Report Supplementary Material 5

Health Economic Evaluation

**TABLE 1**: Adult, child and overall costs by resource category months BL-FU1 (pounds sterling, 2018/19)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | **Incredible Years** | **SAU** |
| **FU1** | **Adult** | **Child** | **Overall** | **Adult** | **Child** | **Overall** |
| **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** |
| ***Public sector perspective*** |  |  |  |  |  |  |
| Primary care | 25.37 | 42.52 | 54.49 | 67.81 | 79.86 | 94.55 | 29.08 | 43.50 | 73.18 | 80.80 | 102.26 | 92.05 |
| Secondary care | 49.09 | 347.20 | 89.18 | 289.23 | 138.26 | 448.23 | 57.92 | 307.57 | 52.41 | 121.29 | 110.34 | 323.28 |
| Mental health care | 17.01 | 114.04 | 1.99 | 33.61 | 19.00 | 118.61 | 7.60 | 46.00 | 0.00 | 0.00 | 7.60 | 46.00 |
| Community based services  | 97.55 | 323.58 | 237.59 | 623.12 | 335.14 | 780.16 | 79.45 | 261.96 | 138.02 | 181.23 | 217.47 | 343.75 |
| Social services  | 0.72 | 7.92 | 1.41 | 13.70 | 2.12 | 18.57 | 0.00 | 0.00 | 2.09 | 15.63 | 2.09 | 15.63 |
| Total cost  | 189.73 | 510.50 | 384.65 | 750.04 | 574.38 | 1006.99 | 174.05 | 418.98 | 265.70 | 240.85 | 439.75 | 522.46 |
| ***Family perspective*** |   |  |  |  |  |   |   |  |  |  |  |   |
| Childcare | 0.00 | 0.00 | 90.00 | 370.67 | 90.00 | 370.67 | 0.00 | 0.00 | 259.32 | 847.73 | 259.32 | 847.73 |
| Absent days from work | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total cost | 0.00 | 0.00 | 90.00 | 370.67 | 90.00 | 370.67 | 0.00 | 0.00 | 259.32 | 847.73 | 259.32 | 847.73 |
| ***Broader perspective*** |   |   |   |   |
| Total cost | 189.73 | 510.50 | 474.65 | 914.51 | 664.38 | 1141.76 | 174.05 | 418.98 | 525.02 | 843.32 | 699.07 | 963.59 |

SD: Standard deviation

**TABLE 2:** Adult, child and overall costs by resource category months FU1-FU2 (pounds sterling, 2018/19)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | **Incredible Years** | **SAU** |
| **FU2** | **Adult** | **Child** | **Overall** | **Adult** | **Child** | **Overall** |
| **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** |
| ***Public sector perspective*** |  |  |  |  |  |   |
| Primary care | 58.54 | 118.68 | 83.94 | 110.52 | 142.47 | 175.19 | 49.10 | 75.43 | 92.90 | 142.30 | 142.01 | 168.62 |
| Secondary care | 227.16 | 1094.96 | 140.17 | 316.83 | 367.33 | 1162.74 | 246.36 | 1271.07 | 237.84 | 645.15 | 484.20 | 1387.49 |
| Mental health care | 158.99 | 1097.60 | 2.99 | 31.78 | 161.98 | 1104.88 | 241.53 | 1429.10 | 0.00 | 0.00 | 241.53 | 1429.10 |
| Community based services  | 138.97 | 422.94 | 248.66 | 322.21 | 387.63 | 579.58 | 120.13 | 369.66 | 225.68 | 300.67 | 345.81 | 539.27 |
| Social services  | 11.74 | 89.92 | 8.91 | 83.39 | 20.65 | 170.56 | 12.05 | 92.70 | 13.06 | 92.65 | 25.10 | 184.61 |
| Total cost  | 595.39 | 2262.84 | 484.66 | 548.97 | 1080.06 | 2436.65 | 669.17 | 2799.53 | 569.48 | 743.08 | 1238.65 | 2948.83 |
| ***Family perspective*** |  |  |   |   |  |   |
| Childcare | 0.00 | 0.00 | 371.14 | 520.70 | 371.14 | 520.70 | 0.00 | 0.00 | 374.86 | 585.34 | 374.86 | 585.34 |
| Absent days from work | 70.81 | 307.18 | 0.00 | 0.00 | 70.81 | 307.18 | 73.07 | 499.77 | 0.00 | 0.00 | 73.07 | 499.77 |
| Total cost | 70.81 | 307.18 | 371.14 | 520.70 | 441.95 | 683.90 | 73.07 | 499.77 | 374.86 | 585.34 | 447.93 | 816.58 |
| ***Broader perspective*** |  |  |   |   |  |   |
| Total cost | 666.20 | 2258.76 | 855.81 | 743.60 | 1522.01 | 2502.92 | 742.24 | 2860.73 | 944.34 | 964.68 | 1686.58 | 3046.21 |

