	13	124	137
livebirths															4	0	1	3	4	1	1	1	14	15
fetal deaths															0	0	0	1	1	1	0	1	3	4
induced abortions															11	14	15	18	11	21	17	11	107	118
population:															65098	65480	63368	60965	59569	57345	57782	56970	429607	486577
Total Prevalence															2.30	2.14	2.52	3.61	2.69	4.01	3.12	2.28	2.89	2.82
Livebirth Prevalence															0.61	0.00	0.16	0.49	0.67	0.17	0.17	0.18	0.33	0.31
Central East France																								
total cases	4	8	7	9	9	11	14	26	15	21	20	26	23	19	31	18	20	13	14	16	13	324	337	
livebirths	3	5	4	6	6	3	0	1	2	2	1	1	1	1	2	1	1	0	0	0	0	40	40	
fetal deaths	1	3	3	3	3	3	1	3	3	2	0	0	0	0	0	0	1	0	0	0	0	26	26	
induced abortions						5	13	22	10	17	19	25	22	18	29	17	18	13	14	16	13	258	271	
population:	75332	76220	75813	86433	86904	90825	91950	90191	91303	99858	107370	106607	104480	99249	99674	102153	103440	102090	102483	102982	93963	1895357	1989320	
Total Prevalence	0.53	1.05	0.92	1.04	1.04	1.21	1.52	2.88	1.64	2.10	1.86	2.44	2.20	1.91	3.11	1.76	1.93	1.27	1.37	1.55	1.38	1.71	1.69	
Livebirth Prevalence	0.40	0.66	0.53	0.69	0.69	0.33	0.00	0.11	0.22	0.20	0.09	0.09	0.10	0.10	0.20	0.10	0.10	0.00	0.00	0.00	0.00	0.21	0.20	

Anencephalus (Cont'd)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1980-1999	1980-2000
Norway																							
Total cases	18	21	15	18	10	23	18	12	12	16	5	12	16	11	22	18	18	10	10	28	24	313	337
livebirths	2	8	2	4	1	0	3	0	0	0	1	1	0	1	3	1	1	1	1	3	4	33	37
Fetal deaths	16	13	13	14	9	15	9	5	8	7	1	3	5	7	6	5	5	3	2	8	4	154	158
induced abortions	0	0	0	0	0	8	6	7	4	9	3	8	11	3	13	12	12	6	7	17	16	126	142
population:	51495	51021	51642	50258	50576	51416	52885	54313	57936	59712	61523	61386	60636	60166	60306	60488	61092	59896	58482	60215	59907	1135444	1195351
Total Prevalence	3.50	4.12	2.90	3.58	1.98	4.47	3.40	2.21	2.07	2.68	0.81	1.95	2.64	1.83	3.65	2.98	2.95	1.67	1.71	4.65	4.01	2.76	2.82
Livebirth Prevalence	0.39	1.57	0.39	0.80	0.20	0.00	0.57	0.00	0.00	0.00	0.16	0.16	0.00	0.17	0.50	0.17	0.16	0.17	0.17	0.50	0.67	0.29	0.31
ECEMC (Spain)																							
Total cases	35	25	29	24	27	38	14	13	14	12	10	16	5	6	8	9	6	8	6	2		307	307
livebirths	20	17	18	18	19	16	7	8	8	4	4	9	2	3	5	4	4	4	5	2		177	177
Fetal deaths	15	8	11	6	8	22	7	5	6	8	6	7	3	3	3	5	2	4	1	0		130	130
induced abortions																						0	0
population:	56910	56102	61333	71812	69513	66720	58245	51051	52686	59046	84379	87708	91607	82925	87239	87372	94044	98945	96490	104337		1518464	1518464
Total Prevalence	6.15	4.46	4.73	3.34	3.88	5.70	2.40	2.55	2.66	2.03	1.19	1.82	0.55	0.72	0.92	1.03	0.64	0.81	0.62	0.19		2.02	2.02
Livebirth Prevalence	3.51	3.03	2.93	2.51	2.73	2.40	1.20	1.57	1.52	0.68	0.47	1.03	0.22	0.36	0.57	0.46	0.43	0.40	0.52	0.19		1.17	1.17
Total (Associate Member Registries)																							
Total cases	57	54	51	51	46	72	46	51	41	49	35	54	44	51	75	61	66	47	53	64	50	1068	1118
livebirths	25	30	24	28	26	19	10	9	10	6	6	11	3	9	10	7	9	9	7	6	5	264	269
Fetal deaths	32	24	27	23	20	40	17	13	17	17	7	10	8	10	9	10	9	8	4	8	5	313	318
induced abortions	0	0	0	0	0	13	19	29	14	26	22	33	33	32	56	44	48	30	42	50	40	491	531
population:	183737	183343	188788	208503	206993	208961	203080	195555	201925	218616	253272	255701	256723	307438	312699	313381	319541	320500	314800	325316	210840	4978872	5189712
Total Prevalence	3.10	2.95	2.70	2.45	2.22	3.45	2.27	2.61	2.03	2.24	1.38	2.11	1.71	1.66	2.40	1.95	2.07	1.47	1.68	1.97	2.37	2.15	2.15
Livebirth Prevalence	1.36	1.64	1.27	1.34	1.26	0.91	0.49	0.46	0.50	0.27	0.24	0.43	0.12	0.29	0.32	0.22	0.28	0.28	0.22	0.18	0.24	0.53	0.52
Total (All Registries)																							
Total cases	143	156	148	150	141	173	144	151	141	145	145	184	191	179	199	213	260	203	263	255	238	3584	3822
livebirths	38	58	54	51	42	38	36	25	30	17	24	27	19	23	23	26	28	23	26	25	44	633	677
Fetal deaths	81	75	62	59	50	64	39	40	37	31	23	25	27	20	18	27	25	20	23	30	22	776	798
induced abortions	24	23	32	40	49	71	69	86	74	97	98	132	145	136	158	160	207	160	214	200	172	2175	2347
population:	246928	333739	364885	391861	393256	411478	413707	422340	431797	468677	547410	614824	644387	686697	694264	732794	806380	818978	837235	830759	738080	11092396	11830476
Total Prevalence	5.79	4.67	4.06	3.83	3.59	4.20	3.48	3.58	3.27	3.09	2.65	2.99	2.96	2.61	2.87	2.91	3.22	2.48	3.14	3.07	3.22	3.23	3.23
Livebirth Prevalence	1.54	1.74	1.48	1.30	1.07	0.92	0.87	0.59	0.69	0.36	0.44	0.44	0.29	0.33	0.33	0.35	0.35	0.28	0.31	0.30	0.60	0.57	0.57

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