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Cost benefit analysis evaluation of Enhance Year 3

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Executive summary

Aims and objectives

The objective was to undertake a cost-benefit analysis of Enhance using existing (Y1-2) and new (Y3) data to evidence positive impact on LCH capacity, in particular time saved, and to also evidence impact on the wider healthcare system.

The evaluation explores:

1. Whether people referred to Enhance are seen for less time by LCH staff (than those not referred to Enhance).
2. Whether people referred to Enhance are seen for less time/ have fewer secondary healthcare appointments and contacts than those not referred to Enhance.
3. Calculate the return on investment (ROI) and value for money of Enhance to LCH.

Methods

The evaluation used two sources of data to produce:

- A secondary cost benefit analysis of existing data in the **Leeds Data Model/ ICB**, comparing monitoring and service use data collected for people referred to the Enhance programme with a matched cohort from similar populations in Leeds, for three months before and after their first Enhance referral (or equivalent date for matched cohort).
- Analysis of data collected by **LCH staff** and the **Enhance project staff at LOPF** with details of time and appointments saved for LCH by the Enhance programme in Y3.

Results

SBU services started referring to Enhance in May 2024, and there has been significant further growth in LCH referrals in year 3 to date: 622 referrals have been recorded on SystmOne (S1) in the first 7 months of year 3, compared with 618 for the whole of year 2, which if extrapolated, equates to 1,066 referrals. We anticipate a continued 5% increase in referrals for the remainder of year 3 which would result in 1,423 referrals in year 3 from increased referrals from Recovery Hubs, some NTs and 2 additional self-management Health Hubs - an 129% increase from year 2.

There have been a total of 679 referrals to Enhance in the year to date (7 months from 1st April to 31st October 2024). Of these 679 referrals, 636 have been accepted into Enhance. The majority (614) are new to Enhance, while 22 are returning.

The total number of Enhance participants since the programme began is 2,130.

According to Enhance cohort data recorded on SystmOne, 49% of Enhance participants are male, 45% are aged 80 years or more, 12.6% (of those with data) are from diverse communities, 40% from the most deprived deciles (IMD 1 and 2), 88% classed as having a frailty risk and 88% live with at 3 or more long term conditions.

Summary of findings for matched comparison analysis:

- There was a statistically significant reduction in calls to 111 in the Enhance group, compared to the matched comparison subgroup, following referral to Enhance.

- Relative reductions in service use in the Enhance group compared to the matched comparison subgroup, although not statistically significant, were also seen for 999 calls, elective hospital stays and contacts with community healthcare.
- The data suggest that referral to Enhance is associated with a reduction in visits to A&E and unplanned hospital stays, in the three months after referral compared to the three months before referral.
- The data suggest that the number of outpatient visits and use of the patient transport service increased slightly in the Enhance group following referral, compared to the matched comparison subgroup, which may indicate that Enhance clients are supported to access appropriate healthcare appointments.
- Although few of the differences in mean difference across groups are statistically significant, we (and the WYICB data controllers) consider that this is more likely to be due to issues with the data - particularly the differences in the size of groups, and lack of baseline equivalence between groups – rather than indicating that there is no real difference between groups. This is because the mean values indicate a consistent direction of effect for most health service use outcomes – that Enhance participants reduce their service use, while the matched comparison groups’ service use either stays the same or increases.
- Non-clinical activity was not available for the matched comparison analysis, but in the Enhance Discharge Feedback Survey, it was recorded that Enhance saved as much, if not more, non clinical time as clinical time.

Return on investment

The total estimated cost savings in year 3 = AT LEAST

Savings to LCH

£187,464 LCH staff time saved (estimate from discharge feedback survey*) plus 28% oncosts = £239,954
 + £7,087 cost to LCH of prevention scenarios (x2 for non-clinical time = £14,174)
 + £32,658 to £40,982 from WYICB matched comparison analysis
 = **£286,786 to £295,110**

*analysis based on discharge feedback survey estimates of clinical visits saved, non clinical time saved, shorter visits / appointments and earlier discharge enabled, referral to Neighbourhood Team or other LCH service prevented

Savings to wider NHS

+ £68,887 cost to NHS of prevention scenarios
 + £1,030,877 to £1,127,376 cost to NHS of service use prevented in WYICB matched comparison analysis
 = **£1,099,764 to £1,196,263**

TOTAL SAVINGS = £1,386,550 (ROI + 38.7%) to £1,491,283 (ROI +49.1%)

The above calculations show that Enhance is expected to give a positive return on investment of between 38.7% and 49.1%.

