Supplementary Material 1: Assessment of risk of bias

1. Child selection

Cohort and cross-sectional studies

Adequate: if children recruited were representative of the entire population (entire source population, unselected sample of consecutive children, or a random sample).

Inadequate: convenience sampling (arbitrary recruitment or non-consecutive recruitment) or when selection was not random or unreported.

Case-control studies

Adequate: cases and controls recruited from the same population.

Inadequate: cases and controls recruited from different source populations or unreported.

2. Assessment of outcome (cerebral palsy or not)

Adequate: ascertainment of cerebral palsy by cerebral palsy register or specific assessment by appropriately qualified personnel.

Inadequate: ascertainment of cerebral palsy by personal or telephone interview, self-administered questionnaire, medical records or method unreported.

3. Assessment of outcome (congenital anomalies or not)

Adequate: ascertainment of congenital anomalies by congenital anomalies register, where register accepts notification for at least one year after birth or specific examination of child (age one year or above) for congenital anomalies by an appropriately qualified person.

Inadequate: ascertainment of congenital anomalies by personal or telephone interview, self-administered questionnaire, medical records, cerebral palsy register only and/or method unreported.

4. Missing data

Adequate: if congenital anomaly missing data ≤10%.

Inadequate: if congenital anomaly missing data >10% or missing data not reported.

Not applicable: linkage with congenital anomaly register.

5. Number of observations on which conclusions are made

Adequate: a minimum of 100 cases of cerebral palsy with a congenital anomaly.

Inadequate: less than 100 cases cerebral palsy with a congenital anomaly.

Supplementary Material 2: Common cerebral anomalies in children with cerebral palsy

Anomaly (ICD-10-BPA)	Garne et al, 2008 [5]		Pharaoh et al, 2007 [14]		Rankin et al, 2010 [6]		Croen et al, 2001 [16 a] (moderate-severe CP only)		Jystad et al, 2017 [15] (singletons ≥ 34 weeks gestation only)	
	n	% CP	n	% CP	n	% CP	n	% CP	n	% CP
Microcephaly [b] (Q02)	102	2.2	40	1.8	26	2.4	12	6.3	11	1.6
Hydrocephaly, Dandy Walker (Q03)	74	1.6	29	1.3	17	2.2	4	2.1	34	5.0
Corpus callosum anomalies (Q04.0)	13	0.3	NR		10	0.9	0	0	15	2.2
Holoprosencephaly (Q04.2)	NR		NR		2	0.2	2	1.0	3	0.4
Other reduction deformities (Q04.3)	72	1.6	NR		16	1.5	0	0	NR	
Septo-optic dysplasia (Q04.4)	NR		NR		NR		1	0.5	NR	
Cerebral cysts, schizencephaly (Q04.6)	39	0.9	NR		6	0.5	4	2.1	15	2.2
Other specified, unspecified (Q04.8-9)	94	2.1	NR		10	0.9	2	1.0	45	6.6
Associated with cerebral-related syndrome	NR		NR		10	0.9	2	1.0	NR	
Total CP cases	4584		2253		1104		192		685	

NR, not reported.

[a] Cases may be included in more than one category (4 cases had multiple cerebral anomalies).[16]

[b] Microcephaly definitions varied between studies: head circumference more than 2 standard deviations below average at birth;[6] head circumference more than 3 standard deviations below the mean;[15] microcephaly noted antenatally or at the time of birth/postnatal microcephaly excluded;[5,14] not defined.[16]

Supplementary Material 3: Common non-cerebral anomalies in children with cerebral palsy

Anomaly (ICD-10-BPA system)	Garne et al, 2008 [5]		Pharaoh et al, 2007 [14 a, b]		Rankin et al, 2010 [6]		Self et al, 2012 [13 a]		Croen et al, 2001[16 a] (moderate-severe CP only)		Jystad et al, 2017 [15] (singletons ≥ 34 weeks gestation only)	
	n	% CP	n	% CP	n	% CP	n	% CP	n	% CP	n	% CP
Non-cerebral anomalies only (2.1 – 15.8% of children with pre/perinatally acquired CP)												
Circulatory system	30	0.7	NR		21	1.9	23	9.5	2	1.0	18	2.6
Musculoskeletal system	25	0.5	NR		9	0.8	9	3.7	2	1.0	6	0.9
Genitourinary system	9	0.2	NR		12	1.1	6	2.5	2	1.0	4	0.6
Digestive system	24	0.5	NR		3	0.3	5	2.1	1	0.5	2	0.3
Eye, ear, face and neck	5	0.1	NR		5	0.5	2	0.8	1	0.5	2	0.3
Respiratory system	1	0.0	NR		2	0.2	0	0	0	0	1	0.1
Other and unspecified	2	0.0	NR		NR	0	0	0	2	1.0	13 [c]	1.9
Multiple	1	0.0	NR		1	0.0	8	3.3	1	0.5	NR	
Non-cerebral with or without cerebral anomaly (2.4 – 9.9% of children with pre/perinatally acquired CP)												
Circulatory system	31	0.7	52	2.3	NR		NR		4	2.1	23	3.4
Musculoskeletal system	26	0.6	58	2.6	NR		NR		4	2.1	7	1.0
Genitourinary system	10	0.2	NR		NR		NR		2	1.0	7	1.0
Digestive system	26	0.6	22	1.0	NR		NR		1	0.5	7	1.0
Eye, ear, face and neck	8	0.2	8	0.4	NR		NR		3	1.6	5	0.7
Respiratory system	1	0.0	NR		NR		NR		0	0	1	0.1
Other and unspecified	6	0.1	NR		NR		NR		4	2.1	14 [c]	2.0
Multiple	3	0.1	NR		NR		NR		3	1.6	NR	
Total CP cases	4584		2253		1104		241		192		685	

NR, Not reported.

[a] Cases may be included in more than one category; multiple anomalies is not a distinct category.

[b] Selected anomalies only reported in study: Musculoskeletal system includes congenital deformities of hip (Q65) and feet (Q66) only; Eye, ear, face and neck category includes eye (Q11-Q14) only; Digestive system includes cleft lip/palate (Q35-Q37), oesophagus (Q39) and small/large intestine (Q41, Q42) only.

[c] Includes 9 cases with a non-cerebral syndrome.