SD: Standard deviation

**TABLE 3:** Adult, child and overall costs by resource category FU2-FU3 (pounds sterling, 2018/19)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | **Incredible Years** | **SAU** |
| **FU3** | **Adult** | **Child** | **Overall** | **Adult** | **Child** | **Overall** |
| **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** |
| ***Public sector perspective*** |  |  |  |  |  |  |
| Primary care | 52.06 | 67.37 | 86.70 | 114.83 | 138.76 | 140.34 | 53.99 | 88.58 | 82.66 | 100.41 | 136.65 | 130.00 |
| Secondary care | 182.41 | 538.62 | 188.41 | 501.89 | 370.83 | 747.39 | 130.35 | 315.79 | 96.89 | 237.44 | 227.24 | 417.37 |
| Mental health care | 29.58 | 168.27 | 18.99 | 275.65 | 48.57 | 322.01 | 116.42 | 697.48 | 0.00 | 0.00 | 116.42 | 697.48 |
| Community based services  | 86.51 | 293.52 | 62.12 | 137.21 | 148.62 | 348.73 | 51.75 | 254.11 | 49.93 | 95.66 | 101.68 | 312.42 |
| Social services  | 3.19 | 25.66 | 2.46 | 17.17 | 5.64 | 42.38 | 1.09 | 12.31 | 1.43 | 12.23 | 2.52 | 24.18 |
| Total cost  | 353.75 | 714.40 | 358.68 | 702.60 | 712.43 | 1077.61 | 353.60 | 794.39 | 230.91 | 310.83 | 584.52 | 886.03 |
| ***Family perspective*** |   |  |   |   |  |   |
| Childcare | 0.00 | 0.00 | 676.04 | 583.76 | 676.04 | 583.76 | 0.00 | 0.00 | 658.12 | 598.77 | 658.12 | 598.77 |
| Absent days from work | 447.12 | 4398.92 | 0.00 | 0.00 | 447.12 | 4398.92 | 326.54 | 747.07 | 0.00 | 0.00 | 326.54 | 747.07 |
| Total cost | 447.12 | 4398.92 | 676.04 | 583.76 | 1123.17 | 4474.53 | 326.54 | 747.07 | 658.12 | 598.77 | 984.66 | 1120.29 |
| ***Broader perspective*** |   |  |   |   |  |   |
| Total cost | 800.87 | 4516.89 | 1034.73 | 902.81 | 1835.60 | 4793.93 | 680.14 | 1042.65 | 889.04 | 687.14 | 1569.18 | 1430.84 |

SD: Standard deviation

**TABLE 4:** Complete case adult and child resource use by resource category (pounds sterling, 2018/19)

|  |  |  |
| --- | --- | --- |
| **Total resource use**  | **Adult** | **Child** |
| **Incredible Years**  |  | **Services as usual** |  | **Incredible Years** |   | **Services as usual** |
| **N** | **Mean (SD)** | **Min, Max** |  | **N** | **Mean (SD)** | **Min, Max** |  | **N** | **Mean (SD)** | **Min, Max** |  | **N** | **Mean (SD)** | **Min, Max** |
| ***Incredible years*** |  |   |   |   |   |   |   |   |   |   |   |   |
| IY book | 256 | 1 (0) | 1,1 |   | 51 | 0 (0) | 0,0 |   | - | - | - |   | - | - | - |
| IY-I group session attendee | 256 | 0.2 (0.4) | 0,1 |   | 51 | 0 (0) | 0,0 |   | - | - | - |   | - | - | - |
| IY-T group session attendee | 256 | 0.08 (0.27) | 0,1 |   | 51 | 0 (0) | 0,0 |   | - | - | - |   | - | - | - |
| Contact by phone | 254 | 0.94 (2.51) | 0,17 |   | 51 | 0 (0) | 0,0 |   | - | - | - |   | - | - | - |
| Contact by phone | IY | 65 | 4 (3.74) | 0,17 |  | 51 | 0 (0) | 0,0 |   | - | - | - |   | - | - | - |
| Contact by home visit | 254 | 0.05 (0.25) | 0,2 |   | 51 | 0 (0) | 0,0 |   | - | - | - |   | - | - | - |
| Contact by home visit | IY | 65 | 0.2 (0.47) | 0,2 |  | 51 | 0 (0) | 0,0 |   | - | - | - |   | - | - | - |
| Contact by letter | 254 | 0.1 (0.38) | 0,2 |   | 51 | 0 (0) | 0,0 |  | - | - | - |   | - | - | - |
| Contact by letter | IY | 65 | 0.4 (0.68) | 0,2 |  | 51 | 0 (0) | 0,0 |  | - | - | - |   | - | - | - |
| Contact by text | 254 | 0.81 (2.27) | 0,12 |   | 51 | 0 (0) | 0,0 |  | - | - | - |   | - | - | - |
| Contact by text | IY | 65 | 3.25 (3.55) | 0,12 |  | 51 | 0 (0) | 0,0 |  | - | - | - |   | - | - | - |
| ***Primary care***  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| GP contacts1 | 255 | 3.8 (4.3) | 0,38 |   | 51 | 3.41 (3.37) | 0,17 |   | 255 | 5.67 (5.78) | 0,44 |   | 51 | 6.73 (5.84) | 0,27 |
| GP nurse contacts1 | 255 | 0.94 (1.49) | 0,14 |   | 51 | 0.88 (1.26) | 0,5 |   | 255 | 2.95 (1.4) | 0,10 |   | 51 | 2.45 (1.47) | 0,6 |
| Other doctor2 | 255 | 0.07 (0.45) | 0,4 |   | 51 | 0.02 (0.14) | 0,1 |   | 255 | 0.29 (0.88) | 0,7 |   | 51 | 0.25 (1.04) | 0,7 |
| ***Secondary care*** |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Inpatient nights | 256 | 0.34 (1.87) | 0,18 |   | 51 | 0.02 (0.14) | 0,1 |   | 256 | 0.41 (1.61) | 0,19 |   | 51 | 0.25 (1.07) | 0,7 |
| Outpatient visits | 255 | 0.84 (1.74) | 0,14 |   | 51 | 0.94 (1.8) | 0,11 |   | 255 | 0.91 (1.62) | 0,8 |   | 51 | 1 (1.75) | 0,7 |
| Accident and emergency visits | 255 | 0.15 (0.52) | 0,5 |   | 51 | 0.12 (0.38) | 0,2 |   | 255 | 0.73 (1.11) | 0,8 |   | 51 | 0.78 (2.01) | 0,14 |
| Other hospital-based services3 | 255 | 0.84 (2.33) | 0,27 |   | 51 | 0.57 (1.08) | 0,5 |   | 255 | 0.62 (1.88) | 0,16 |   | 51 | 0.33 (0.97) | 0,6 |
| ***Mental health care*** |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Psychiatrist | 255 | 0.02 (0.18) | 0,2 |   | 51 | 0 (0) | 0,0 |   | 255 | 0.01 (0.13) | 0,2 |   | 51 | 0 (0) | 0,0 |
| Psychologist | 255 | 0.11 (0.87) | 0,11 |   | 51 | 0.14 (0.98) | 0,7 |   | 255 | 0 (0) | 0,0 |   | 51 | 0 (0) | 0,0 |
| Other counsellor/therapist | 255 | 0.44 (2.33) | 0,25 |   | 51 | 0.92 (4.43) | 0,27 |   | 255 | 0.05 (0.76) | 0,12 |   | 51 | 0 (0) | 0,0 |
| Mental health nurse | 255 | 0.08 (0.66) | 0,8 |   | 51 | 0.02 (0.14) | 0,1 |   | 255 | 0 (0.06) | 0,1 |   | 51 | 0 (0) | 0,0 |
| ***Visitor / community services*** |   |   |   |   |   |   |   |   |   |   |
| Health visitor contacts | 255 | 0.68 (1.79) | 0,18 |   | 51 | 0.76 (2.07) | 0,13 |   | 255 | 3.49 (3.75) | 0,21 |   | 51 | 3.12 (3.12) | 0,13 |
| District nurse  | 255 | 0.04 (0.49) | 0,6 |   | 51 | 0 (0) | 0,0 |   | 255 | 0 (0) | 0,0 |   | 51 | 0 (0) | 0,0 |
| Midwife | 255 | 0.62 (1.83) | 0,12 |   | 51 | 0.25 (1.07) | 0,6 |   | 255 | 0.14 (0.73) | 0,10 |   | 51 | 0.06 (0.42) | 0,3 |
| Parenting courses  | 255 | 0.11 (0.36) | 0,2 |   | 51 | 0.08 (0.44) | 0,3 |   | - | - | - |   | - | - | - |
| Other community services4 | 255 | 1.01 (7.29) | 0,84 |   | 51 | 0.06 (0.42) | 0,3 |   | 255 | 9.15 (24.92) | 0,280 |   | 51 | 4.24 (8.97) | 0,33 |
| ***Social services***  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Social worker contacts | 0 | 0 (0) | , |   | 51 | 0.08 (0.56) | 0,4 |   | 255 | 0.05 (0.58) | 0,7 |   | 51 | 0.08 (0.56) | 0,4 |
| ***Childcare*** |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Playgroup (hours) | - | - | - |   | - | - | - |   | 255 | 22.49 (47.15) | 0,368 |   | 51 | 17.25 (36.65) | 0,200 |
| Childminder (hours) | - | - | - |   | - | - | - |   | 255 | 38.56 (108.41) | 0,560 |   | 51 | 58.98 (157.37) | 0,720 |
| Friend / family member (hours) | - | - | - |   | - | - | - |   | 255 | 96.14 (142.86) | 0,768 |   | 51 | 107.3 (237.61) | 0,1192 |
| Day nursery (hours) | - | - | - |   | - | - | - |   | 255 | 97.76 (156.3) | 0,800 |   | 51 | 106.2 (185.66) | 0,720 |

