Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Childhood Neurosensory Impairment in VPT/VLBW Participants from Each IPD Cohort

	AYLS	BLS	EPICURE	HESVA	NTNU	NZVLBW	UCLH	VICS	Overall
	VPT/ VLBW (n=28)	VPT/ VLBW (n=203)	VPT/ VLBW (n=124)	VPT/ VLBW (n=109)	VPT/ VLBW (n=51)	VPT/ VLBW (n=225)	VPT/ VLBW (n=104)	VPT/ VLBW (n=224)	VPT/ VLBW (n=1068)
Evidence of Severe NSI									
Yes	3 (10.7%)	22 (10.8%)	14 (11.3%)	5 (4.6%)	4 (7.8%)	9 (4.0%)	3 (2.9%)	27 (12.1%)	87 (8.1%)
No	25 (89.3%)	181 (89.2%)	110 (88.7%)	104 (95.4%)	47 (92.2%)	216 (96.0%)	101 (97.1%)	197 (87.9%)	981 (91.9%)
Visual Impairment									
No	26 (92.9%)	200 (98.5%)	117 (94.4%)	107 (98.2%)	37 (72.5%)	218 (96.9%)	0 (0%)	224 (100%)	929 (87.0%)
Yes	0 (0%)	2 (1.0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	0 (0%)	0 (0%)	3 (0.3%)
Missing	2 (7.1%)	1 (0.5%)	7 (5.6%)	2 (1.8%)	14 (27.5%)	6 (2.7%)	104 (100%)	0 (0%)	136 (12.7%)
Hearing Impairment									
No	26 (92.9%)	201 (99.0%)	116 (93.5%)	107 (98.2%)	37 (72.5%)	217 (96.4%)	0 (0%)	223 (99.6%)	927 (86.8%)
Yes	0 (0%)	1 (0.5%)	1 (0.8%)	0 (0%)	0 (0%)	2 (0.9%)	0 (0%)	1 (0.4%)	5 (0.5%)
Missing	2 (7.1%)	1 (0.5%)	7 (5.6%)	2 (1.8%)	14 (27.5%)	6 (2.7%)	104 (100%)	0 (0%)	136 (12.7%)
Non-Ambulatory Cerebral Palsy									
No	28 (100%)	195 (96.1%)	115 (92.7%)	101 (92.7%)	49 (96.1%)	219 (97.3%)	0 (0%)	222 (99.1%)	929 (87.0%)
Yes	0 (0%)	7 (3.4%)	2 (1.6%)	5 (4.6%)	2 (3.9%)	0 (0%)	0 (0%)	2 (0.9%)	18 (1.7%)
Missing	0 (0%)	1 (0.5%)	7 (5.6%)	3 (2.8%)	0 (0%)	6 (2.7%)	104 (100%)	0 (0%)	121 (11.3%)
Child IQ <70									
No	22 (78.6%)	168 (82.8%)	108 (87.1%)	0 (0%)	39 (76.5%)	212 (94.2%)	99 (95.2%)	194 (86.6%)	842 (78.8%)
Yes	3 (10.7%)	18 (8.9%)	13 (10.5%)	0 (0%)	3 (5.9%)	7 (3.1%)	3 (2.9%)	25 (11.2%)	72 (6.7%)
Missing	3 (10.7%)	17 (8.4%)	3 (2.4%)	109 (100%)	9 (17.6%)	6 (2.7%)	2 (1.9%)	5 (2.2%)	154 (14.4%)

eTable 2. Newcastle Ottawa Criteria and Ratings for Each IPD Cohort

Criteria:

Newcastle Ottawa Rating Scale	http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp
Selection	
1) Representativeness of the exposed cohort	
A) truly representative of the average ____**VPT/VLBW (not a sub-selection such as just those with BPD or only males)** _____ in the community ¯	
B) somewhat representative of the average ____ **VPT/VLBW** _____ in the community ¯	
C) selected group of users eg nurses, volunteers	
D) no description of the derivation of the cohort	
2) Selection of the non exposed cohort	
A) drawn from the same community as the exposed cohort ¯	
B) drawn from a different source	
C) no description of the derivation of the non exposed cohort	
3) Ascertainment of exposure	
A) secure record (eg surgical records) ¯	
B) structured interview ¯	
C) written self report	
D) no description	
4) Demonstration that outcome of interest was not present at start of study **(Was adult cognitive performance known when the participants were recruited?)**	
A) yes ¯	
B) no	
Comparability	
1) Comparability of cohorts on the basis of the design or analysis	
A) study controls for :____**maternal education**___	
B) study controls for any additional factor: **sex**	
Outcome	

