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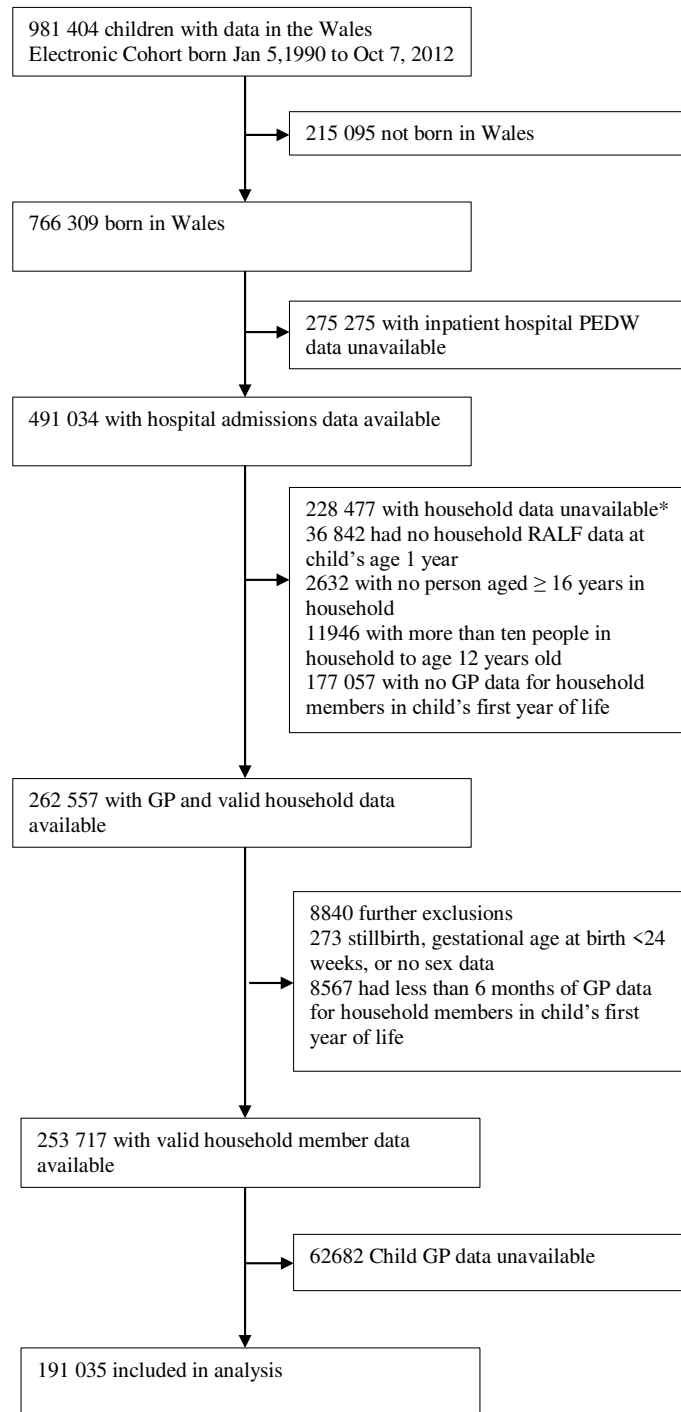
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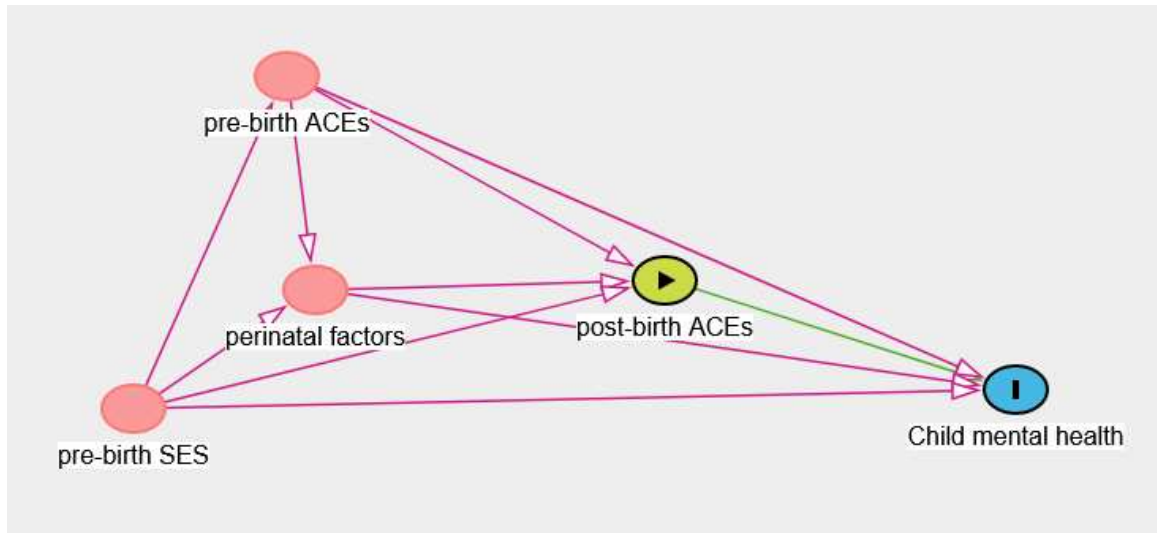
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## Additional File 1: Figure 1 - Participant Selection



**Additional File 2: Figure 2 - Directed acyclic graph of exposure to ACEs and child mental health outcome at 8 years.**



**Additional File 3: Table 1 - Sociodemographic and perinatal characteristics in each exposure**

	<b>Total (n = 191 035)</b>	<b>Ever lived with household members with a common mental disorder (n = 94404)</b>	<b>Ever lived with household members with a serious mental illness (n = 2917)</b>	<b>Ever lived with household members with alcohol- related hospital admission or GP record (n = 29324)</b>	<b>Ever admitted to hospital for childhood victimisatio n (n = 2099)</b>	<b>Death of any household members (n=7878)</b>
<b>Townsend deprivation quintile at birth or in first 4 months</b>						
1 (least deprived)	33 704 (17.6%)	14 349 (15.2%)	11%	2911 (9.9%)	192 (9.2%)	1107 (14.1%)
2	34 671 (18.1%)	15 615 (16.5%)	14%	4067 (13.9%)	317 (15.1%)	1421 (18.0%)
3	37 245 (19.5%)	18 252 (19.3%)	17%	5362 (18.3%)	344 (16.4%)	1513 (19.2%)
4	39 472 (20.7%)	20 634 (21.9%)	24%	6906 (23.6%)	417 (19.9%)	1728 (21.9%)
5 (most deprived)	45 595 (23.9%)	25 433 (26.9%)	34%	10 030 (34.3%)	824 (39.4%)	2086 (26.5%)
Missing data	348 (0.2%)	121 (0.1%)	<5	48 (0.2%)	5 (0.2%)	23 (0.3%)
<b>Sex</b>						
Male	98 302 (51.5%)	48 529 (51.4%)	1512 (51.8%)	15 012 (51.2%)	1087 (51.8%)	3833 (48.7%)
Female	92 733 (48.5%)	45 875 (48.6%)	1405 (48.2%)	14 312 (48.8%)	1012 (48.2%)	4045 (51.3%)
<b>Breastfeeding at birth or at 6-8 weeks</b>						
No	73 577 (38.5%)	40 970 (43.4%)	1350 (46.3%)	14 017 (47.8%)	1064 (50.7%)	3089 (39.2%)
Yes	92 321 (48.3%)	41 347 (43.8%)	1211 (41.5%)	11 372 (38.8%)	761 (36.3%)	3372 (42.8%)
Missing data	25 137 (13.2%)	12 087 (12.8%)	356 (12.2%)	3935 (13.4%)	274 (13.1%)	1417 (18.0%)
<b>Maternal age at childbirth</b>						
<18 years	4339 (2.3%)	2669 (2.8%)	4%	1485 (5.1%)	124 (5.9%)	4%
18-24 years	49 869 (26.1%)	28 190 (29.9%)	35%	11 168 (38.1%)	821 (39.1%)	30%
25-29 years	53 278 (27.9%)	26 172 (27.7%)	26%	7359 (25.1%)	514 (24.5%)	25%
30-34 years	51 952 (27.2%)	23 076 (24.4%)	20%	5714 (19.5%)	377 (18.0%)	24%
≥35 years	31 512 (16.5%)	14 261 (15.1%)	15%	3582 (12.2%)	256 (12.2%)	17%