Value for money

The return on investment (ROI) is based on the money saved directly by saving clinical time and appointments to LCH and the wider NHS. Given that there are gaps in the data available and a range of assumptions have been made, this is calculated to be more than £1,386,550 and could be as much as, or even more than, £1,491,283. £1M was the investment for Year 3, so this return represents a ROI of between +38.7% and +49.1%. However, that is not the full story.

This is likely to be an underestimate, as data on non-clinical time saved for LCH staff was not all available for the analysis, and conservative estimates were used throughout, and do not include for example preventing repeat admissions or cost of admission to residential care.

However, in a cost benefit analysis, the ROI is not the only consideration to take into account, as this only tells us the direct financial savings associated with the investment. Other benefits, that are more difficult to place a financial value on, relate to improvements in the health, wellbeing and quality of life of people supported by the Enhance service. We have seen that these include participants being supported with social needs, being supported to claim welfare benefits that they are entitled to, and improving their health and wellbeing.

There are also other benefits reported by staff in the discharge surveys that we were not able to monetise, including reduced musculoskeletal risks for staff as podiatry home visits are not usually safe settings for staff, prevention of referrals to multiple other agencies, reducing waiting times (and associated deterioration of health whilst waiting leading to greater treatment and care costs), reducing DNAs and cancellations.

While it is not possible to place a direct financial value on health and wellbeing benefits, the National Institute of Health and Care Excellence (NICE) considers an appropriate funding threshold to be £20,000 per quality-adjusted life-year (QALY)¹. A QALY is a year of life lived in perfect health². That is, if an intervention has an impact of supporting one person to have a year of perfect health or quality of life, that is worth £20,000. For Enhance participants, a more realistic estimate of their best achievable quality of life might be 0.5 of perfect health (on a scale of 0 to 1), representing £10,000. With more than 1000 referrals per year, even if only 5% of Enhance clients benefited in terms of improved health or quality of life for one year, this would represent additional value of £500,000 to NICE. It is also likely to be reflected in longer term savings to the NHS and LCH as people will stay healthier for longer and need less care.

Therefore, Enhance, even at the most conservative estimate of cost vs benefit, represents a good return on investment and good value for money.

¹ <https://remapconsulting.com/funding/how-does-nice-make-cost-effectiveness-decisions-on-medicines-and-what-are-modifiers/>

² <https://www.nice.org.uk/Glossary?letter=Q>

Background

Enhance is a 'test and learn' programme managed by LOPF. It has a strong focus on deprived areas in Leeds (IMD1&2) and links 13 third sector organisations with LCH teams and other agencies to enable provision of joined up, appropriate, holistic care for older people whilst on LCH teams' caseloads. Taking referrals from Adult / Specialist Business Unit teams, Enhance aims to reduce time spent by LCH staff on non-clinical tasks, reduce clinical demand for LCH services to support patients' recovery and rehabilitation, improve health and quality of life, prevent deterioration and support wider health and wellbeing, support safe and sustainable discharge from LCH services and avoid admission or readmission to hospital through a proactive, responsive and preventative approach, including person-centred support in the community to help patients and developing strong connections with longer-term community-based activities. It also aims to reduce pressure on the wider public health system.

Enhance is now in its third year of funding (Y3), having been funded each year by LCH (£1m) and Leeds City Council (£98,000 in years 1 & 2 only) following successful business cases. The business case for Year 3 (Y3) requested funding for Y3-5, building on qualitative and quantitative research by external evaluators; funding was only approved for Y3. LCH's leadership team recognises the very positive impact on older people, particularly on the following health related outcomes: Increased confidence, quality of life and independence, safer home environment, reduced poverty, social isolation and loneliness and supported access to health appointments. However, they asked for clear evidence of time savings for LCH staff, return on investment (ROI) and value for money (VfM) in Y3 to underpin the business case for future funding beyond Year 4 (Y4). The business case is due in November 2024.