1) Assessment of outcome (**Did the study use a standardised full-scale IQ assessment?)**							
A) independent blind assessment							
B) record linkage							
C) self report							
D) no description							
2) Was follow-up long enough for outcomes to occur **(Did the cohort assess adult IQ outcomes?)**							
A) yes (17 years or greater)							
B) no							
3) Adequacy of follow up of cohorts**. (Of the potential VPT/VLBW participants eligible in adulthood, were over 50% of them assessed?)**							
A) complete follow up - all subjects accounted for ¯							
B) subjects lost to follow up unlikely to introduce bias - small number lost - > __**50**__ % follow up, or description provided of those lost) ¯							
C) follow up rate < __**50**__% and no description of those lost							
D) no statement							

Criteria:

Cohort	Representativeness of the exposed cohort	Selection of the non exposed cohort	Ascertainment of exposure	Demonstration that outcome of interest was not present at start of study	Comparability of cohorts on the basis of the design or analysis	Assessment of outcome	Was follow-up long enough for outcomes to occur	Adequacy of follow up of cohorts (above or below 50%)	Overall Cohort Score
AYLS[1]	A (regional)	A	A	A	A	A	A	C	8
BLS[2,3]	A (regional)	A	A	A	A	A	A	C	8
EPICure[4,5]	A (national)	B	A	A	A	A	A	C	7
HESVA[6]	A (regional)	A	A	A	A	A	A	C	8
NTNU[7]	A (regional)	B	A	A	A	A	A	B	7
NZ_VLBW[8]	A (national)	B	A	A	A	A	A	B	8
UCLH[9,10]	A (regional)	B	A	A	A	A	A	B	8
VICS[11]	A (regional)	A	A	A	A	A	A	B	9

eTable 3. Linear Mixed Model Demonstrating Reducing Gestational Age by Birth Year Among VPT/VLBW Participants

VPT/VLBW only analysis			
	Gestational Age (weeks)		
Predictors	*Estimates*	*CI*	*p*
(Intercept – Estimate for 1978)	32.07	29.66 – 34.49	**<0.001**
Birth year – per year post 1978	-0.32	-0.60 – -0.04	**0.025**
Observations	1068		
Marginal R^2 / Conditional R^2	0.222 / 0.488		

eTable 4. Linear Mixed Model Demonstrating Reducing Birth Weight by Birth Year Among VPT/VLBW Participants

VPT/VLBW only analysis			
	Birthweight (g)		
Predictors	*Estimates*	*CI*	*p*
(Intercept – Estimate for 1978)	1464.87	1211.59 – 1718.14	**<0.001**
Birth year – per year post 1978	-29.85	-58.78 – -0.91	**0.043**
Observations	1068		
Marginal R^2 / Conditional R^2	0.164 / 0.411		

eTable 5. IQ and Demographic Information of All Participants From Each IPD Cohort