Missing data	85 (0.0%)	36 (0.0%)	<5	16 (0.1%)	7 (0.3%)	<5
<b>Gestational age at birth</b>						
24-<28 weeks	510 (0.3%)	270 (0.3%)	12 (0.4%)	87 (0.3%)	19 (0.9%)	19 (0.2%)
28-<33 weeks	2325 (1.2%)	1257 (1.3%)	43 (1.5%)	382 (1.3%)	52 (2.5%)	117 (1.5%)
33-<37 weeks	10514 (5.5%)	5473 (5.8%)	173 (5.9%)	1753 (6.0%)	190 (9.1%)	521 (6.6%)
37-43 weeks	17 1564 (89.8%)	84 324 (89.3%)	2582 (88.5%)	26 065 (88.9%)	1783 (84.9%)	6851 (87.0%)
Missing data	6122 (3.2%)	3080 (3.3%)	107 (3.7%)	1037 (3.5%)	55 (2.6%)	370 (4.7%)
<b>Small for gestational age (&lt;10<sup>th</sup> centile)</b>						
No	166 552 (87.2%)	81 959 (86.8%)	2446 (83.9%)	24 793 (84.5%)	1690 (80.5%)	6620 (84.0%)
Yes	17 356 (9.1%)	8854 (9.4%)	343 (11.8%)	3362 (11.5%)	337 (16.1%)	838 (10.6%)
Missing data	7127 (3.7%)	3591 (3.8%)	128 (4.4%)	1169 (4.0%)	72 (3.4%)	420 (5.3%)
<b>Parity</b>						
0	82 703 (43.3%)	38 543 (40.8%)	41%	12 383 (42.2%)	898 (42.8%)	3711 (47.1%)
≥1	108 005 (56.5%)	55 713 (59.0%)	59%	16 892 (57.6%)	1190 (56.7%)	4151 (52.7%)
Missing data	327 (0.2%)	148 (0.2%)	<5	49 (0.2%)	11 (0.5%)	16 (0.2%)
<b>Multiple births (e.g., twins)</b>						
No or missing data	185 289 (97.0%)	91 545 (97.0%)	2835 (97.2%)	28 602 (97.5%)	2044 (97.4%)	7614 (96.6%)
Yes	5746 (3.0%)	2859 (3.0%)	82 (2.8%)	722 (2.5%)	55 (2.6%)	264 (3.4%)
<b>Birthweight</b>						
Low (<2500g)	12 052 (6.3%)	6382 (6.8%)	203 (7.0%)	2295 (7.8%)	292 (13.9%)	621 (7.9%)
Normal (2500-3999g)	149 721 (78.4%)	73 788 (78.2%)	2303 (79.0%)	22 991 (78.4%)	1569 (74.7%)	6043 (76.7%)
High (≥4000g)	22 135 (11.6%)	10 643 (11.3%)	283 (9.7%)	2869 (9.8%)	166 (7.9%)	794 (10.1%)
Missing data	7127 (3.7%)	3591 (3.8%)	128 (4.4%)	1169 (4.0%)	72 (3.4%)	420 (5.3%)
<b>Congenital abnormalities</b>						
None	182 774 (95.7%)	90 191 (95.5%)	2782 (95.4%)	28 030 (95.6%)	1902 (90.6%)	7513 (95.4%)
Minor	1297 (0.7%)	686 (0.7%)	23 (0.8%)	212 (0.7%)	23 (1.1%)	52 (0.7%)
Major	6964 (3.6%)	3527 (3.7%)	112 (3.8%)	1082 (3.7%)	174 (8.3%)	313 (4.0%)
<b>Maternal smoking at booking in for birth</b>						

No	52 478 (27.5%)	23136 (24.5%)	595 (20.4%)	6299 (21.5%)	437 (20.8%)	2015 (25.6%)
Yes	14 295 (7.5%)	8247 (8.7%)	336 (11.5%)	3697 (12.6%)	291 (13.9%)	739 (9.4%)
Missing data	124 262 (65.0%)	63021 (66.8%)	1986 (68.1%)	19 328 (65.9%)	1371 (65.3%)	5124 (65.0%)

**Additional File 4: Table 2 - Externalising Symptoms (Table 2 continued for confounders) prevalence, univariable analyses, sociodemographic and perinatal aspects, and ACEs Cox regression**

<b>Externalising (HR 95% CI)</b>				
	<b>Prevalence for those diagnosed (n=667)</b>	<b>Univariable</b>	<b>Demographic and Perinatal variables</b>	<b>ACEs adjusted for demographic and perinatal variables</b>
<b>Ever in a single parent household</b>				
No	290 (43.5%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	377 (56.5%)	1.79 (1.51 – 2.12)	1.41 (1.18 - 1.68)	1.48 (1.24 - 1.76)
<b>Townsend deprivation quintile at birth or in first 4 months (&lt;5 missing data)</b>				
1 (least deprived)	10%	1.00 (ref)	1.00 (ref)	1.00 (ref)
2	12%	1.13 (0.80 – 1.60)	0.99 (0.70 - 1.40)	0.97 (0.69 - 1.37)
3	17%	1.53 (1.11 – 2.10)	1.17 (0.84 - 1.62)	1.12 (0.81 - 1.55)
4	22%	1.91 (1.40 – 2.59)	1.32 (0.95 - 1.83)	1.23 (0.89 - 1.70)
5 (most deprived)	38%	2.83 (2.13 – 3.77)	1.62 (1.16 - 2.25)	1.48 (1.06 - 2.05)
<b>Sex</b>				
Male	481 (72.1%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Female	186 (27.9%)	0.40 (0.33 – 0.48)	0.40 (0.34 - 0.49)	0.41 (0.34 - 0.49)
<b>Breastfeeding at birth or 6-8 weeks (23.5% missing data)</b>				
No	295 (44.2%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	215 (32.2%)	0.64 (0.50 – 0.81)	0.91 (0.67 - 1.24)	0.94 (0.69 - 1.28)
<b>Maternal age at birth or at 6-8 weeks</b>				
30-34 years	124 (18.6%)	0.83 (0.64 – 1.06)	0.95 (0.74 - 1.23)	1.00 (0.77 - 1.29)