Aims and objectives

The objective was to undertake a cost-benefit analysis of Enhance using existing (Y1-2) and new (Y3) data to evidence positive impact on LCH capacity, in particular time saved, and to also evidence impact on the wider healthcare system.

The evaluation explores:

1. Whether people referred to Enhance are seen for less time by LCH staff (than those not referred to Enhance).
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3. Calculate the return on investment (ROI) and value for money of Enhance to LCH.

Methods

The evaluation used two sources of data to produce:

- (i) A secondary cost benefit analysis of existing data in the **Leeds Data Model/ ICB**, comparing monitoring and service use data collected for people referred to the Enhance programme with a matched cohort from similar populations in Leeds, for 3 months before and after their first Enhance referral (or equivalent date for matched cohort).
- (ii) Analysis of data collected by **LCH staff** and the **Enhance project staff at LOPF** with details of time and appointments saved for LCH by the Enhance programme in Y3.

Data collection

The evaluation used (i) Enhance monitoring returns and (ii) anonymised disaggregated data from SystmOne and the Leeds Data Model, to collect data on the following variables:

- Unique ID
- Age
- Sex
- Ethnicity
- Frailty indicators
- Population cohort (LTC, cancer, SMI, EoL, LD/A)
- Long term conditions
- Risk factors for LTCs
- Postcode / IMD scores
- PCN
- Delivery partner
- Referred to / took up Enhance support Y/N
- Date referred/ accepted
- Time spent, number of visits and staff role with LCH staff
- Number of visits to hospital outpatients
- Number of hospital admissions and readmissions (planned and unplanned)
- Number of urgent and emergency calls
- Number of visits to A&E
- Number of ambulance callouts
- LCH estimates of time saved due to Enhance support

Comparison group

We used the Leeds Data Model to generate a parallel comparison set of data for people who were likely to meet the criteria for referral to Enhance, but were not referred to Enhance.

Propensity score matching was carried out based on the following covariates:

- Age \geq 50
- Sex

- IMD decile
- Ethnic group
- Population segment
- Frailty level

These covariates were carefully selected to ensure comparability between the intervention and control groups.

In the matching process, we included people with a referral to the Enhance programme as the intervention group, and looked for the distribution of the referral date – for which the median was at the end of Q4 2023. We selected the matched cohort comparison group using a reference date of end of December 2023, reporting health service use outcomes three months before and three months after that reference date.

Using the propensity scores from the intervention group, we:

- Predicted the probability of matched cohort patients taking up the Enhance programme.
- Applied a threshold to classify patients into those likely to engage with the program and those who might not.
- Generated **Enhance Likelihood Flag** to mark this classification, distinguishing patients with a higher likelihood of participation from those less likely to engage.

The matching process was successfully carried out, as shown in the chart of Cohen's D effect sizes which measures the balance of the covariates used in the matching process.

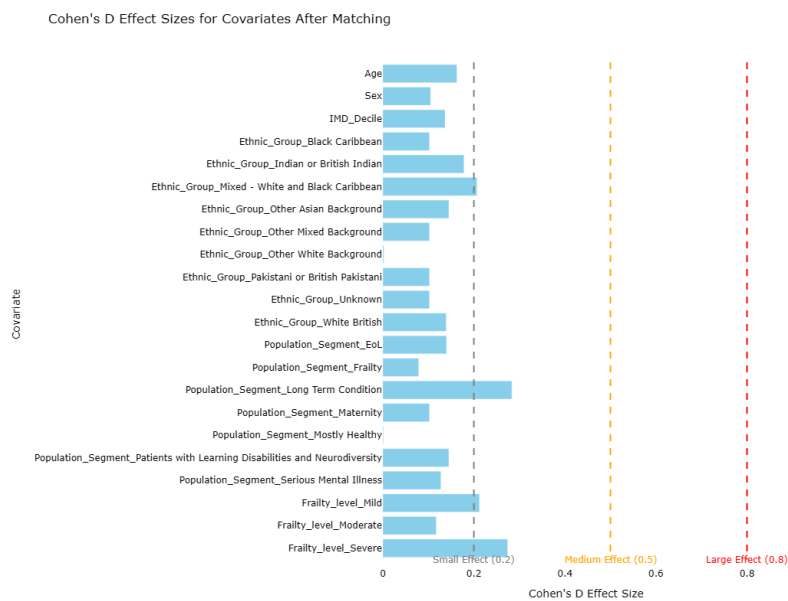


Figure 1. Balance of the covariates used in the matching process

The chart indicates that most covariates fall below the 0.20 threshold, suggesting a good balance between the treatment and control groups. In addition, a low effect size indicates that the matching process has successfully minimised differences, enhancing the reliability of comparisons.