**1 Surgery visits, home visits, phone contact, out of hour visits**

2 Number of other doctor visits as reported by primary caregiver

3 Lactation consultants, osteopathic care, sonographer, paediatricians, skin specialists, plastic surgery, sleep consultants, ophthalmologists, urologists, cleft specialists, etc.

4 Community physiotherapy, yoga/pilates, sensory classes, dance/music/singing classes, massage, swimming, breast feeding support group

**TABLE 5:** Adult, child and overall costs by resource category months BL-FU1 (pounds sterling, 2018/19)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | **Incredible Years** | **SAU** |
| **FU1** | **Adult** | **Child** | **Overall** | **Adult** | **Child** | **Overall** |
| **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** |
| ***Public sector perspective*** |  |  |  |  |  |  |
| Primary care | 25.37 | 42.52 | 54.49 | 67.81 | 79.86 | 94.55 | 29.08 | 43.50 | 73.18 | 80.80 | 102.26 | 92.05 |
| Secondary care | 49.09 | 347.20 | 89.18 | 289.23 | 138.26 | 448.23 | 57.92 | 307.57 | 52.41 | 121.29 | 110.34 | 323.28 |
| Mental health care | 17.01 | 114.04 | 1.99 | 33.61 | 19.00 | 118.61 | 7.60 | 46.00 | 0.00 | 0.00 | 7.60 | 46.00 |
| Community based services  | 97.55 | 323.58 | 237.59 | 623.12 | 335.14 | 780.16 | 79.45 | 261.96 | 138.02 | 181.23 | 217.47 | 343.75 |
| Social services  | 0.72 | 7.92 | 1.41 | 13.70 | 2.12 | 18.57 | 0.00 | 0.00 | 2.09 | 15.63 | 2.09 | 15.63 |
| Total cost  | 189.73 | 510.50 | 384.65 | 750.04 | 574.38 | 1006.99 | 174.05 | 418.98 | 265.70 | 240.85 | 439.75 | 522.46 |
| ***Family perspective*** |   |  |  |  |  |   |   |  |  |  |  |   |
| Childcare | 0.00 | 0.00 | 90.00 | 370.67 | 90.00 | 370.67 | 0.00 | 0.00 | 259.32 | 847.73 | 259.32 | 847.73 |
| Absent days from work | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total cost | 0.00 | 0.00 | 90.00 | 370.67 | 90.00 | 370.67 | 0.00 | 0.00 | 259.32 | 847.73 | 259.32 | 847.73 |
| ***Broader perspective*** |   |   |   |   |
| Total cost | 189.73 | 510.50 | 474.65 | 914.51 | 664.38 | 1141.76 | 174.05 | 418.98 | 525.02 | 843.32 | 699.07 | 963.59 |