≥35 years	62 (9.3%)	0.71 (0.52 – 0.98)	0.87 (0.63 - 1.21)	0.90 (0.65 - 1.25)
25-29 years	153 (22.9%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
<18 years	34 (5.1%)	2.55 (1.69 – 3.83)	1.86 (1.20 - 2.88)	1.72 (1.11 - 2.67)
18-24 years	294 (44.1%)	2.09 (1.69 – 2.59)	1.66 (1.32 - 2.08)	1.56 (1.24 - 1.96)
<b>Gestational age at birth (5% missing data)</b>				
24-<28 weeks	<5	1.44 (0.36 – 5.78)	1.20 (0.30 - 4.85)	1.09 (0.27 - 4.43)
28-<33 weeks	2%	1.88 (1.09 – 3.27)	1.65 (0.94 - 2.89)	1.55 (0.89 - 2.72)
33-<37 weeks	6%	0.97 (0.65 – 1.45)	0.95 (0.62 - 1.46)	0.92 (0.60 - 1.40)
37-43 weeks	87%	1.00 (ref)	1.00 (ref)	1.00 (ref)
<b>Parity</b>				
0	45%	1.00 (ref)	1.00 (ref)	1.00 (ref)
≥1	55%	0.90 (0.76 – 1.06)	1.06 (0.88 - 1.27)	1.01 (0.84 - 1.21)
<b>Multiple births</b>				
No	652 (97.8%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	15 (2.2%)	0.69 (0.39 – 1.21)	0.75 (0.41 - 1.36)	0.76 (0.41 - 1.38)
<b>Small for gestational age (&lt;10th centile)</b>				
No	547 (82.0%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	83 (12.4%)	1.55 (1.21 – 1.98)	1.24 (0.95 - 1.62)	1.22 (0.93 - 1.59)
<b>Congenital anomalies</b>				
None	626 (93.9%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Minor	6 (0.9%)	1.48 (0.66 – 3.32)	1.23 (0.55 - 2.77)	1.21 (0.54 - 2.72)
Major	35 (5.2%)	1.28 (0.87 – 1.87)	1.20 (0.82 - 1.76)	1.16 (0.79 - 1.71)
<b>Maternal cigarette smoking at booking in</b>				
No	97 (14.5%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	71 (10.6%)	2.74 (1.42 – 5.30)	2.02 (0.93 - 4.38)	1.96 (0.91 - 4.25)

**Additional File 5: Table 3 - Internalising Symptoms (Table 3 continued for confounders) prevalence, univariable analyses, sociodemographic and perinatal aspects, and ACEs Cox regression**

<b>Internalising (HR 95% CI)</b>				
	<b>Prevalence for those diagnosed (n=2424)</b>	<b>Univariable</b>	<b>Demographic and Perinatal variables</b>	<b>ACEs adjusted for demographic and perinatal variables</b>
<b>Ever in a single parent household</b>				
No	968 (39.9%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	1456 (60.1%)	1.02 (0.93 – 1.12)	0.92 (0.84 - 1.02)	0.95 (0.86 – 1.04)
<b>Townsend deprivation quintile at birth or in first 4 months (0.4% missing data)</b>				
1 (least deprived)	372 (15.3%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
2	433 (17.9%)	1.13 (0.98 – 1.30)	1.09 (0.95 - 1.27)	1.09 (0.94 – 1.26)
3	452 (18.6%)	1.14 (0.99 – 1.32)	1.07 (0.92 - 1.24)	1.05 (0.91 – 1.22)
4	521 (21.5%)	0.94 (0.86 – 1.02)	1.13 (0.98 - 1.31)	1.11 (0.96 – 1.28)
5 (most deprived)	637 (26.3%)	0.85 (0.77 – 0.95)	1.18 (1.02 - 1.38)	1.14 (0.98 – 1.33)
<b>Sex</b>				
Male	1287 (53.1%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Female	1137 (46.9%)	0.94 (0.86 – 1.02)	0.94 (0.87 - 1.02)	0.94 (0.87 – 1.02)
<b>Breastfeeding at birth or 6-8 weeks (20.6% missing data)</b>				
No	971 (40.1%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	953 (39.3%)	0.85 (0.77 – 0.95)	0.91 (0.82 - 1.02)	0.93 (0.83 – 1.03)
<b>Maternal age at birth or at 6-8 weeks (&lt;5 missing data)</b>				
30-34 years	24%	0.85 (0.76 – 0.96)	0.89 (0.79 - 1.00)	0.91 (0.80 – 1.02)
≥35 years	13%	0.81 (0.70 – 0.93)	0.87 (0.75 - 1.00)	0.87 (0.76 – 1.01)
25-29 years	29%	1.00 (ref)	1.00 (ref)	1.00 (ref)
<18 years	3%	1.16 (0.89 – 1.51)	0.96 (0.73 - 1.27)	0.93 (0.71 – 1.23)
18-24 years	32%	1.30 (1.17 – 1.45)	1.20 (1.07 - 1.35)	1.17 (1.04 – 1.31)
<b>Gestational age at birth (4.2% missing data)</b>				



24-<28 weeks	11 (0.3%)	0.92 (0.38 – 2.20)	0.89 (0.37 - 2.15)	0.87 (0.36 – 2.12)
28-<33 weeks	47 (1.3%)	0.85 (0.56 – 1.28)	0.85 (0.56 - 1.30)	0.83 (0.55 – 1.27)
33-<37 weeks	246 (6.9%)	1.29 (1.10 – 1.52)	1.32 (1.11 - 1.56)	1.30 (1.10 – 1.54)
37-43 weeks	3116 (87.3%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
<b>Parity (0.2% missing data)</b>				
0	1193 (49.2%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
≥1	1226 (50.6%)	0.77 (0.71 – 0.84)	0.81 (0.74 - 0.88)	0.79 (0.72 – 0.86)
<b>Multiple births</b>				
No	2365 (97.6%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	59 (2.4%)	0.79 (0.60 – 1.03)	0.76 (0.57 - 1.01)	0.76 (0.57 – 1.01)
<b>Small for gestational age (&lt;10th centile)</b>				
No	2082 (85.9%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	220 (9.1%)	1.06 (0.92 – 1.22)	0.99 (0.85 - 1.15)	0.98 (0.84 – 1.14)
<b>Congenital anomalies</b>				
None	2281 (94.1%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Minor	17 (0.7%)	0.89 (0.53 – 1.50)	0.87 (0.52 - 1.48)	0.87 (0.51 – 1.47)
Major	126 (5.2%)	1.43 (1.19 – 1.72)	1.42 (1.18 - 1.70)	1.42 (1.18 – 1.70)
<b>Maternal cigarette smoking at booking in</b>				
No	537 (22.2%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	179 (7.4%)	1.24 (0.90 – 1.70)	1.12 (0.79 - 1.59)	1.11 (0.78 – 1.58)

**Additional File 6: Table 4 - Other diagnosis or symptom (Table 4 continued for confounders) prevalence, univariable analyses, sociodemographic and perinatal aspects, and ACEs Cox regression**