We then generated a smaller subgroup of the matched comparison cohort, including only those cases who had had a visit to A&E or an unplanned (non-elective) hospital stay in the three months prior to baseline. The rationale was that these two variables may be indicators of 'deterioration', therefore generating a comparison set that may be a closer match to the Enhance cohort.

Having completed the matching, we used SPSS to carry out analysis in two phases. First, we carried out descriptive data analysis to find out proportions of Enhance service users in relation to a number of variables (demographics, delivery partners, frailty indicators, long term conditions, IMD, PCN). Second, we carried out comparisons of means with Independent Samples T-tests to estimate the amount by which the intervention has changed the outcome on average and whether there is a statistically significant difference between the Enhance and the matched comparison groups. We also generated effect size to assess effectiveness of the Enhance intervention.

Financial cost and financial proxy data

- i) We have used data on the Enhance budget to calculate the total investment for year 3.
- ii) We have used LCH staff reports on time and appointments saved by Enhance for themselves, and apply a range of cost-benefits to these time savings based on salary bands.
- iii) We have used the PSSRU Unit Costs of Health and Social Care to calculate the cost/value of time spent by LCH and primary care staff, and the cost/value of hospital appointments and admissions, A&E visits, urgent and emergency calls, and ambulance callouts potentially saved by Enhance.
- iv) We used increase growth rates calculated from number of LCH referrals over time to predict participants for the next six months of Year 3 and Year 4, projections based on target growth rate. Based on the time savings registered for LCH staff from categories ranging from Band 3 to Band 8a, we modelled two scenarios to calculate predicted potential savings for full Year 3 and Year 4.
- v) We used findings from a podiatry pilot study to analyse benefits of referring patients to Enhance for support with attending podiatry clinics instead of home visits they were receiving.
- vi) We used costs for a set of scenarios that Enhance support is designed to prevent, and that were considered by the LCH programme team as reasonable/ likely based on knowledge of case studies and the patient stories.

Analysis

Data were transferred to SPSS statistical software and cleaned and coded for analysis.

The analysis:

1. Presents descriptive statistics of frequency, means and SD for variables listed under 'data collection' for the ICB dataset with the matched population cohort.
2. Carry out inferential statistical tests to determine whether there is a change in wider health system time used between Enhance and the matched comparison groups in T0 and T1.

3. Calculate the financial value of the time spent by LCH and wider system staff, to determine:
 - a. Is there a cost saving for LCH in terms of staff resources within the Enhance group after referral, in Year 3 to date?
 - b. Is there a cost saving for the wider health system in terms of staff resources within the Enhance group in Year 3 to date?
4. Compare the total financial value from (3) above to the cost of the investment to determine ROI of Enhance for LCH and the wider health system.

Results

1. Descriptive statistics

This section presents descriptive statistics from the LCH SystmOne dataset on Enhance Year 3 (YTD), covering 7 months from April to October 2024.

SBU services started referring to Enhance in May 2024, and there has been significant further growth in LCH referrals in year 3 to date: 622 referrals have been recorded on SystmOne (S1) in the first 7 months of year 3, compared with 618 for the whole of year 2, which if extrapolated, equates to 1,066 referrals. We anticipate a continued 5% increase in referrals for the remainder of year 3 which would result in 1,423 referrals in year 3 from increased referrals from Recovery Hubs, some NTs and 3 additional self-management Health Hubs - an 129% increase from year 2.

There have been a total of 679 referrals to Enhance in the year to date (7 months from 1st April to 31st October 2024). Of these 679 referrals, 636 have been accepted into Enhance. Data returned directly from delivery partners indicate that the majority (614) are new to Enhance, while 22 are returning.

The total number of Enhance participants since the programme began is 2,130.

According to Enhance cohort data recorded on SystmOne, 49% of Enhance participants are male, 45% are aged 80 years or more, 12.6% (of those with data) are from diverse communities and 40% from the most deprived deciles (IMD 1 and 2).