SD: Standard deviation

**TABLE 6:** Adult, child and overall costs by resource category months FU1-FU2 (pounds sterling, 2018/19)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | **Incredible Years** | **SAU** |
| **FU2** | **Adult** | **Child** | **Overall** | **Adult** | **Child** | **Overall** |
| **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** |
| ***Public sector perspective*** |  |  |  |  |  |   |
| Primary care | 58.54 | 118.68 | 83.94 | 110.52 | 142.47 | 175.19 | 49.10 | 75.43 | 92.90 | 142.30 | 142.01 | 168.62 |
| Secondary care | 227.16 | 1094.96 | 140.17 | 316.83 | 367.33 | 1162.74 | 246.36 | 1271.07 | 237.84 | 645.15 | 484.20 | 1387.49 |
| Mental health care | 158.99 | 1097.60 | 2.99 | 31.78 | 161.98 | 1104.88 | 241.53 | 1429.10 | 0.00 | 0.00 | 241.53 | 1429.10 |
| Community based services  | 138.97 | 422.94 | 248.66 | 322.21 | 387.63 | 579.58 | 120.13 | 369.66 | 225.68 | 300.67 | 345.81 | 539.27 |
| Social services  | 11.74 | 89.92 | 8.91 | 83.39 | 20.65 | 170.56 | 12.05 | 92.70 | 13.06 | 92.65 | 25.10 | 184.61 |
| Total cost  | 595.39 | 2262.84 | 484.66 | 548.97 | 1080.06 | 2436.65 | 669.17 | 2799.53 | 569.48 | 743.08 | 1238.65 | 2948.83 |
| ***Family perspective*** |  |  |   |   |  |   |
| Childcare | 0.00 | 0.00 | 371.14 | 520.70 | 371.14 | 520.70 | 0.00 | 0.00 | 374.86 | 585.34 | 374.86 | 585.34 |
| Absent days from work | 70.81 | 307.18 | 0.00 | 0.00 | 70.81 | 307.18 | 73.07 | 499.77 | 0.00 | 0.00 | 73.07 | 499.77 |
| Total cost | 70.81 | 307.18 | 371.14 | 520.70 | 441.95 | 683.90 | 73.07 | 499.77 | 374.86 | 585.34 | 447.93 | 816.58 |
| ***Broader perspective*** |  |  |   |   |  |   |
| Total cost | 666.20 | 2258.76 | 855.81 | 743.60 | 1522.01 | 2502.92 | 742.24 | 2860.73 | 944.34 | 964.68 | 1686.58 | 3046.21 |

SD: Standard deviation

**TABLE 7:** Adult, child and overall costs by resource category months FU2-FU3 (pounds sterling, 2018/19)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | **Incredible Years** | **SAU** |
| **FU3** | **Adult** | **Child** | **Overall** | **Adult** | **Child** | **Overall** |
| **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** |
| ***Public sector perspective*** |  |  |  |  |  |  |
| Primary care | 52.06 | 67.37 | 86.70 | 114.83 | 138.76 | 140.34 | 53.99 | 88.58 | 82.66 | 100.41 | 136.65 | 130.00 |
| Secondary care | 182.41 | 538.62 | 188.41 | 501.89 | 370.83 | 747.39 | 130.35 | 315.79 | 96.89 | 237.44 | 227.24 | 417.37 |
| Mental health care | 29.58 | 168.27 | 18.99 | 275.65 | 48.57 | 322.01 | 116.42 | 697.48 | 0.00 | 0.00 | 116.42 | 697.48 |
| Community based services  | 86.51 | 293.52 | 62.12 | 137.21 | 148.62 | 348.73 | 51.75 | 254.11 | 49.93 | 95.66 | 101.68 | 312.42 |
| Social services  | 3.19 | 25.66 | 2.46 | 17.17 | 5.64 | 42.38 | 1.09 | 12.31 | 1.43 | 12.23 | 2.52 | 24.18 |
| Total cost  | 353.75 | 714.40 | 358.68 | 702.60 | 712.43 | 1077.61 | 353.60 | 794.39 | 230.91 | 310.83 | 584.52 | 886.03 |
| ***Family perspective*** |   |  |   |   |  |   |
| Childcare | 0.00 | 0.00 | 676.04 | 583.76 | 676.04 | 583.76 | 0.00 | 0.00 | 658.12 | 598.77 | 658.12 | 598.77 |
| Absent days from work | 447.12 | 4398.92 | 0.00 | 0.00 | 447.12 | 4398.92 | 326.54 | 747.07 | 0.00 | 0.00 | 326.54 | 747.07 |
| Total cost | 447.12 | 4398.92 | 676.04 | 583.76 | 1123.17 | 4474.53 | 326.54 | 747.07 | 658.12 | 598.77 | 984.66 | 1120.29 |
| ***Broader perspective*** |   |  |   |   |  |   |
| Total cost | 800.87 | 4516.89 | 1034.73 | 902.81 | 1835.60 | 4793.93 | 680.14 | 1042.65 | 889.04 | 687.14 | 1569.18 | 1430.84 |

SD: Standard deviation

**FIGURE 1:** Participant responses to the PHQ questionnaire by follow-up period and treatment group

\*primary carer responses to how often they have been bothered by the following nine issues over the past 2 weeks