<b>Other (HR 95% CI)</b>				
	<b>Prevalence for those diagnosed (n =547)</b>	<b>Univariable</b>	<b>Demographic and Perinatal variables</b>	<b>ACEs adjusted for demographic and perinatal variables</b>
<b>Ever in a single parent household</b>				
No	339 (62.0%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	208 (38.0%)	0.95 (0.77 – 1.17)	0.85 (0.69 - 1.05)	0.89 (0.72 – 1.10)
<b>Townsend deprivation quintile at birth or in first 4 months (&lt;5 missing data)</b>				
1 (least deprived)	12%	1.00 (ref)	1.00 (ref)	1.00 (ref)
2	15%	1.31 (0.93 – 1.85)	1.27 (0.90 - 1.79)	1.26 (0.89 – 1.77)
3	22%	1.76 (1.27 – 2.42)	1.61 (1.16 - 2.23)	1.57 (1.13 – 2.17)
4	21%	1.73 (1.25 – 2.38)	1.54 (1.10 - 2.14)	1.47 (1.05 – 2.05)
5 (most deprived)	30%	1.97 (1.45 – 2.68)	1.66 (1.17 - 2.34)	1.55 (1.10 – 2.19)
<b>Sex</b>				
Male	340 (62.2%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Female	207 (37.8%)	0.66 (0.55 – 0.79)	0.67 (0.56 - 0.80)	0.67 (0.56 – 0.80)
<b>Breastfeeding at birth or 6-8 weeks (19.4% missing data)</b>				
No	245 (44.8%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	196 (35.8%)	0.66 (0.55 – 0.80)	0.75 (0.61 - 0.92)	0.77 (0.63 – 0.94)
<b>Maternal age at birth or at 6-8 weeks</b>				
30-34 years	120 (21.9%)	0.78 (0.61 – 1.00)	0.81 (0.63 - 1.04)	0.83 (0.64 – 1.07)
≥35 years	80 (14.6%)	0.92 (0.70 – 1.22)	0.96 (0.72 - 1.29)	0.98 (0.73 – 1.31)
25-29 years	155 (28.3%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
<18 years	19 (3.5%)	1.38 (0.82 – 2.32)	1.33 (0.77 - 2.31)	1.24 (0.72 – 2.15)
18-24 years	173 (31.6%)	1.21 (0.96 – 1.52)	1.16 (0.91 - 1.49)	1.11 (0.87 – 1.42)
<b>Gestational age at birth (3.0% missing data, rounded % or SDC)</b>				
24-<28 weeks	<5	1.70 (0.42 – 6.82)	1.36 (0.33 - 5.52)	1.28 (0.31 – 5.20)

28-<33 weeks	~5%	1.37 (0.68 – 2.78)	1.17 (0.56 - 2.42)	1.12 (0.54 – 2.31)
33-<37 weeks	~10%	1.24 (0.87 – 1.76)	1.14 (0.79 - 1.65)	1.12 (0.77 – 1.61)
37-43 weeks	~90%	1.00 (ref)	1.00 (ref)	1.00 (ref)
<b>Parity (&lt;5 missing data)</b>				
0	41%	1.00 (ref)	1.00 (ref)	1.00 (ref)
≥1	59%	1.12 (0.94 – 1.34)	1.19 (0.97 - 1.45)	1.15 (0.95 – 1.41)
<b>Multiple births (e.g. twins)</b>				
No	528 (96.5%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	19 (3.5%)	1.21 (0.75 – 1.93)	1.10 (0.66 - 1.83)	1.12 (0.67 – 1.86)
<b>Small for gestational age (&lt;10th centile) (2.9% missing data)</b>				
No	466 (85.2%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	65 (11.9%)	1.37 (1.04 – 1.81)	1.30 (0.96 - 1.75)	1.28 (0.95 – 1.72)
<b>Congenital anomalies</b>				
None	491 (89.8%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Minor	5 (0.9%)	1.22 (0.45 – 3.25)	1.11 (0.41 - 2.97)	1.10 (0.41 – 2.95)
Major	51 (9.3%)	2.73 (2.03 – 3.68)	2.57 (1.91 - 3.48)	2.56 (1.89 – 3.45)
<b>Maternal cigarette smoking at booking in (71.5% missing data)</b>				
No	118 (21.6%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	38 (6.9%)	1.19 (0.58 – 2.47)	0.97 (0.43 - 2.19)	0.95 (0.42 – 2.15)

**Additional File 7: Table 5 - Developmental delay (Table 5 continued for confounders) prevalence, univariable analyses, sociodemographic and perinatal aspects, and ACEs Cox regression**

<b>Developmental Delay (HR 95% CI)</b>				
	<b>Prevalence for those diagnosed (n =4882)</b>	<b>Univariable</b>	<b>Demographic and Perinatal variables</b>	<b>ACEs adjusted for demographic and perinatal variables</b>
<b>Ever in a single parent household</b>				
No	2894 (59.3%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	1988 (40.7%)	1.10 (1.03 – 1.18)	1.02 (0.95 - 1.09)	1.04 (0.98 – 1.12)
<b>Townsend deprivation quintile at birth or in first 4 months (0.3% missing data)</b>				
1 (least deprived)	687 (14.1%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
2	790 (16.2%)	1.11 (1.00 – 1.23)	1.08 (0.97 - 1.20)	1.08 (0.97 – 1.20)
3	954 (19.5%)	1.26 (1.14 – 1.39)	1.17 (1.05 - 1.29)	1.15 (1.04 – 1.27)
4	1020 (20.9%)	1.31 (1.19 – 1.45)	1.19 (1.07 - 1.31)	1.15 (1.04 – 1.28)
5 (most deprived)	1418 (29.0%)	1.57 (1.43 – 1.72)	1.32 (1.19 - 1.47)	1.27 (1.15 – 1.41)
<b>Sex</b>				
Male	3494 (71.6%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Female	1388 (28.4%)	0.43 (0.40 – 0.46)	0.44 (0.41 - 0.47)	0.44 (0.41 – 0.47)
<b>Breastfeeding at birth or 6-8 weeks (19.0% missing data)</b>				
No	2091 (42.8%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	1862 (38.1%)	0.76 (0.72 – 0.81)	0.86 (0.80 - 0.92)	0.87 (0.81 – 0.93)
<b>Maternal age at birth or at 6-8 weeks (&lt;5 missing data)</b>				
30-34 years	24%	0.95 (0.87 – 1.03)	0.99 (0.91 - 1.08)	1.01 (0.93 – 1.09)
≥35 years	16%	1.05 (0.96 – 1.15)	1.10 (1.00 - 1.21)	1.12 (1.01 – 1.23)
25-29 years	26%	1.00 (ref)	1.00 (ref)	1.00 (ref)
<18 years	3%	1.25 (1.04 – 1.51)	1.12 (0.92 - 1.36)	1.08 (0.89 - 1.31)
18-24 years	32%	1.30 (1.20 – 1.41)	1.22 (1.12 - 1.32)	1.19 (1.09 – 1.29)
<b>Gestational age at birth (5.0% missing data)</b>				
24-<28 weeks	49 (1.0%)	4.58 (3.42 – 6.12)	3.66 (2.72 - 4.93)	3.55 (2.64 – 4.78)