Cohort	AYLS		BLS		EPICURE		HESVA		NTNU		NZVLBW		UCLH		VICS	
Group	Cons n= 303	VPT/ VLBW n=28	Cons n= 192	VPT/ VLBW n= 203	Cons n=64	VPT/ VLBW n=124	Cons n=98	VPT/ VLBW n= 109	Cons n=75	VPT/ VLBW n=51	Cons n= 100	VPT/ VLBW n= 225	Cons n= 89	VPT /VLBW n=104	Cons n= 146	VPT/ VLBW n= 224
IQ Z Score																
Mean (SD)	0.00 (0.94)	-0.95 (1.21)	0.00 (0.75)	-0.83 (1.04)	0.00 (0.64)	-1.06 (0.96)	0.00 (0.84)	-0.57 (1.06)	0.00 (0.70)	-0.86 (1.15)	0.00 (0.78)	-0.78 (1.00)	0.00 (0.89)	-0.64 (1.00)	0.00 (0.84)	-0.67 (1.01)
Sex																
Male	134 (44.2%)	16 (57.1%)	92 (47.9%)	108 (53.2%)	25 (39.1%)	56 (45.2%)	42 (42.9%)	47 (43.1%)	33 (44.0%)	25 (49.0%)	37 (37.0%)	100 (44.4%)	42 (47.2%)	63 (60.6%)	56 (38.4%)	96 (42.9%)
Female	169 (55.8%)	12 (42.9%)	100 (52.1%)	95 (46.8%)	39 (60.9%)	68 (54.8%)	56 (57.1%)	62 (56.9%)	42 (56.0%)	26 (51.0%)	63 (63.0%)	125 (55.6%)	47 (52.8%)	41 (39.4%)	90 (61.6%)	128 (57.1%)
Maternal Education Level																
Low	52 (17.2%)	7 (25.0%)	87 (45.3%)	61 (30.0%)	4 (6.2%)	23 (18.5%)	13 (13.3%)	17 (15.6%)	2 (2.7%)	2 (3.9%)	4 (4.0%)	85 (37.8%)	3 (3.4%)	3 (2.9%)	9 (6.2%)	47 (21.0%)
Medium	101 (33.3%)	9 (32.1%)	72 (37.5%)	112 (55.2%)	48 (75.0%)	90 (72.6%)	56 (57.1%)	64 (58.7%)	31 (41.3%)	22 (43.1%)	33 (33.0%)	68 (30.2%)	23 (25.8%)	40 (38.5%)	34 (23.3%)	57 (25.4%)

High	148 (48.8%)	12 (42.9%)	32 (16.7%)	27 (13.3%)	12 (18.8%)	4 (3.2%)	29 (29.6%)	26 (23.9%)	28 (37.3%)	16 (31.4%)	63 (63.0%)	64 (28.4%)	39 (43.8%)	20 (19.2%)	26 (17.8%)	24 (10.7%)
Missing	2 (0.7%)	0 (0%)	1 (0.5%)	3 (1.5%)	0 (0%)	7 (5.6%)	0 (0%)	2 (1.8%)	14 (18.7%)	11 (21.6%)	0 (0%)	8 (3.6%)	24 (27.0%)	41 (39.4%)	77 (52.7%)	96 (42.9%)

eTable 6. Neonatal and Demographic Data for VPT/VLBW Participants from Each IPD Cohort

