

Supplementary tables

Table S1. Diagnosis codes identifying each co-morbidity

Measure of morbidity	ICD-9 codes	ICD-10 codes
Cerebral palsy	343	G80
Seizures/epilepsy	345, 7803	R56, G40, G41
Visual impairments and blindness	369	H54
Hearing loss	389	H90-H91
Cancer	140-208, excluding 173	C-chapter, excluding C44, B211
Any injury/poisoning	800-994	S-chapter, T00-T78, excluding T74.1
Child abuse	9955	T74.1

Table S2. Number and prevalence per 1,000 children with cerebral palsy, seizures/epilepsy and visual impairments/blindness according to isolated congenital anomaly subgroup and age.

		Cerebral Palsy		Seizures/epilepsy		Visual impairments and blindness	
Congenital anomaly subgroup	total	n	Number per 1000 ^b (95% CI)	n	Number per 1000 ^b (95% CI)	n	Number per 1000 ^b (95% CI)
	0-4 years						
Encephalocele	69	sn	-	sn	-	sn	-
Spina Bifida	353	sn	-	43	138.4 (101.1-181.5)	0	0.0 (0.0-10.8)
Hydrocephalus	586	64	132.0 (102.3-165.6)	126	247.9 (209.8-287.6)	28	47.1 (20.7-89.9)
Craniosynostosis	982	5	5.1 (2.2-11.9)	27	31.6 (20.1-47.2)	0	0.0 (0.0-3.9)
Congenital cataract	628	8	12.7 (6.5-24.9)	21	44.2 (19.9-83.6)	11	17.0 (3.8-50.6)
Anophthalmos / microphthalmos	167	sn	-	12	74.7 (36.3-131.4)	9	53.9 (28.6-99.2)
Congenital glaucoma	118	sn	-	sn	-	sn	-
Congenital Heart Defect	26,442	127	7.0 (4.2-11.0)	804	40.5 (29.2-54.5)	16	0.8 (0.3-2.0)
Severe Congenital Heart Defect	5,693	39	8.6 (5.1-14.0)	255	55.7 (42.5-71.4)	5	0.9 (0.4-2.1)
Ventricular Septal Defect excl. severe Congenital Heart Defect	14,574	42	4.6 (2.7-7.1)	320	28.9 (21.6-37.8)	sn	-
Atrial Septal Defect excl. severe Congenital Heart Defects	3,766	28	10.9 (5.2-20.5)	130	42.0 (28.8-58.7)	sn	-
Cleft palate	1,915	sn	-	50	31.5 (19.6-48.0)	sn	-

Multicystic renal dysplasia	1,087	sn	-	36	36.6 (19.6-61.9)	sn	-
Hydronephrosis	4,676	11	3.0 (1.5-5.5)	145	34.1 (26.7-42.7)	sn	-
Bladder exstrophy	131	0	0.0 (0.0-28.5)	sn	-	0	0.0 (0.0-28.5)
Posterior urethral valve	345	sn	-	18	60.6 (36.0-93.9)	0	0.0 (0.00-11.0)
	0-9 years^b						
Encephalocele	42	0	0.0 (0.0-83.8)	sn	-	sn	-
Spina Bifida	170	sn	-	25	144.5 (56.0-273.0)	0	0.0 (0.0-22.1)
Hydrocephalus	252	32	137.1 (55.6-255.0)	57	260.6 (192.0-334.4)	8	31.8 (16.2-61.4)
Craniosynostosis	627	sn	-	19	31.5 (9.5-76.7)	sn	-
Congenital cataract	463	8	17.3 (8.8-33.7)	16	49.2 (16.4-110.3)	9	19.4 (10.3-36.5)
Anophthalmos / microphthalmos	107	Sn	-	7	65.4 (32.1-128.9)	7	65.4 (32.1-128.9)
Congenital glaucoma	72	0	0.0 (0.0-50.7)	sn	-	sn	-
Congenital Heart Defect	18,346	82	7.9 (3.2-17.0)	558	45.9 (25.2-75.6)	10	1.0 (0.3-2.4)
Severe Congenital Heart Defect	3105	22	11.1 (5.1-21.5)	132	56.9 (39.5-78.5)	sn	-
Ventricular Septal Defect excl. severe Congenital Heart Defect	11,135	32	4.6 (2.1-9.3)	264	35.2 (19.4-58.5)	sn	-
Atrial Septal Defect excl. severe Congenital Heart Defects	2,626	19	9.5 (1.8-32.6)	94	48.3 (26.3-80.0)	sn	-
Cleft palate	1,220	sn	-	33	32.7 (17.6-55.1)	0	0.0 (0.0-3.1)