28-<33 weeks	132 (2.7%)	2.48 (2.08 – 2.96)	2.15 (1.78 - 2.59)	2.09 (1.73 – 2.52)
33-<37 weeks	337 (6.9%)	1.33 (1.18 – 1.50)	1.24 (1.09 - 1.41)	1.22 (1.08 – 1.39)
37-43 weeks	4121 (84.4%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
<b>Parity (0.4% missing data)</b>				
0	2019 (41.4%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
≥1	2845 (58.3%)	1.05 (0.99 – 1.11)	1.10 (1.03 - 1.17)	1.08 (1.01 – 1.15)
<b>Multiple births</b>				
No	4702 (96.3%)	1.00 (ref)	1.00 (ref)	
Yes	180 (3.7%)	1.27 (1.09 – 1.48)	0.98 (0.83 - 1.15)	0.98 (0.83 - 1.16)
<b>Small for gestational age (&lt;10th centile) (5.6% missing data)</b>				
No	3993 (81.8%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	615 (12.6%)	1.50 (1.37 – 1.64)	1.39 (1.27 - 1.53)	1.38 (1.25 – 1.51)
<b>Congenital anomalies</b>				
None	4366 (89.4%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Minor	60 (1.2%)	1.86 (1.42 – 2.42)	1.55 (1.19 - 2.03)	1.54 (1.18 – 2.02)
Major	456 (9.3%)	2.78 (2.52 – 3.07)	2.49 (2.26 - 2.76)	2.48 (2.25 – 2.75)
<b>Maternal cigarette smoking at booking in for birth (67% missing data)</b>				
No	1167 (23.9%)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Yes	442 (9.1%)	1.36 (1.14 – 1.61)	1.16 (0.96 - 1.39)	1.14 (0.95 – 1.37 )

**Additional File 8: Table 6 - Three-way cross-tabulation of ACEs, Deprivation and Any Mental Health (excluding developmental delay)**

		<b>Any mental health (excluding developmental delay)</b>	
	<b>ACE - Alcohol hospital admission or GP diagnosis</b>	<b>No</b>	<b>Yes</b>
<b>(1) Least Deprived</b>	No	30,354 (98.6%)	439 (1.4%)
	Yes	2856 (98.1%)	55 (1.9%)
<b>(2) Deprived</b>	No	30105 (98.4%)	499 (1.6%)
	Yes	3976 (97.8%)	91 (2.2%)
<b>(3) Deprived</b>	No	31333 (98.3%)	550 (1.7%)
	Yes	5237 (97.7%)	125 (2.3%)
<b>(4) Deprived</b>	No	31973 (98.2%)	593 (1.8%)
	Yes	5237 (97.7%)	125 (2.3%)
<b>(5) Most Deprived</b>	No	34808 (97.9%)	757 (2.1%)
	Yes	9760 (97.3%)	270 (2.7%)
	<b>ACE – Common Mental Health Disorder</b>	<b>No</b>	<b>Yes</b>
<b>(1) Least Deprived</b>	No	19157 (99.0%)	198 (1.0%)
	Yes	14053 (97.9%)	296 (2.1%)
<b>(2) Deprived</b>	No	18811 (98.7%)	245 (1.3%)
	Yes	15270 (97.8%)	345 (2.2%)
<b>(3) Deprived</b>	No	18760 (98.8%)	233 (1.2%)
	Yes	17810 (97.6%)	442 (2.4%)
<b>(4) Deprived</b>	No	18598 (98.7%)	240 (1.3%)
	Yes	20102 (97.4%)	532 (2.6%)
<b>(5) Most Deprived</b>	No	19581 (98.5%)	311 (1.5%)
	Yes	24717 (97.2%)	716 (2.8%)
	<b>ACE – Serious Mental Illness</b>	<b>No</b>	<b>Yes</b>
<b>(1) Least Deprived</b>	No	32908 (98.5%)	490 (1.5%)
	Yes	~306 (~100%)	<5
<b>(2) Deprived</b>	No	33675 (98.3%)	580 (1.7%)
	Yes	406 (97.6%)	10 (2.4%)
<b>(3) Deprived</b>	No	36073 (98.2%)	666 (1.8%)
	Yes	497 (98.2%)	9 (1.8%)
<b>(4) Deprived</b>	No	38027 (98.1%)	740 (1.9%)
	Yes	673 (95.5%)	32 (4.5%)
<b>(5) Most Deprived</b>	No	42626 (97.8%)	989 (2.2%)
	Yes	942 (96.1%)	38 (3.9%)
	<b>ACE – Victimisation</b>	<b>No</b>	<b>Yes</b>

<b>(1) Least Deprived</b>	No	33026 (98.5%)	486 (1.5%)
	Yes	184 (95.8%)	8 (4.2%)
<b>(2) Deprived</b>	No	33774 (98.3%)	580 (1.7%)
	Yes	307 (96.3%)	10 (3.2%)
<b>(3) Deprived</b>	No	36243 (98.2%)	658 (1.8%)
	Yes	327 (95.1%)	17 (4.9%)
<b>(4) Deprived</b>	No	38302 (98.1%)	753 (1.9%)
	Yes	398 (95.4%)	19 (4.6%)
<b>(5) Most Deprived</b>	No	43790 (97.8%)	981 (2.2%)
	Yes	778 (94.4%)	46 (5.6%)
	<b>ACE – Death</b>	<b>No</b>	<b>Yes</b>
<b>(1) Least Deprived</b>	No	32128 (98.6%)	469 (1.4%)
	Yes	1082 (97.7%)	25 (2.3%)
<b>(2) Deprived</b>	No	32692 (98.3%)	558 (1.7%)
	Yes	1389 (97.7%)	32 (2.3%)
<b>(3) Deprived</b>	No	35101 (98.2%)	631 (1.8%)
	Yes	1469 (97.1%)	44 (2.9%)
<b>(4) Deprived</b>	No	37021 (98.1%)	723 (1.9%)
	Yes	1679 (97.2%)	49 (2.8%)
<b>(5) Most Deprived</b>	No	42537 (97.8%)	972 (2.2%)
	Yes	2031 (97.4%)	55 (2.6%)

**Additional File 9: Table 7 - Three-way cross-tabulation of ACEs, Deprivation and Developmental Delay**

		<b>Developmental Delay</b>	
		<b>No</b>	<b>Yes</b>
	<b>ACE - Alcohol hospital admission or GP diagnosis</b>		
<b>(1) Least Deprived</b>	No	30186 (98.0%)	607 (2.0%)
	Yes	2831 (97.3%)	80 (2.7%)
<b>(2) Deprived</b>	No	29933 (97.8%)	671 (2.2%)
	Yes	3948 (97.1%)	119 (2.9%)
<b>(3) Deprived</b>	No	31115 (97.6%)	768 (2.4%)
	Yes	5176 (96.5%)	186 (3.5%)
<b>(4) Deprived</b>	No	31774 (97.6%)	792 (2.4%)
	Yes	6678 (96.7%)	792 (2.4%)
<b>(5) Most Deprived</b>	No	34521 (97.1%)	1044 (2.9%)
	Yes	9656 (96.3%)	374 (3.7%)
	<b>ACE – Common Mental Health Disorder</b>	<b>No</b>	<b>Yes</b>
<b>(1) Least Deprived</b>	No	19058 (98.5%)	297 (1.5%)