**TABLE 8:** Base case regression analysis for adult QALYs

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Base case adult QALYs (EQ5D-3L)** |  **Coef.** |  **St.Err.** |  **t-value** |  **p-value** |  **[95% Conf** |  **Interval]** |  **Sig** |
|  **E-SEE Steps** | 0.034 | 0.020 | 1.73 | 0.084 | -0.005 | 0.073 | \* |
|  **Baseline EQ5D** | 0.633 | 0.069 | 9.20 | 0.000 | 0.497 | 0.768 | \*\*\* |
|  **Baseline PHQ score** | -0.013 | 0.002 | -5.31 | 0.000 | -0.018 | -0.008 | \*\*\* |
|  **Baseline ASQ score** | 0.000 | 0.001 | -0.79 | 0.430 | -0.001 | 0.001 |  |
|  ***Child age*** |  |  |  |  |  |  |  |
|  **1 year-old** | -0.031 | 0.020 | -1.58 | 0.115 | -0.070 | 0.008 |  |
|  **2-year-olds** | -0.048 | 0.024 | -2.04 | 0.041 | -0.095 | -0.002 | \*\* |
|  **Parent age** | 0.001 | 0.002 | 0.67 | 0.504 | -0.002 | 0.004 |  |
|  **Child gender (boy)** | -0.013 | 0.015 | -0.90 | 0.369 | -0.042 | 0.016 |  |
|  ***Highest qualification*** |  |  |  |  |  |  |  |
|  **Overseas qualification** | 0.044 | 0.043 | 1.02 | 0.309 | -0.041 | 0.128 |  |
|  **GCSE<5** | -0.045 | 0.049 | -0.91 | 0.368 | -0.144 | 0.055 |  |
|  **GCSE≥5** | -0.009 | 0.034 | -0.28 | 0.780 | -0.076 | 0.057 |  |
|  **A-levels** | -0.007 | 0.032 | -0.21 | 0.833 | -0.069 | 0.056 |  |
|  **HE-diploma**  | -0.025 | 0.028 | -0.88 | 0.378 | -0.080 | 0.031 |  |
|  **B.A./B.Sc.** | 0.003 | 0.022 | 0.13 | 0.900 | -0.040 | 0.045 |  |
|  **M.A./M.Sc.** | 0.002 | 0.029 | 0.08 | 0.937 | -0.055 | 0.060 |  |
|  ***Ethnicity*** |  |  |  |  |  |  |  |
|  **Multiple ethnicities** | 0.079 | 0.047 | 1.69 | 0.091 | -0.013 | 0.171 | \* |
|  **Asian/British-Asian** | 0.026 | 0.022 | 1.17 | 0.243 | -0.017 | 0.069 |  |
|  **Black/Black-British** | 0.056 | 0.049 | 1.15 | 0.252 | -0.040 | 0.153 |  |
|  **Other ethnic group** | 0.000 | 0.131 | -0.00 | 0.997 | -0.258 | 0.257 |  |
|  ***Parental* *relationship status*** |  |  |  |  |  |  |  |
|  **Cohabitation** | 0.028 | 0.019 | 1.47 | 0.142 | -0.010 | 0.066 |  |
|  **Couple** | -0.108 | 0.057 | -1.91 | 0.056 | -0.219 | 0.003 | \* |
|  **Apart** | -0.036 | 0.037 | -0.97 | 0.336 | -0.111 | 0.039 |  |
|  **Constant** | 0.795 | 0.083 | 9.59 | 0.000 | 0.633 | 0.958 | \*\*\* |
|  |
| ***\*\*\* p<0.01, \*\* p<0.05, \* p<0.1***  |

**TABLE 9:** Base case regression analysis for child QALYs

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Base case child QALYs (CHU-9D)**  |  **Coef.** |  **St.Err.** |  **t-value** |  **p-value** |  **[95% Conf** |  **Inter-val]** |  **Sig** |
|  **E-SEE Steps**  | -0.004 | 0.004 | -1.06 | 0.289 | -0.013 | 0.004 |  |
|  **Baseline ASQ score** | 0.000 | 0.000 | -2.20 | 0.028 | 0.000 | 0.000 | \*\* |
|  **Baseline PHQ score** | -0.001 | 0.000 | -1.45 | 0.148 | -0.002 | 0.000 |  |
|  ***Child age*** |  |  |  |  |  |  |  |
|  **1 year-old** | 0.002 | 0.004 | 0.39 | 0.695 | -0.007 | 0.010 |  |
|  **2-year-olds** | -0.006 | 0.005 | -1.23 | 0.218 | -0.016 | 0.004 |  |
|  **Parent age** | 0.000 | 0.000 | 0.61 | 0.541 | 0.000 | 0.001 |  |
|  **Child gender (boy)** | -0.006 | 0.003 | -1.82 | 0.069 | -0.012 | 0.000 | \* |
|  ***Highest qualification*** |  |  |  |  |  |  |  |
|  **Overseas qualification** | -0.004 | 0.010 | -0.45 | 0.654 | -0.024 | 0.015 |  |
|  **GCSE<5** | -0.008 | 0.009 | -0.89 | 0.372 | -0.026 | 0.010 |  |
|  **GCSE≥5** | 0.007 | 0.007 | 0.95 | 0.345 | -0.008 | 0.022 |  |
|  **A-levels** | 0.003 | 0.007 | 0.48 | 0.635 | -0.011 | 0.018 |  |
|  **HE-diploma**  | 0.002 | 0.006 | 0.36 | 0.715 | -0.010 | 0.015 |  |
|  **B.A./B.Sc.** | 0.010 | 0.005 | 2.15 | 0.032 | 0.001 | 0.019 | \*\* |
|  **M.A./M.Sc.** | 0.013 | 0.006 | 2.11 | 0.035 | 0.001 | 0.025 | \*\* |
|  ***Ethnicity*** |  |  |  |  |  |  |  |
|  **Multiple ethnicities** | 0.006 | 0.010 | 0.64 | 0.523 | -0.013 | 0.025 |  |
|  **Asian/British-Asian** | 0.000 | 0.005 | -0.07 | 0.948 | -0.010 | 0.009 |  |
|  **Black/Black-British** | -0.001 | 0.012 | -0.09 | 0.925 | -0.025 | 0.023 |  |
|  **Other ethnic group** | 0.034 | 0.027 | 1.24 | 0.217 | -0.020 | 0.087 |  |
|  ***Parental* *relationship status*** |  |  |  |  |  |  |  |
|  **Cohabitation** | 0.004 | 0.004 | 0.89 | 0.374 | -0.004 | 0.011 |  |
|  **Couple** | 0.002 | 0.013 | 0.13 | 0.894 | -0.023 | 0.026 |  |
|  **Apart** | 0.006 | 0.007 | 0.87 | 0.385 | -0.008 | 0.021 |  |
|  **Constant** | 1.272 | 0.012 | 103.21 | 0.000 | 1.247 | 1.296 | \*\*\* |
| ***\*\*\* p<0.01, \*\* p<0.05, \* p<0.1***  |

