**Estimation of costs applied to Complex Household’s model:**

The costs of health and social care activity was approximately estimated applying the following unit costs. For some activity and characteristics we did not have access to sufficiently granular data on activity and costs to directly estimate the costs of specific activity. In these cases we have applied an average cost derived from external data sources, recognising that the activity for a specific individual may differ to a large extent from these average costs. These costs were however only used to identify a segment of households that have relatively high intensity use (the upper quartile) and are therefore reasonable approximations for this use.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Activity | Annual cost weights applied | Unit | Notes | Source |
| **Primary Care** | | | | |
| Cancer | £478 | Annual per person | These are only primary care costs(costed for main long term conditions). We compared these costs to costing of activity for selected diseases in primary care using CPRD data (see appendix 1) | Kasteridis et al. (pg.36-51)1 |
| Asthma | £312 |
| CKD | £745 |
| COPD | £687 |
| CVD | £644 |
| Common Mental Health Problems | £372 |
| Rheumatological | £593 |
| Dementia | £757 |
| Diabetes | £604 |
| Epilepsy | £358 |
| Neurological | £644 |
| Severe Mental illness | £315 |
| **Children’s social care** | | | | |
| Child looked after | £49,169 | Annual per child looked after | Others measures of children’s social care were not available.  Calculated at the total expenditure on children looked after in Liverpool/ number of children looked after = 73263000/1490 | Data reported for Liverpool CC on LG Inform2 |
| **Adult Social Care** | | | | |
| Adult Social Care activity | £ 16,535 | Annual per person | Statutory budget return £210 million total expenditure on adult social care with 12,700 short and long term clients in 2021. | NHS Digital3 |
| Learning disability | £ 3294 | Annual per person | Assuming 1 day-care session per week. (in addition to social care costs) | PSSRU: Unit Costs of Health and Social Care 20214 |
| **Secondary care** | | | | |
| Emergency Admissions | Varied by activity based on Tariff costs | Per unit of activity |  | National Tariff5 |
| Elective admissions |
| Accident and Emergency |
| **Mental health service** | | | | |
| Mental health service contact | £342 | Per contact | Average national reference costs for mental health services in 2021 | National reference costs6 |
| Community services | £80 | Per contact | Average national reference costs for community services in 2021 | National reference costs6 |

**Appendix 1. Comparison of primary care costs from Symphony project and estimates form CPRD in 2018**

|  |  |  |
| --- | --- | --- |
| Cancer | £478 | £470 |
| COPD | £687 | £692 |
| CVD | £644 | £538 (CHD) |
| Dementia | £757 | £605 |
| Diabetes | £604 | £559 |

1 Kasteridis P, Street A, Dolman M, *et al.* The importance of multimorbidity in explaining utilisation and costs across health and social care settings: evidence from South Somersets Symphony Project. *Working Papers* 2014; published online Feb. https://ideas.repec.org//p/chy/respap/96cherp.html (accessed Nov 19, 2023).

2 Association LG. Total Expenditure - Children Looked After in Liverpool. https://lginform.local.gov.uk/reports/lgastandard?mod-metric=%3C7592M%3E&mod-area=E08000012&mod-group=AllMetropolitanBoroughLaInCountry\_England&mod-type=namedComparisonGroup&mod-period=4 (accessed Nov 19, 2023).

3 Adult Social Care Statistics in England: An overview by region and local authority. NHS Digital. https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/adult-social-care-data-hub/dashboards/adult-social-care-statistics-in-england-an-overview (accessed Nov 19, 2023).

4 Unit Costs of Health and Social Care 2021 | PSSRU. https://www.pssru.ac.uk/project-pages/unit-costs/unit-costs-of-health-and-social-care-2021/ (accessed Nov 19, 2023).

5 NHS England » National Tariff. https://www.england.nhs.uk/pay-syst/national-tariff/ (accessed Nov 19, 2023).

6 NHS England » 2021/22 National Cost Collection Data Publication. https://www.england.nhs.uk/publication/2021-22-national-cost-collection-data-publication/ (accessed Nov 19, 2023).