	Yes	13959 (97.3%)	390 (2.7%)
(2) Deprived	No	18749 (98.4%)	307 (1.6%)
	Yes	15132 (96.9%)	483 (3.1%)
(3) Deprived	No	18635 (98.1%)	358 (1.9%)
	Yes	17656 (96.7%)	596 (3.3%)
(4) Deprived	No	18465 (98.0%)	373 (2.0%)
	Yes	19987 (96.9%)	647 (3.1%)
(5) Most Deprived	No	19665 (97.5%)	497 (2.5%)
	Yes	24512 (96.4%)	921 (3.6%)
	<b>ACE – Serious Mental Illness</b>	<b>No</b>	<b>Yes</b>
(1) Least Deprived	No	32716 (98.0%)	682 (2.0%)
	Yes	301 (98.4%)	5 (1.6%)
(2) Deprived	No	33476 (97.7%)	779 (2.3%)
	Yes	405 (97.4%)	11 (2.6%)
(3) Deprived	No	35804 (97.5%)	935 (2.5%)
	Yes	487 (96.2%)	19 (3.8%)
(4) Deprived	No	37775 (97.4%)	992 (2.6%)
	Yes	677 (96.0%)	28 (4.0%)
(5) Most Deprived	No	43228 (96.9%)	1387 (3.1%)
	Yes	949 (96.8%)	31 (3.2%)
	<b>ACE – Victimization</b>	<b>No</b>	<b>Yes</b>
(1) Least Deprived	No	32836 (98.0%)	676 (2.0%)
	Yes	181 (94.3%)	11 (5.7%)
(2) Deprived	No	33578 (97.7%)	776 (2.3%)
	Yes	303 (95.6%)	14 (4.4%)
(3) Deprived	No	35972 (97.5%)	929 (2.5%)
	Yes	319 (92.7%)	25 (7.3%)
(4) Deprived	No	38066 (97.5%)	989 (2.5%)
	Yes	319 (92.7%)	25 (7.3%)
(5) Most Deprived	No	43418 (97.0%)	1353 (3.0%)
	Yes	759 (92.1%)	65 (7.9%)
	<b>ACE – Death</b>	<b>No</b>	<b>Yes</b>
(1) Least Deprived	No	31934 (98.0%)	663 (2.0%)
	Yes	1083 (97.8%)	24 (2.2%)
(2) Deprived	No	32499 (97.7%)	751 (2.3%)
	Yes	1382 (97.3%)	39 (2.7%)
(3) Deprived	No	34829 (97.5%)	903 (2.5%)
	Yes	1462 (96.6%)	51 (3.4%)
(4) Deprived	No	36785 (97.5%)	959 (2.5%)
	Yes	1667 (96.5%)	61 (3.5%)
(5) Most Deprived	No	42185 (97.0%)	1324 (3.0%)
	Yes	1992 (95.5%)	94 (4.5%)



**Additional File 10: Table 8 - Adult Mental Health codes for Common Mental Disorder (CMD) and Serious Mental Illness (SMI)**

Adult Common Mental Disorder Codes	Adult Serious Mental Illness Codes
<p><b>SSRI</b>            event_cd like 'da3%' or            event_cd like 'da4%' or            event_cd like 'da5%' or            event_cd like 'da6%' or            event_cd like 'da9%' or            event_cd like 'daC%' or</p> <p><b>Tricyclics</b>            event_cd like 'd7%' or            (event_cd like 'd91%' and event_cd not in ('d915.')) or</p> <p><b>Others</b>            event_cd like 'da1%' OR            event_cd like 'da2%' OR            event_cd like 'da7%' OR            event_cd like 'daA%' OR            event_cd like 'daB%' OR            event_cd like 'daD%' or</p> <p><b>Duloxetine - gde%</b>            event_cd like 'gde%' or</p> <p><b>MOAIs</b>            event_cd like 'd8%' or            --parstelin            event_cd in ('d915.')</p> <p><b>Anxiolytics</b>            or (event_cd like 'd2%')</p> <p><b>Hypnotics</b>            or (event_cd like 'd1%'))</p>	<p>E10% Schizophrenic disorders            E110% Manic disorder, single episode            E111% Recurrent manic episodes            E1124 Single major depressive episode, severe, with psychotic disorders            E1134 Recurrent major depressive episodes, severe, with psychotic disorders            E114% Bipolar affective disorder, currently manic            E115% Bipolar affective disorder, currently depressed            E116% Mixed bipolar affective disorder            E117% Unspecified bipolar affective disorder            E11y. Other and unspecified manic-depressive psychoses            E11y0 Unspecified manic-depressive psychoses            E11y1 Atypical manic disorder            E11y3 Other mixed manic-depressive psychoses            E11yz Other and unspecified manic-depressive psychoses NOS            E11z. Other and unspecified affective psychoses            E11z0 Unspecified affective psychoses NOS            E11zz Other affective psychotic disorders NOS            E12% Paranoid states            E13.. Other nonorganic psychoses            E130. Reactive depressive psychotic disorders            E131. Acute hysterical psychotic disorders            E132. Reactive confusion            E133. Acute paranoid reaction            E134. Psychogenic paranoid psychotic disorders            E13y. Other reactive psychoses            E13y0 Psychogenic stupor            E13y1 Brief reactive psychotic disorders            E13yz Other reactive psychoses NOS            E13z. Nonorganic psychotic disorders NOS            E2122 Schizotypal personality            Eu2% [X]Schizophrenia, schizotypal and delusional disorders            Eu30% [X]Manic episode            Eu31% [X]Bipolar affective disorder</p>

	<p>Eu323 Severe depressive episode with psychotic symptoms</p> <p>Eu333 [X] Recurrent depressive disorder, current episode severe with psychotic symptoms</p>
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**Additional File 11: Table 9 - Codes for Externalising and Internalising categories**

Codes for Externalising category		Codes for Internalising category	
E2C..	Disturbance of conduct NEC	E2781	Tension headache
E2Czz	Disturbance of conduct NOS	E2Dz.	Childhood and adolescent emotion disorder NOS
E2Cz.	Unspecified disturbance of conduct	E205.	Neurasthenia - nervous debility
E2C0.	Aggressive unsocial conduct disorder	E200.	Anxiety states
E2C1.	Nonaggressive unsocial conduct disorder	E2001	Panic disorder
E2C10	Unsocial childhood truancy	E2748	Night terrors
Eu91z	[X] Conduct disorder, unspecified	E2741	Transient insomnia
Eu91.	[X] Conduct disorders	E2C01	Anger reaction
Eu912	[X] Socialized conduct disorder	E2003	Anxiety with depression
E2C0z	Aggressive unsocial conduct disorder NOS	E2749	Nightmares
		E274.	Non-organic sleep disorders
		E2900	Grief reaction
		E276.	Non-organic enuresis
		E200z	Anxiety state NOS
		E2D..	Disturbance of emotion specific to childhood and adolescence
		E203.	Obsessive-compulsive disorders
		E28..	Acute reaction to stress
		E2000	Anxiety state unspecified
		E202.	Phobic disorders
		E2C00	Aggressive outburst
		E202A	Fear of flying

		E2D2z	Childhood and adolescent sensitivity disturbance NOS
		E2742	Persistent insomnia
		E2760	Non-organic primary enuresis
		E2645	Psychogenic constipation
		E2757	Psychogenic polydipsia
		E274D	Repetitive intrusions of sleep
		E2D0.	Disturbance of anxiety and fearfulness childhood/adolescent
		E2141	Obsessional personality
		E2005	Recurrent anxiety
		E207.	Hypochondriasis
		E29..	Adjustment reaction
		E2920	Separation anxiety disorder
		E2002	Generalised anxiety disorder
		E2020	Phobia unspecified
		E2756	Non-organic loss of appetite
		E2761	Non-organic secondary enuresis
		E2D1.	Childhood and adolescence disturbance of unhappiness
		E2021	Agoraphobia with panic attacks
		E2613	Psychogenic hyperventilation
		E2721	Transient childhood tic
		E2027	Animal phobia
		E2642	Cyclical vomiting - psychogenic
		E2643	Psychogenic diarrhoea
		E2720	Tic disorder unspecified
		E277.	Non-organic encopresis
		E28z.	Acute stress reaction NOS
		E274E	Short-sleeper
		E272z	Tic NOS
		E203z	Obsessive-compulsive disorder NOS
		E2015	Hysterical seizures
		E202C	Dental phobia