**TABLE 10:** Base case regression analysis for adult costs

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Base case adult (log) costs** | **Coef.** | **St.Err.** | **t-value** | **p-value** | **[95% Conf** | **Interval]** | **Sig** |
|  **E-SEE Steps**  | 0.406 | 0.252 | 1.61 | 0.108 | -0.090 | 0.901 |  |
|  ***Child age*** |  |  |  |  |  |  |  |
|  **1 year-old** | -0.222 | 0.227 | -0.98 | 0.327 | -0.666 | 0.222 |  |
|  **2-year-olds** | -0.266 | 0.282 | -0.94 | 0.346 | -0.822 | 0.289 |  |
|  **Parent age** | -0.023 | 0.018 | -1.28 | 0.200 | -0.058 | 0.012 |  |
|  **Child gender (boy)** | 0.140 | 0.170 | 0.82 | 0.410 | -0.193 | 0.473 |  |
|  ***Highest qualification*** |  |  |  |  |  |  |  |
|  **Overseas qualification** | -1.495 | 0.640 | -2.34 | 0.030 | -2.832 | -0.159 | \*\* |
|  **GCSE<5** | 0.927 | 0.486 | 1.91 | 0.057 | -0.027 | 1.881 | \* |
|  **GCSE≥5** | 0.146 | 0.464 | 0.31 | 0.754 | -0.782 | 1.074 |  |
|  **A-levels** | -0.042 | 0.360 | -0.12 | 0.908 | -0.750 | 0.667 |  |
|  **HE-diploma**  | -0.122 | 0.318 | -0.39 | 0.700 | -0.745 | 0.501 |  |
|  **B.A./B.Sc.** | -0.453 | 0.262 | -1.73 | 0.085 | -0.969 | 0.063 | \* |
|  **M.A./M.Sc.** | -0.202 | 0.349 | -0.58 | 0.564 | -0.892 | 0.488 |  |
|  ***Ethnicity*** |  |  |  |  |  |  |  |
|  **Multiple ethnicities** | -0.199 | 0.529 | -0.38 | 0.707 | -1.237 | 0.839 |  |
|  **Asian/British-Asian** | -0.203 | 0.261 | -0.78 | 0.437 | -0.717 | 0.311 |  |
|  **Black/Black-British** | -0.516 | 0.551 | -0.94 | 0.349 | -1.596 | 0.564 |  |
|  **Other ethnic group** | -1.355 | 1.454 | -0.93 | 0.352 | -4.205 | 1.495 |  |
|  ***Parental* *relationship status*** |  |  |  |  |  |  |  |
|  **Cohabitation** | -0.035 | 0.259 | -0.14 | 0.894 | -0.560 | 0.490 |  |
|  **Couple** | 0.651 | 0.634 | 1.03 | 0.305 | -0.593 | 1.895 |  |
|  **Apart** | 0.537 | 0.471 | 1.14 | 0.265 | -0.430 | 1.503 |  |
|  **Constant** | 7.888 | 0.669 | 11.79 | 0.000 | 6.574 | 9.202 | \*\*\* |
| ***\*\*\* p<0.01, \*\* p<0.05, \* p<0.1***  |

**TABLE 11:** Base case regression analysis for child costs

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Base case child (log) costs** |  Coef. |  St.Err. |  t-value |  p-value |  [95% Conf |  Interval] |  Sig |
|  **E-SEE Steps**  | 0.173 | 0.157 | 1.10 | 0.271 | -0.135 | 0.482 |  |
|  **Child age** |  |  |  |  |  |  |  |
|  **1 year-old** | -0.094 | 0.158 | -0.59 | 0.553 | -0.403 | 0.216 |  |
|  **2-year-olds** | -0.208 | 0.191 | -1.09 | 0.274 | -0.582 | 0.165 |  |
|  **Parent age** | -0.028 | 0.013 | -2.12 | 0.035 | -0.055 | -0.002 | \*\* |
|  **Child gender (boy)** | 0.120 | 0.118 | 1.01 | 0.311 | -0.112 | 0.351 |  |
|  **Highest qualification** |  |  |  |  |  |  |  |
|  **Overseas qualification** | -0.716 | 0.343 | -2.09 | 0.037 | -1.389 | -0.043 |  |
|  **GCSE<5** | 0.129 | 0.369 | 0.35 | 0.727 | -0.606 | 0.865 | \*\* |
|  **GCSE≥5** | 0.196 | 0.294 | 0.67 | 0.508 | -0.389 | 0.780 |  |
|  **A-levels** | 0.130 | 0.253 | 0.51 | 0.608 | -0.368 | 0.627 |  |
|  **HE-diploma**  | 0.068 | 0.226 | 0.30 | 0.765 | -0.377 | 0.512 |  |
|  **B.A./B.Sc.** | 0.149 | 0.182 | 0.82 | 0.413 | -0.209 | 0.508 |  |
|  **M.A./M.Sc.** | 0.098 | 0.240 | 0.41 | 0.683 | -0.375 | 0.571 |  |
|  **Ethnicity** |  |  |  |  |  |  |  |
|  **Multiple ethnicities** | -0.271 | 0.366 | -0.74 | 0.458 | -0.988 | 0.445 |  |
|  **Asian/British-Asian** | -0.170 | 0.181 | -0.94 | 0.347 | -0.525 | 0.184 |  |
|  **Black/Black-British** | -0.531 | 0.389 | -1.36 | 0.173 | -1.295 | 0.233 |  |
|  **Other ethnic group** | 0.291 | 1.029 | 0.28 | 0.778 | -1.726 | 2.308 |  |
|  **Parental relationship status** |  |  |  |  |  |  |  |
|  **Cohabitation** | 0.157 | 0.161 | 0.98 | 0.331 | -0.162 | 0.476 |  |
|  **Couple** | 0.641 | 0.430 | 1.49 | 0.136 | -0.202 | 1.484 |  |
|  **Apart** | 0.251 | 0.354 | 0.71 | 0.487 | -0.488 | 0.990 |  |
|  **Constant** | 7.717 | 0.454 | 17.00 | 0.000 | 6.826 | 8.608 | \*\*\* |
|  |
| ***\*\*\* p<0.01, \*\* p<0.05, \* p<0.1***  |

