**Supplemental table 1 Questions on electronic ‘two year outcome’ module for the collection of neurodevelopmental outcome data from routine clinical follow-up assessment**

|  |  |
| --- | --- |
| Question reference | Development (Cognitive) |
| C1 | Is the child’s development between 3-6 months behind corrected age? |
| C2 | Is the child’s development between 6-12 months behind corrected age? |
| C3 | Is the child’s development more than 12 months behind corrected age? |
|  | Receptive communication |
| RC1 | Does this child have difficulty with understanding outside of familiar context? |
| RC2 | Is this child unable to understand words or signs? |
|  | Expressive communication |
| EC1 | Does this child have any difficulty with communication? |
| EC2 | Does this child have difficulty with speech (<10 words/signs)? |
| EC3 | Does the child have <5 meaningful words, vocalisation or signs? |
|  | Fine motor |
| FM1 | Does this child have any difficulty with the use of one hand? |
| FM2 | Does this child have difficulty with the use of both hands? |
| FM3 | Is this child unable to use hands (i.e. to feed)? |
|  | Gross motor |
| GM1 | Does this child have any difficulty walking? |
| GM2 | Is this child’s gait non-fluent or abnormal reducing mobility? |
| GM3 | Is this child unable to walk without assistance? |
| GM4 | Is this child unstable or needs to be supported when sitting? |
| GM5 | Is this child unable to sit? |

Supplemental table 2 Comparison of the categorisation of impairment by clinical assessment and research assessment (using the BAPM/NNAP criteria) and the sensitivities and specificities of clinical data in identifying children with any impairment and severe impairment

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Domain of development\*** | **Identification of impairment by clinical assessment against the ‘gold-standard’ research assessment** | | | | | | | | | | | | | | | |
| **Presence of any impairment** | | | | | | | | **Presence of severe impairment** | | | | | | | |
| **TP** | **FN** | **FP** | **TN** | **Sensitivity,**  **% (95% CI)** | **Specificity,**  **% (95% CI)** | **PPV**  **% (95% CI)** | **NPV**  **% (95% CI)** | **TP** | **FN** | **FP** | **TN** | **Sensitivity,**  **% (95% CI)** | **Specificity,**  **% (95% CI)** | **PPV**  **% (95% CI)** | **NPV**  **% (95% CI)** |
| **Receptive communication** (n=184) | 8 | 13 | 5 | 160 | 38.1  (10.7‒65.5) | 97.0  (94.8‒99.2) | 61.5  (31.6‒86.1) | 92.5  (87.5‒95.9) | 2 | 1 | 3 | 180 | 66.7  (4.9‒100) | 98.4  (95.3‒99.7) | 40.0  (5.3‒85.3) | 99.4  (97.0‒100) |
| **Expressive communication** (n=187) | 39 | 41 | 6 | 101 | 48.8  (33.9‒63.6) | 94.4  (88.9‒99.9) | 86.7  (73.2‒94.9) | 71.1  (62.9‒78.4) | 9 | 18 | 4 | 156 | 33.3  (12.0‒54.7) | 97.5  (93.7‒99.3) | 69.2  (38.6‒90.9) | 89.7  (84.1‒93.8) |
| **Combined**  **Communication** (n=182) | 38 | 39 | 6 | 101 | 49.4  (34.7‒64.0) | 94.4  (88.9‒99.9) | 86.4  (72.6‒94.8) | 72.1  (63.9‒79.4) | 9 | 15 | 5 | 155 | 37.5  (15.4‒59.6) | 96.9  (92.9‒99.0) | 64.3  (35.1‒87.2) | 91.2  (85.9‒95.0) |
| **Fine motor** (n=190) | 4 | 1 | 0 | 185 | 80.0  (28.4‒99.5) | 100  (98.0‒100) | 100  (39.8‒100) | 99.5  (97.0‒100) | 1 | 0 | 1 | 188 | 100  (2.5‒100) | 99.5  (97.1‒100.0) | 50.0  (1.3‒98.7) | 100  (98.1‒100) |
| **Gross motor** (n=186) | 11 | 5 | 2 | 169 | 68.8  (45.5‒92.0) | 98.8  (97.1‒100) | 84.6  (54.6‒98.1) | 97.1  (93.4‒99.1) | 8 | 1 | 0 | 178 | 88.9  (51.8‒99.7) | 100.0  (97.9‒100.0) | 100  (63.1‒100) | 99.4  (96.9‒100) |
| **Combined**  **motor** (n=186) | 12 | 5 | 2 | 168 | 70.6  (48.8‒92.4) | 98.8  (97.0‒100) | 85.7  (57.2‒98.2) | 97.1  (93.4‒99.1) | 8 | 1 | 0 | 178 | 88.9  (51.8‒99.7) | 100.0  (97.9‒100.0) | 100  (63.1‒100) | 99.4  (96.9‒100) |
| TP=True-positives; FN=False-negatives; FP=False-positives; TN=True-negatives; PPV=positive predictive value; NPV=negative predictive value. Combined communication impairment was judged as the worst category of outcome from receptive communication and expressive communication; combined motor impairment was judged as the worst category of outcome from fine motor and gross motor. Overall impairment was based on the worst category of outcome from the cognitive, communication and motor domains. | | | | | | | | | | | | | | | | |

**Supplemental figure 1 Algorithm used to classify category of neurodevelopmental outcome for data captured on EPR (BAPM/NNAP criteria)**

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Supplemental figure 2 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified by *gestation at birth*

Figure 5.8corrected.emf

Supplemental figure 3 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified by *sex of participants*

Figure 5.9corrected.emf

Supplemental figure 4 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified by *the requirement for supplemental oxygen at 36 weeks postmenstrual age*

Figure 5.10corrected.emf

Supplemental figure 5 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified the *IMD quintile of residence at the time of assessment*

Figure 5.11corrected.emf

Supplemental figure 6 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified by *whether English was the only language spoken at home*

Figure 5.12corrected.emf

Supplemental figure 7 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified by *the corrected age of participants at the time of the clinical assessment*

Figure 5.13corrected.emf

Supplemental figure 8 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified by *whether a standardised neurodevelopmental test was used during the clinical assessment*

Figure 5.14corrected.emf

Supplemental figure 9 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified by *the grade of the assessor who conducted the clinical assessment*

Figure 5.15corrected.emf

Supplemental figure 10 The prevalence of impairment and the estimated sensitivity and specificity of clinical data in identifying impairment in different neurodevelopmental domains, stratified by *the time interval between clinical and research assessments*

Figure 5.16corrected.emf