Demographic characteristics	New entrants (DP data)	LCH Enhance referrals(S1 data)	Whole LCH cohort(S1 data)
Male	45%	49%	43%
Aged 80+	49%	45%	51%
Diverse community	7%	12.60%	10.90%
IMD1 ad IMD2		40%	33%

Table 1: Year 3 participants in each demographic category (percent)

Table 2 indicates that in total, 636 participants were accepted into Enhance Year 3, and 19 declined.

	Appropriate	Inappropriate	Total Referral Reported (DP reported)
LCH	646	21	667
Non-LCH	9	3	12
Total Referrals (DP reported)	655	24	679
Accepted into Enhance			636
Declined Enhance			19

Table 2: Suitability of new participants to Enhance Year 3 (counts)

Figure 2 analyses the trends of referrals admissions to Enhance Program according to DP data and S1 data. The first semester of Year 3 in progress has already registered 622 referrals.

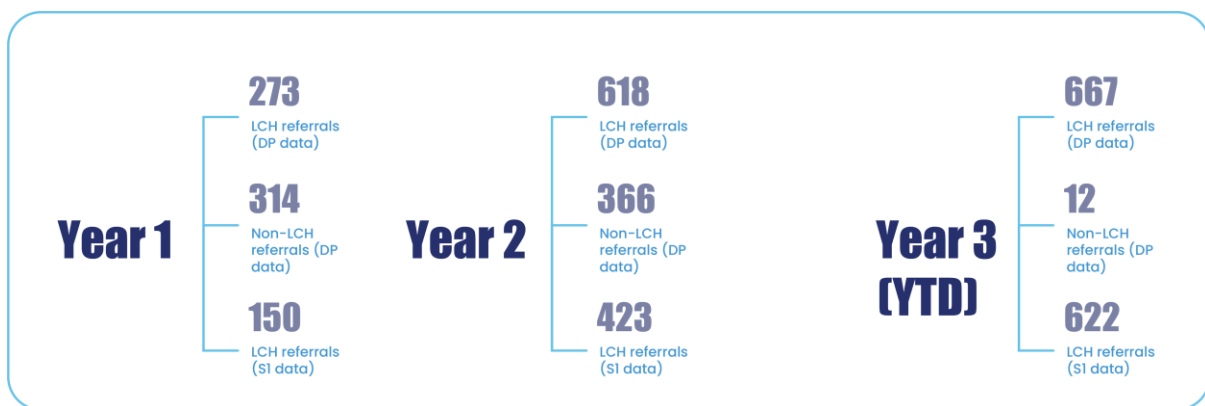


Figure 2: LCH referral per year, comparing S1 and DP data (Counts)

Figure 3 shows the increase in number of LCH referrals on monthly basis over years 1 and 2. The figure shows the increase in number of referrals across all the months, indicating that Year 3 is expected to register greatest increase growth rate month by month considering the trends registered since the program started.