**TABLE 12:** Base case regression analysis for overall costs

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Base case overall (log) costs** |  **Coef.** |  **St.Err.** |  **t-value** |  **p-value** |  **[95% Conf** |  **Interval]** |  **Sig** |
|  **E-SEE Steps**  | 0.285 | 0.163 | 1.75 | 0.081 | -0.035 | 0.605 | \* |
|  ***Child age*** |  |  |  |  |  |  |  |
|  **1 year-old** | -0.189 | 0.153 | -1.24 | 0.217 | -0.489 | 0.111 |  |
|  **2-year-olds** | -0.252 | 0.188 | -1.34 | 0.181 | -0.620 | 0.117 |  |
|  **Parent age** | -0.025 | 0.013 | -2.02 | 0.044 | -0.050 | -0.001 | \*\* |
|  **Child gender (boy)** | 0.126 | 0.115 | 1.09 | 0.275 | -0.100 | 0.352 |  |
|  ***Highest qualification*** |  |  |  |  |  |  |  |
|  **Overseas qualification** | -1.088 | 0.398 | -2.73 | 0.010 | -1.895 | -0.281 | \*\* |
|  **GCSE<5** | 0.692 | 0.342 | 2.02 | 0.044 | 0.019 | 1.365 | \*\* |
|  **GCSE≥5** | 0.142 | 0.298 | 0.47 | 0.636 | -0.454 | 0.737 |  |
|  **A-levels** | 0.048 | 0.249 | 0.19 | 0.846 | -0.442 | 0.539 |  |
|  **HE-diploma**  | -0.021 | 0.215 | -0.10 | 0.922 | -0.442 | 0.399 |  |
|  **B.A./B.Sc.** | -0.152 | 0.175 | -0.87 | 0.386 | -0.495 | 0.192 |  |
|  **M.A./M.Sc.** | -0.059 | 0.240 | -0.25 | 0.805 | -0.534 | 0.415 |  |
|  ***Ethnicity*** |  |  |  |  |  |  |  |
|  **Multiple ethnicities** | -0.275 | 0.360 | -0.76 | 0.445 | -0.979 | 0.430 |  |
|  **Asian/British-Asian** | -0.177 | 0.183 | -0.97 | 0.335 | -0.537 | 0.184 |  |
|  **Black/Black-British** | -0.474 | 0.370 | -1.28 | 0.200 | -1.200 | 0.251 |  |
|  **Other ethnic group** | -0.090 | 1.006 | -0.09 | 0.929 | -2.062 | 1.882 |  |
|  ***Parental* *relationship status*** |  |  |  |  |  |  |  |
|  **Cohabitation** | 0.072 | 0.168 | 0.43 | 0.669 | -0.264 | 0.409 |  |
|  **Couple** | 0.621 | 0.428 | 1.45 | 0.146 | -0.217 | 1.460 |  |
|  **Apart** | 0.440 | 0.342 | 1.29 | 0.213 | -0.273 | 1.153 |  |
|  **Constant** | 8.517 | 0.451 | 18.87 | 0.000 | 7.629 | 9.405 | \*\*\* |
|  |
| ***\*\*\* p<0.01, \*\* p<0.05, \* p<0.1***  |