		E202z	Phobic disorder NOS
		E2930	Adjustment reaction with aggression
		E2D20	Childhood and adolescent disturbance with shyness
		E2004	Chronic anxiety
		E2611	Psychogenic cough
		E2Dy.	Other childhood and adolescent emotional problems
		E2740	Unspecified non-organic sleep disorder
		E2031	Obsessional neurosis
		E26z.	Psychosomatic disorder NOS
		E274y	Other non-organic sleep disorder
		E274z	Non-organic sleep disorder NOS
		E2D0z	Disturbance anxiety and fearfulness childhood/adolescent NOS
		E2754	Psychogenic vomiting NOS
		E2D3.	Childhood and adolescent relationship problem
		E2640	Psychogenic aerophagy
		E280.	Acute panic state due to acute stress reaction
		E2831	Acute posttrauma stress state
		Eu42.	[X] Obsessive - compulsive disorder
		Eu431	[X] Post - traumatic stress disorder
		Eu41z	[X] Anxiety disorder, unspecified
		Eu40z	[X] Phobic anxiety disorder, unspecified
		Eu410	[X] Panic disorder [episodic paroxysmal anxiety]
		Eu403	[X] Needle phobia
		Eu411	[X] Generalized anxiety disorder
		Eu513	[X] Sleepwalking
		Eu633	[X] Trichotillomania
		Eu402	[X] Specific (isolated) phobias
		Eu95.	[X] Tic disorders
		Eu401	[X] Social phobias

		Eu41.	[X] Other anxiety disorders
		Eu51z	[X] Nonorganic sleep disorder, unspecified
		Eu412	[X] Mixed anxiety and depressive disorder
		Eu515	[X] Nightmares
		Eu40.	[X] Phobic anxiety disorders
		Eu430	[X] Acute stress reaction
		Eu932	[X] Social anxiety disorder of childhood
		Eu432	[X] Adjustment disorders
		Eu421	[X] Predominantly compulsive acts [obsessional rituals]
		Eu45y	[X] Other somatoform disorders
		Eu930	[X] Separation anxiety disorder of childhood
		Eu452	[X] Hypochondriacal disorder
		Eu505	[X] Vomiting associated with other psychological disturbances
		Eu94z	[X] Childhood disorder of social functioning, unspecified
		Eu951	[X] Chronic motor or vocal tic disorder
		Eu514	[X] Sleep terrors
		Eu9y0	[X] Nonorganic enuresis
		Eu9y1	[X] Nonorganic encopresis
		E2B..	Depressive disorder NEC
		E204.	Neurotic depression reactive type
		E2B1.	Chronic depression
		E1137	Recurrent depression
		Eu32z	[X] Depressive episode, unspecified
		Eu32.	[X] Depressive episode
		Eu321	[X] Moderate depressive episode
		Eu320	[X] Mild depressive episode
		Eu324	[X] Mild depression
		Eu33.	[X] Recurrent depressive disorder

**Additional File 12: Table 10 - Codes for Other and Developmental delay**

Codes for Other category		Codes for Developmental delay category	
E275.	Other and unspecified non-organic eating disorders	E2F3.	Speech or language developmental disorder
E271.	Anorexia nervosa	E2F..	Specific delays in development
E2751	Bulimia (non-organic overeating)	E2E0.	Child attention deficit disorder
E2750	Unspecified non-organic eating disorder	E2Fy.	Other development delays
E275z	Non-organic eating disorder NOS	E2C12	Tantrums
Eu50.	[X] Eating disorders	E140.	Infantile autism
Eu50z	[X] Eating disorder, unspecified	E2Cy0	Breath holder
Eu502	[X] Bulimia nervosa	E2F4.	Coordination disorder (dyspraxia)
Eu50y	[X] Other eating disorders	E2F5.	Mixed development disorder
Eu500	[X] Anorexia nervosa	E2E01	Attention deficit with hyperactivity
E112.	Single major depressive episode	E2Fz.	Developmental disorder NOS
E213.	Explosive personality disorder	E2E..	Childhood hyperkinetic syndrome
E13z.	Nonorganic psychosis NOS	E2F3z	Speech or language developmental disorder NOS
E2016	Other conversion disorder	E270.	Stammering or stuttering
E21..	Personality disorders	E2723	Gilles de la Tourette's disorder
E113.	Recurrent major depressive episode	E272.	Tics
E21yz	Other personality disorder NOS	E27z2	Lisping
E103.	Paranoid schizophrenia	E2731	Head-banging
E135.	Agitated depression	E2F30	Developmental aphasia
E2028	Claustrophobia	E2747	Somnambulism - sleep walking
E2151	Munchausen's syndrome	E27z4	Nail-biting
E273.	Stereotyped repetitive movements	E2F2.	Other specific learning difficulty
Eu90.	[X] Hyperkinetic disorders	E2F02	Developmental dyslexia
Eu322	[X] Severe depressive episode without psychotic symptoms	E2752	Pica
Eu400	[X] Agoraphobia	E27z5	Thumb-sucking
Eu445	[X] Dissociative convulsions	E3...	Mental retardation

Eu2z.	[X] Unspecified nonorganic psychosis	E2E0z	Child attention deficit disorder NOS
Eu04.	[X] Delirium, not induced by alcohol+other psychoactive subs	E2E2.	Hyperkinetic conduct disorder
Eu31.	[X] Bipolar affective disorder	E2E00	Attention deficit without hyperactivity
Eu220	[X] Delusional disorder	E2Dy0	Childhood and adolescent oppositional disorder
Eu3..	[X] Mood - affective disorders	E2C2.	Socialised conduct disorder
Eu323	[X] Severe depressive episode with psychotic symptoms	E30..	Mild mental retardation, IQ in range 50-70
Eu341	[X] Dysthymia	E2F00	Reading disorder unspecified
Eu422	[X] Mixed obsessional thoughts and acts	E140z	Infantile autism NOS
Eu44.	[X] Dissociative [conversion] disorders	E2722	Chronic motor tic disorder
Eu90z	[X] Hyperkinetic disorder, unspecified	E2Ez.	Hyperkinetic syndrome NOS
E....	Mental disorders	E2F0.	Specific reading disorder
E2A2.	Post-concussion syndrome	E3z..	Mental retardation NOS
E2755	Non-organic infant feeding disturbance	E1400	Active infantile autism
E2273	Impotence	E2023	Social phobia, fear of eating in public
E030.	Acute confusional state	E2D22	Childhood and adolescent disturbance with elective mutism
E26y0	Bruxism (teeth grinding)	E2F1.	Dyscalculia
E27z3	Masturbation	Eu900	[X] Disturbance of activity and attention
E27z0	Hair plucking	Eu845	[X] Asperger's syndrome
E2C11	Solitary stealing	Eu840	[X] Childhood autism
Eu...	[X] Mental and behavioural disorders	Eu81z	[X] Developmental disorder of scholastic skills, unspecified
Eu453	[X] Somatoform autonomic dysfunction	Eu84z	[X] Pervasive developmental disorder, unspecified
Eu9y2	[X] Feeding disorder of infancy and childhood	Eu9y7	[X] Attention deficit disorder
Eu9y3	[X] Pica of infancy and childhood	Eu82.	[X] Specific developmental disorder of motor function
Eu530	[X] Mild mental/behav disorder assoc with the puerperium NEC	Eu913	[X] Oppositional defiant disorder