	AYLS	BLS	EPICURE	HESVA	NTNU	NZVLBW	UCLH	VICS	Overall
	VPT/ VLBW (n=28)	VPT/ VLBW (n=203)	VPT/ VLBW (n=124)	VPT/ VLBW (n=109)	VPT/ VLBW (n=51)	VPT/ VLBW (n=225)	VPT/ VLBW (n=104)	VPT/ VLBW (n=224)	VPT/ VLBW (n=1068)
Gestational Age (weeks)									
Mean (SD)	29.6 (2.09)	30.4 (2.05)	24.5 (0.748)	29.3 (2.33)	29.0 (2.49)	29.3 (2.50)	28.8 (2.00)	26.6 (1.99)	28.3 (2.81)
Birthweight Z Score									
Mean (SD)	-0.00903 (1.08)	-0.603 (1.20)	0.230 (0.822)	-0.421 (1.00)	-0.182 (1.08)	-0.607 (1.07)	-0.0826 (0.930)	-0.167 (1.07)	-0.311 (1.09)
Multiple Birth									
Singleton	25 (89.3%)	149 (73.4%)	83 (66.9%)	92 (84.4%)	41 (80.4%)	169 (75.1%)	81 (77.9%)	150 (67.0%)	790 (74.0%)
Multiple	3 (10.7%)	54 (26.6%)	40 (32.3%)	17 (15.6%)	10 (19.6%)	56 (24.9%)	19 (18.3%)	74 (33.0%)	273 (25.6%)
Missing	0 (0%)	0 (0%)	1 (0.8%)	0 (0%)	0 (0%)	0 (0%)	4 (3.8%)	0 (0%)	5 (0.5%)
Intraventricular Haemorrhage									
No Grade	23 (82.1%)	161 (79.3%)	44 (35.5%)	69 (63.3%)	38 (74.5%)	158 (70.2%)	48 (46.2%)	152 (67.9%)	693 (64.9%)
Any Grade	5 (17.9%)	41 (20.2%)	79 (63.7%)	14 (12.8%)	5 (9.8%)	52 (23.1%)	55 (52.9%)	72 (32.1%)	323 (30.2%)
Missing	0 (0%)	1 (0.5%)	1 (0.8%)	26 (23.9%)	8 (15.7%)	15 (6.7%)	1 (1.0%)	0 (0%)	52 (4.9%)
Bronchopulmonary Dysplasia Diagnosed									
No	27 (96.4%)	101 (49.8%)	35 (28.2%)	80 (73.4%)	39 (76.5%)	181 (80.4%)	0 (0%)	138 (61.6%)	601 (56.3%)
Yes	1 (3.6%)	102 (50.2%)	89 (71.8%)	25 (22.9%)	10 (19.6%)	44 (19.6%)	0 (0%)	86 (38.4%)	357 (33.4%)
Missing	0 (0%)	0 (0%)	0 (0%)	4 (3.7%)	2 (3.9%)	0 (0%)	104 (100%)	0 (0%)	110 (10.3%)
ISCED Maternal Education									
Low	7 (25.0%)	61 (30.0%)	23 (18.5%)	17 (15.6%)	2 (3.9%)	85 (37.8%)	3 (2.9%)	47 (21.0%)	245 (22.9%)
Medium	9 (32.1%)	112 (55.2%)	90 (72.6%)	64 (58.7%)	22 (43.1%)	68 (30.2%)	40 (38.5%)	57 (25.4%)	462 (43.3%)

High	12 (42.9%)	27 (13.3%)	4 (3.2%)	26 (23.9%)	16 (31.4%)	64 (28.4%)	20 (19.2%)	24 (10.7%)	193 (18.1%)
Missing	0 (0%)	3 (1.5%)	7 (5.6%)	2 (1.8%)	11 (21.6%)	8 (3.6%)	41 (39.4%)	96 (42.9%)	168 (15.7%)
Birth Year									
Mean (SD)	1985.3 (0.46)	1985.2 (0.41)	1995.0 (0.00)	1982.4 (2.10)	1987.2 (0.74)	1986.0 (0.00)	1982.1 (1.83)	1991.6 (0.50)	1987.4 (4.24)
Age Assessed									
Mean (SD)	25.8 (0.49)	26.2 (0.59)	19.3 (0.55)	24.5 (2.08)	26.3 (0.67)	28.4 (1.09)	30.5 (2.42)	17.9 (0.79)	24.4 (4.55)

eTable 7. Study Characteristics of VPT/VLBW Cohorts Not Included in the IPD Meta-analysis

			VPT/VLBW		Controls		
Cohort	**Birth year**	**IQ Test**	**IQ, *M (SD)***	***n***	**IQ, *M (SD)***	***n***	**Age at assessment, *M (SD)***
Constable (2013)[12]	1990	WISC TIQ	91.7 (12.4)	19	100.4 (18.7)	19	20.1 (0.9)
Hack (2002)[13]	1977	WAIS-R	86.87(14.23)[A]	236	92(14.4)	231	20
Hallin 2010)[14]	1985	WAIS-III	93 (15.4)	52	106 (12.5)	54	18.4(0.2)
Lefebvre (2005)[15]	1976	WAIS-R	94(12)	59	108(14)	44	18.1(1.8)
Stålnacke (2015)[16]	1988	WISC-III	-0.315(1.165)[B]	118	0(1)	91	18

A = Derived from weighted average of the male and female reported scores. Age at assessment SD not stated.

B = Derived from the combined Z score for verbal and non-verbal ability. Age at assessment SD not stated.

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