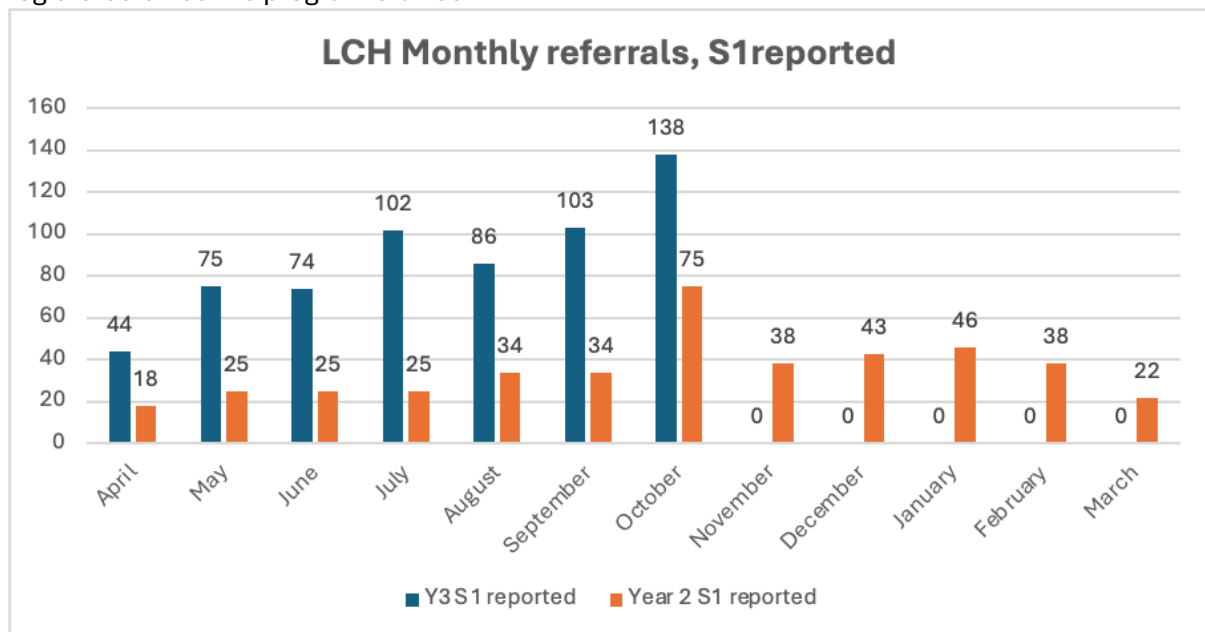


Figure 3: Year by year comparison of S1 referrals over years 1 and 2 (counts)

DPs	Target (month)	April	May	June	July	August	September	October
AHH	16	7	9	7	16	12	13	7
AUK	6	3	10	10	14	10	15	8
AVS/OTL	4	0	4	10	20	8	6	9
BCF	6	3	5	7	3	3	0	4
CGD	6	2	6	6	3	3	0	2
FGF	4	0	3	0	3	3	1	2
HFA	20	18	15	30	27	26	37	33
LIH	10	5	7	6	17	15	10	14
MAE	2	0	5	4	10	4	4	8
NET	5	7	7	10	8	2	5	3
OPA	6	6	7	5	16	5	5	9
SEA	4	2	6	5	3	2	1	1
Total	89	53	84	100	140	93	97	

Table 3: Monthly progress towards Year3 referral target per DP (counts)

Figure 4 Indicates that Recovery Hub has already registered 24 referrals among Y3-subteam referral source.

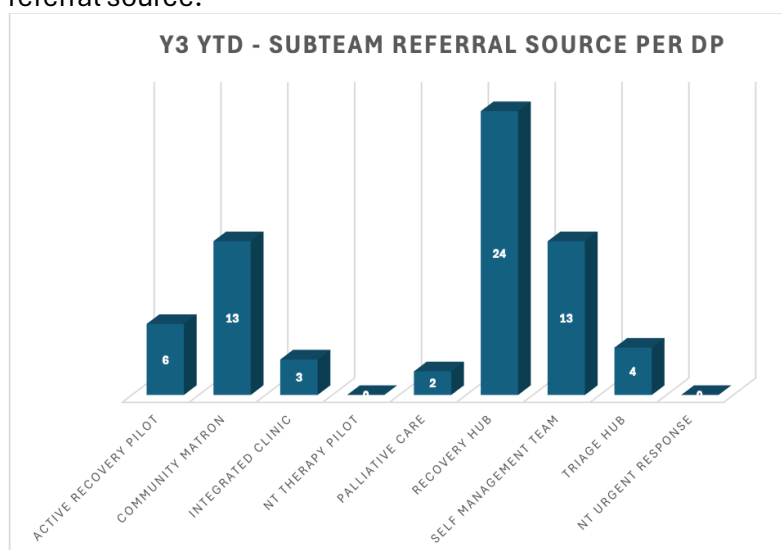


Figure 4: Y3-YTD Subteam referral source (counts)

Table 4 shows the increase of benefits in year equivalent amount awarded to LCH participants. Year 3 has so far registered 67 successful benefits claims, with attendance allowances being constantly awarded on monthly basis compared to other types of benefits as indicated in Table 4A.