Eu842	[X] Rett's syndrome	Eu80.	[X] Specific developmental disorders of speech and language
Eu85.	Global developmental delay	Eu9..	[X] Behavioural/emotional disorders onset childhood/adolescence
Eu814	Moderate learning disability	Eu953	[X] Involuntary excessive blinking
Eu816	Mild learning disability	Eu801	[X] Expressive language disorder
Eu815	Severe learning disability	Eu80z	[X] Developmental disorder of speech and language unspecified
		Eu940	[X] Elective mutism
		Eu841	[X] Atypical autism
		Eu84.	[X] Pervasive developmental disorders
		Eu800	[X] Specific speech articulation disorder
		Eu802	[X] Receptive language disorder
		Eu902	[X] Deficits in attention, motor control and perception
		Eu941	[X] Reactive attachment disorder of childhood
		Eu63.	[X] Habit and impulse disorders
		Eu80y	[X] Other developmental disorders of speech and language
		Eu81.	[X] Specific developmental disorders of scholastic skills
		Eu9y5	[X] Stuttering [stammering]
		Eu810	[X] Specific reading disorder
		Eu92.	[X] Mixed disorders of conduct and emotions
		Eu901	[X] Hyperkinetic conduct disorder
		Eu83.	[X] Mixed specific developmental disorders



**Additional File 13: Table 11 - ICD-10 codes for victimisation, taken from Lee, Gonzalez-Izquierod, and Gilbert (2012)**

<b>Description</b>	<b>ICD-10 code</b>
<b>1. Maltreatment</b>	
Maltreatment syndromes	T74
Perpetrator of neglect and other maltreatment syndromes	Y06, Y07
<b>2. Assault</b>	
Assault by bodily force	Y04, Y05
Other types of assault	X85 - Y03, Y08 - Y09
<b>3. Undetermined cause</b>	
Events of undetermined intent	Y10 - Y34
Blood alcohol and blood-drug tests	Z04.0
Examination and observation following other inflicted injury	Z04.5
Examination and observation for other reasons: request for expert evidence	Z04.8
<b>4. Adverse social circumstances</b>	
Problems related to social environment	Z60
Problems related to negative life events in childhood	Z61
Other problems related to upbringing	Z62
Other problems related to primary support group	Z63
Problems related to other legal circumstances	Z65.3
Problems related to lifestyle (Except Z72.0 Tobacco use)	Z72
Problems related to care-provider dependency	Z74
Health supervision and care of foundling	Z76.1
Health supervision and care of other healthy infant and child	Z76.2
Family history of mental and behavioural disorders	Z81
Personal history of other mental and behavioural disorders	Z86.5
Personal history of other physical trauma	Z91.6
Personal history of other specified risk-factors, not elsewhere classified	Z91.8

**Additional File 14: Table 12 - Table of national population statistics**

<sup>a</sup>Deprivation and health – report for the National Public Health Service for Wales 2004;

<sup>b</sup>Welsh data from the UK Census 2001 at <https://statswales.gov.wales/> ;

<sup>c</sup>Births in Wales 2001 - 2011: Data from the National Community Child Health Database 2012.

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	<b>Total</b>	
	<b>n (%)</b>	
<hr/>		
Townsend Deprivation quintile: from 2003, child's age 0 – 14 years old <sup>a</sup>		
1 - least deprived	-	(19.3)
2	-	(19.3)
3	-	(19.3)
4	-	(20.5)
5 - most deprived	-	(21.7)
Sex: from 2001, child's age 0 – 14 years old <sup>b</sup>		
Male	281767	(51.3)
Female	267437	(48.7)
Breastfeeding at birth: Welsh residents 2011 <sup>c</sup>		
No	14469	(40.5)
Yes	18062	(50.6)
no answer	3151	(8.8)
Maternal age at childbirth: Welsh residents 2011 <sup>c</sup>		
<16	57	(0.2)
16-19	2409	(6.8)
19-24	8115	(22.7)
25-29 years	10268	(28.8)
30-34	9107	(25.5)
35+	5722	(16.0)
no answer	4	(0.01)
Gestational age at birth: Welsh residents 2011 <sup>c</sup>		
20-<32 weeks	443	(1.2)
32-<37 weeks	2094	(5.9)

37-43 weeks	32985	(92.4)
no answer	160	(0.4)
<b>Birthweight: Welsh residents 2011<sup>c</sup></b>		
Low: < 2500g	2403	(6.7)
Normal: $\geq$ 2500 - < 4000g	28991	(81.2)
High: $\geq$ 4000g	4249	(11.9)
no answer	39	(0.1)

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**Additional File 15: Table 13 - Moderation analysis for ACEs, deprivation, and child mental health**

		Any mental health			Developmental delay		
		cHR	Lower CI	Upper CI	cHR	Lower CI	Upper CI
<b>Alcohol</b>	<b>2<sup>nd</sup></b>	1.03	0.64	1.64	1.33	0.88	2.00
	<b>3<sup>rd</sup></b>	0.92	0.59	1.44	1.03	0.69	1.54
	<b>4<sup>th</sup></b>	0.89	0.58	1.37	0.93	0.63	1.37
	<b>Most deprived</b>	0.92	0.61	1.39	1.00	0.69	1.44
<b>CMD</b>	<b>2<sup>nd</sup></b>	1.01	0.78	1.30	1.00	0.81	1.25
	<b>3<sup>rd</sup></b>	1.19	0.93	1.53	0.94	0.77	1.16
	<b>4<sup>th</sup></b>	1.22	0.95	1.55	0.85	0.69	1.04
	<b>Most deprived</b>	1.16	0.92	1.46	0.81	0.67	0.98
<b>SMI</b>	<b>2<sup>nd</sup></b>	1.62	0.33	8.07	2.74	0.30	24.86
	<b>3<sup>rd</sup></b>	0.44	0.06	3.12	2.97	0.36	24.22
	<b>4<sup>th</sup></b>	1.78	0.40	8.01	2.92	0.37	23.23
	<b>Most deprived</b>	2.10	0.49	9.04	2.57	0.33	20.08
<b>Death</b>	<b>2<sup>nd</sup></b>	0.85	0.23	3.18	0.75	0.24	2.34
	<b>3<sup>rd</sup></b>	1.37	0.42	4.49	0.70	0.23	2.08
	<b>4<sup>th</sup></b>	0.85	0.25	2.93	0.72	0.25	2.10
	<b>Most deprived</b>	1.34	0.44	4.09	0.80	0.30	2.15
<b>Victimisation</b>	<b>2<sup>nd</sup></b>	0.25	0.06	1.04	1.22	0.24	6.32
	<b>3<sup>rd</sup></b>	0.36	0.10	1.25	2.64	0.59	11.83
	<b>4<sup>th</sup></b>	0.32	0.10	1.05	1.54	0.33	7.17
	<b>Most deprived</b>	0.38	0.14	1.08	1.61	0.37	6.95