**TABLE 13:** Full scenario analyses cost-effectiveness results

|   |   | **Costs** | **QALYs** | **ICER** | **Incremental net health benefit (95% CI)** |
| --- | --- | --- | --- | --- | --- |
| **(95% CI)** | **(95% CI)** | **k=£15,000** | **k=£20,000** | **k=£30,000** |
|   |   | **[P(most costly)]** | **[P(most effective)]** | **[Probability of being cost-effective]** |
| **EQ-5D-5L** |
| **Services as usual** | £1,988.61 | 2.64511 |   | - | - | - |
| (1465.79, 2615.43) | (2.61663, 2.67177) |   | - | - | - |
| [0.037] | [0.06] |   | 0.763 | 0.658 | 0.461 |
| **Incredible Years** | £2,609.46 | 2.66805 | £27,067.81 | -0.01845 | -0.00915 | 0.00224 |
| (2312.07, 2951.04) | (2.65684, 2.67932) | (-0.07096, 0.03719) | (-0.07096, 0.03719) | (-0.03315, 0.03823) |
| [0.963] | [0.94] | 0.237 | 0.342 | 0.539 |
| **Controlling for baseline costs** |
| **Services as usual** | £1,775.42 | 2.58680 |   | - | - | - |
| (1347.82, 2295.03) | (2.54927, 2.62129) |   | - | - | - |
| [0.003] | [0.06] |   | 0.796 | 0.65 | 0.43 |
| **Incredible Years** | £2,589.71 | 2.61775 | £26,311.51 | -0.02334 | -0.00977 | 0.00381 |
| (2287.81, 2923.25) | (2.60252, 2.6342) | (-0.07642, 0.0346) | (-0.07642, 0.0346) | (-0.04136, 0.05025) |
| [0.997] | [0.94] | 0.204 | 0.35 | 0.57 |
| **Broader perspective** |
| **Services as usual** | £3,727.13 | 2.58680 |   | - | - | - |
| (2967.99, 4712.34) | (2.54927, 2.62129) |   | - | - | - |
| [0.15] | [0.06] |   | 0.504 | 0.389 | 0.27 |
| **Incredible Years** | £4,180.62 | 2.61775 | £14,653.37 | 0.00072 | 0.00827 | 0.01583 |
| (3783.65, 4605.28) | (2.60252, 2.6342) | (-0.06576, 0.07446) | (-0.06576, 0.07446) | (-0.03137, 0.06575) |
| [0.85] | [0.94] | 0.496 | 0.611 | 0.73 |
| **12 per IY group** |
| **Services as usual** | £1,988.61 | 2.58680 |   | - | - | - |
| (1465.79, 2615.43) | (2.54927, 2.62129) |   | - | - | - |
| [0.175] | [0.06] |   | 0.378 | 0.282 | 0.181 |
| **Incredible Years** | £2,297.85 | 2.61775 | £9,992.12 | 0.01033 | 0.01356 | 0.02064 |
| (2041, 2577.04) | (2.60252, 2.6342) | (-0.04602, 0.06927) | (-0.04602, 0.06927) | (-0.02363, 0.06488) |
| [0.825] | [0.94] | 0.622 | 0.718 | 0.819 |
| **Minimum site costs** |
| **Services as usual** | £1,988.61 | 2.58680 |   | - | - | - |
| (1465.79, 2615.43) | (2.54927, 2.62129) |   | - | - | - |
| [0.056] | [0.06] |   | 0.559 | 0.435 | 0.285 |
| **Incredible Years** | £2,515.23 | 2.61775 | £17,016.26 | -0.00416 | 0.00342 | 0.01339 |
| (2241.17, 2821.85) | (2.60252, 2.6342) | (-0.06113, 0.05469) | (-0.06113, 0.05469) | (-0.03113, 0.06006) |
| [0.944] | [0.94] | 0.441 | 0.565 | 0.715 |
| **Maximum site costs** |
| **Services as usual** | £1,988.61 | 2.58680 |   | - | - | - |
| (1465.79, 2615.43) | (2.54927, 2.62129) |   | - | - | - |
| [0.018] | [0.06] |   | 0.738 | 0.61 | 0.4 |
| **Incredible Years** | £2,725.78 | 2.61775 | £23,819.83 | -0.01820 | -0.00562 | 0.00638 |
| (2411.59, 3069.14) | (2.60252, 2.6342) | (-0.0761, 0.04239) | (-0.0761, 0.04239) | (-0.03927, 0.05133) |
| [0.982] | [0.94] | 0.262 | 0.39 | 0.6 |

|  |
| --- |
| **Site 1 costs** |
| **Services as usual** | £1,988.61 | 2.58680 |   | - | - | - |
| (1465.79, 2615.43) | (2.54927, 2.62129) |   | - | - | - |
| [0.041] | [0.06] |   | 0.623 | 0.506 | 0.345 |
| **Incredible Years** | £2,595.88 | 2.61775 | £19,622.38 | -0.00954 | 0.00030 | 0.01071 |
| (2251.09, 2933.1) | (2.60252, 2.6342) | (-0.06859, 0.0522) | (-0.06859, 0.0522) | (-0.03296, 0.05658) |
| [0.959] | [0.94] | 0.377 | 0.494 | 0.655 |
| **Site 2 costs** |
| **Services as usual** | £1,988.61 | 2.58680 |   | - | - | - |
| (1465.79, 2615.43) | (2.54927, 2.62129) |   | - | - | - |
| [0.044] | [0.06] |   | 0.604 | 0.488 | 0.319 |
| **Incredible Years** | £2,564.65 | 2.61775 | £18,613.24 | -0.00745 | 0.00154 | 0.01175 |
| (2278.31, 2875.72) | (2.60252, 2.6342) | (-0.06514, 0.05282) | (-0.06514, 0.05282) | (-0.03279, 0.05805) |
| [0.956] | [0.94] | 0.396 | 0.512 | 0.681 |
| **Site 4 costs** |
| **Services as usual** | £1,988.61 | 2.58680 |   | - | - | - |
| (1465.79, 2615.43) | (2.54927, 2.62129) |   | - | - | - |
| [0.04] | [0.06] |   | 0.616 | 0.488 | 0.32 |
| **Incredible Years** | £2,575.83 | 2.61775 | £18,974.36 | -0.00820 | 0.00079 | 0.01137 |
| (2282.86, 2882.79) | (2.60252, 2.6342) | (-0.06628, 0.04981) | (-0.06628, 0.04981) | (-0.03184, 0.05682) |
| [0.96] | [0.94] | 0.384 | 0.512 | 0.68 |
| **Site 3 costs** |
| **Services as usual** | £1,988.61 | 2.58680 |   | - | - | - |
| (1465.79, 2615.43) | (2.54927, 2.62129) |   | - | - | - |
| [0.021] | [0.06] |   | 0.698 | 0.572 | 0.371 |
| **Incredible Years** | £2,681.61 | 2.61775 | £22,392.46 | -0.01525 | -0.00412 | 0.00785 |
| (2369.8, 3021.86) | (2.60252, 2.6342) | (-0.07201, 0.04537) | (-0.07201, 0.04537) | (-0.03757, 0.05299) |
| [0.979] | [0.94] | 0.302 | 0.428 | 0.629 |