Y2 - Total amount awarded in benefits (yearly equivalent amount)	£311,010
Y3 - Successful benefit claims (YTD)	67
Y3 - Total amount awarded in benefits (yearly equivalent) (YTD)	£324,111
Y2 + Y3 - Total amount awarded in benefits (yearly equivalent amount)	£635,121

Table 4: Benefit claims for years 2 and 3

Benefit monthly												
Benefit	April and May		June		July		August		September		October	
	Number of claims	Yearly equivalent amount £	Number of claims	Yearly equivalent amount £	Number of claims	Yearly equivalent amount £	Number of claims	Yearly equivalent amount £	Number of claims	Yearly equivalent amount £	Number of claims	Yearly equivalent amount £
Attendance Allowance	9	36,792.00	7	56,397	7	35,959	6	32,957	6	31,721.60	15	67,919
Bereavement Support Payment												
Child benefit												
Council Tax Support											3	1500
Employment and Support Allowance									1	4,706		
Housing Benefit												
Income Support												
Pension Credit					1	3,692					1	1040
Personal Independence Payment					2	4,898	3	22,739.00			1	5644
Reduced Earnings Allowance												
State pension												
Universal Credit	1	4,416										
Other	1	3,484	1	3,484							2	6762
Totals per month	11	£44,692.00	8	£59,881.00	10	£44,549.00	9	£55,696.00	7	£36,427.60	22	£82,865.00

Table 4A: Monthly amount claimed and awarded in welfare benefits

2. Inferential statistics

Table 5 presents the comparative analysis of the health service use of the matched cohorts and Enhance Cohort over time. These groups were analysed for the following service use variables: Patient Transport Service (PTS), Urgent care calls to NHS 111 (UC111), Emergency calls to 999 (UC999), A&E attendances, Outpatient visits, elective spells in hospital (ES), non-elective spells in hospital (NES), community care (CN).

Before (three months before referral to Enhance/ end of December 2023) and *After* (three months after referral to Enhance/ end of December 2023) count values for each variable are averaged and presented as Mean (SD) for the three groups: Enhance; the overall matched cohort comparison group; and the matched cohort subgroup. We also calculated the average (*Difference*) of the change over time (*Before* vs *After*) for each health service use variable in each group. Statistically significant differences ($p < 0.05$) between Enhance and comparison groups are denoted by an asterisk (*).

Event	Enhance	Matched cohort	Matched cohort subgroup
UC111	N=214	N=89,582	N=7,481
<i>Before</i>	0.43 (0.87)	1.40 (2.86)*	1.42 (1.05)*
<i>After</i>	0.34 (0.81)	1.45 (4.18)*	1.59 (7.59)*
<i>Difference</i>	0.09 (1.05)	-0.05	-0.17 (7.63)*
UC999	N=214	N=89,574	N=7,481
<i>Before</i>	0.91 (1.88)	1.63 (2.73)*	1.65 (2.00)*
<i>After</i>	0.85 (1.81)	1.63 (4.99)*	1.60 (1.73)*
<i>Difference</i>	0.06 (1.95)	0	0.04 (0.29)
A&E	N=214	N=86,758	N=7,483
<i>Before</i>	0.66 (1.16)	0.07 (0.31)*	0.76 (0.75)
<i>After</i>	0.52 (1.04)	0.07 (0.31)*	0.16 (0.53)*
<i>Difference</i>	0.14 (1.25)	0	0.60 (0.82)*
Outpatient	N=214	N=86,758	N=7,483
<i>Before</i>	1.84 (2.26)	0.52 (1.25)*	0.97 (1.89)*
<i>After</i>	1.90 (2.47)	0.54 (1.31)*	0.85 (1.78)*
<i>Difference</i>	-0.06 (2.65)	-0.02	0.12 (1.90)
NES	N=214	N=89,584	N=7,483
<i>Before</i>	0.49 (0.86)	0.06 (0.31)*	0.76 (0.78)*
<i>After</i>	0.36 (0.76)	0.06 (0.30)*	0.14 (0.47)*
<i>Difference</i>	0.13 (1.02)	0	0.61 (0.86)*
ES	N=214	N=89,584	N=7,483
<i>Before</i>	0.20 (1.08)	0.11 (0.43)*	0.14 (0.55)
<i>After</i>	0.11 (0.52)	0.11 (0.45)	0.13 (0.66)
<i>Difference</i>	0.09 (0.77)	0	0.005 (0.72)
CN	N=214	N=89,584	N=7,481
<i>Before</i>	24.59 (40.45)	6.12 (16.29)*	7.64 (17.69)*
<i>After</i>	23.06 (40.53)	6.26 (16.85)*	8.03 (19.78)*
<i>Difference</i>	1.53 (42.5)	-0.14	-0.39 (17.9)
PTS	N=214	N=89,580	N=7482
<i>Before</i>	1.14 (5.64)	6.16 (13.98)*	5.94 (13.69)*
<i>After</i>	1.24 (5.71)	6.10 (13.55)*	5.90 (13.28)*
<i>Difference</i>	-0.10 (2.43)	0.06	0.04 (12.62)