Multicystic renal dysplasia	619	0	0.0 (0.0-6.2)	26	56.4 (25.7-104.4)	0	0.0 (0.0-6.2)
Hydronephrosis	2,940	6	2.0 (0.9-4.5)	108	45.8 (32.4-62.4)	sn	
Bladder exstrophy	61	0	0.0 (0.0-59.2)	sn	-	0	0.0 (0.0-59.2)
Posterior urethral valve	246	sn	-	16	71.6 (41.9-111.6)	0	0.0 (0.0-15.4)

^a 1-Kaplan-Meier estimate of the measure of morbidity in age period from meta-analysis of all registries. For subgroups with <10 children with the diagnosis, the prevalence is a simple calculation, not taking into account the risk time. The corresponding CI was calculated as a Wilson confidence interval.

^b Only 3 registries included for 0-9 years.

sn=small number (numbers 1-4 are not displayed)

Table S3. Number and prevalence per 1,000 children with cancer according to isolated congenital anomaly subgroup and age

Congenital anomaly subgroup	Cancer					
	0-4 years			0-9 years ^a		
	Total	n	Number per 1000 ^b (95% CI)	Total	n	Number per 1000 ^b (95% CI)
Encephalocele	69	0	0.0 (0.0-52.7)	42	0	0.0 (0.0-83.8)
Spina Bifida	353	0	0.0 (0.0-10.8)	170	0	0.0 (0.0-22.1)
Hydrocephalus	586	10	19.6 (9.1-37.3)	252	sn	-
Craniosynostosis	982	sn	-	627	sn	-
Congenital cataract	628	0	0.0 (0.0-6.1)	463	0	0.0 (0.0-8.2)
Anophthalmos / microphthalmos	167	sn	-	107	0	0.0 (0.0-34.7)
Congenital glaucoma	118	0	0.0 (0.0-31.5)	72	0	0.0 (0.0-50.7)
Congenital Heart Defect	26,442	36	1.7 (1.1-2.4)	18,346	37	2.7 (1.9-3.7)
Severe Congenital Heart Defect	5,693	5	0.9 (0.4-2.1)	3,105	sn	-
Ventricular Septal Defect excl. severe Congenital Heart Defect	14,574	19	1.5 (0.9-2.6)	11,135	21	2.4 (1.5-3.6)
Atrial Septal Defect excl. severe Congenital Heart Defects	3,766	sn	-	2,626	sn	-
Cleft palate	1,915	sn	-	1,220	0	0.0 (0.0-3.1)
Multicystic renal dysplasia	1,087	sn	-	619	sn	-
Hydronephrosis	4,676	12	3.1 (1.7-5.3)	2,940	8	2.7 (1.4-5.4)

Bladder exstrophy	131	0	0.0 (0.0-28.5)	61	0	0.0 (0.0-59.2)
Posterior urethral valve	345	sn	-	246	sn	-

^a Only 3 registries included for 0-9 years.

^b 1-Kaplan-Meier estimate of the measure of morbidity in age period from meta-analysis of all registries. For subgroups with <10 children with the diagnosis, the prevalence is a simple calculation, not taking into account the risk time. The corresponding CI was calculated as a Wilson confidence interval.

sn=small number (numbers 1-4 are not displayed)

Table S4. Number and proportion of children with the specified co-morbidities for children with Down syndrome and Turner syndrome according to age

Measure of morbidity	0-4 years		0-9 years ^a	
	Down syndrome N=3640	Turner syndrome N=260	Down syndrome N=1853	Turner syndrome N=135
	Number per 1000 ^b (95% CI)	Number per 1000 ^b (95% CI)	Number per 1000 ^b (95% CI)	Number per 1000 ^b (95% CI)
Cerebral palsy	6.1 (2.7-12.3)	0.0 (0.0-14.6) ^c	4.9 (2.6-9.2) ^d	0.0 (0.0-27.7) ^c
Seizures/epilepsy	55.1 (47.6-63.4)	55.5 (18.8-122.2)	63.1 (46.9-82.4)	99.1 (52.7-162.7)
Visual impairments and blindness	2.9 (0.7-9.6)	sn	sn	sn
Cancer	21.1 (16.3-26.9)	0.0 (0.0-14.6) ^c	29.4 (21.7-38.9)	0.0 (0.0-27.7) ^c

^a Only 3 registries included for 0-9 years.

^b 1-Kaplan-Meier estimate of the measure of morbidity in age period from meta-analysis of all registries.

^c 0 children in this subgroup.

^d Subgroup with <10 children with the diagnosis. Percentage is a simple calculation of the proportion, not taking into account the risk time. The corresponding CI was calculated as a Wilson confidence interval.

sn=small number (estimates for 1-4 are not displayed)