Table 5: Comparative analysis of the health service use of the matched cohorts and Enhance Cohort

Urgent care 111: The number of calls made by people in the Enhance group to 111 reduced after referral to Enhance by an average of 0.09 calls per person, while the number of 111 calls made in the matched comparison subgroup increased by an average of 0.17 calls per person. This difference between groups was statistically significant, in favour of the Enhance group.

Urgent care 999: The number of calls made by people in the Enhance group to 999 reduced after referral to Enhance by an average of 0.06 calls per person, while the number of 999 calls made in the matched comparison subgroup also reduced by an average of 0.04 calls per person. The difference between groups was not statistically significant.

A&E visits: The number of visits made by people in the Enhance group to A&E reduced after referral to Enhance by an average of 0.14 per person, while the number of A&E visits made in the matched comparison subgroup also reduced by an average of 0.60 per person. This difference between groups was statistically significant, in favour of the matched comparison subgroup. However, it must be noted that the matched comparison subgroup were selected on the basis of having had an unplanned trip to hospital in the three months before the reference date, so this reduction is likely to be a statistical phenomenon known as regression to the mean. If we look instead at the overall matched comparison group, we see that the number of A&E visits remained steady at an average of 0.07 visits per person, which suggests that support from Enhance has probably reduced the number of A&E visits for that group (from an average of 0.66 per person to 0.52 per person).

Outpatient visits: The number of visits made by people in the Enhance group to outpatients increased slightly after referral to Enhance by an average of 0.06 visits per person, while the number of outpatient visits made in the matched comparison subgroup decreased by an average of 0.12 per person. Although this difference between groups was not statistically significant, it may hint that Enhance clients are accessing care proactively rather than reactively, which may lead to longer term health benefits, and reduced burden on the health system.

Non-elective hospital stays: The number of unplanned hospital stays experienced by people in the Enhance group reduced after referral to Enhance by an average of 0.13 per person, while the number of unplanned hospital stays in the matched comparison subgroup also reduced, by an average of 0.61 per person. This difference between groups was statistically significant, in favour of the matched comparison subgroup. However, as for the A&E outcome, it must be noted that the matched comparison subgroup were selected on the basis of having had an unplanned trip to hospital in the three months before the reference date, so this reduction is likely to reflect regression to the mean. If we look instead at the overall matched comparison group, we see that the number of unplanned hospital stays remained steady at an average of 0.06 visits per person, which suggests that support from Enhance has probably reduced the number of unplanned hospital stays for that group (from an average of 0.49 per person to 0.36 per person).

Elective hospital stays: The number of planned hospital stays experienced by people in the Enhance group reduced after referral to Enhance by an average of 0.09 per person, while the number of planned hospital stays in the matched comparison subgroup also reduced by an average of 0.005 per person. The difference between groups was not statistically significant.

Community care: The Enhance group had a much higher number of contacts with community healthcare, both before and after referral, than either of the matched comparison groups. The number of community care contacts of people in the Enhance group reduced after referral to Enhance by an average of 1.53 per person, while the number of community care contacts in the matched comparison subgroup increased by an average of 0.39 per person. The difference

between groups was not statistically significant however, due to a large amount of variation (a high SD) across both groups.

Patient transport service: The number of patient transport service contacts of people in the Enhance group increased slightly after referral to Enhance by an average of 0.10 per person, while the number of community care contacts in the matched comparison subgroup reduced by an average of 0.04 per person. The difference between groups was not statistically significant.

Summary of findings for matched comparison analysis:

- There was a statistically significant reduction in calls to 111 in the Enhance group, compared to the matched comparison subgroup, following referral to Enhance.
- Relative reductions in service use in the Enhance group compared to the matched comparison subgroup, although not statistically significant, were also seen for 999 calls, elective hospital stays and contacts with community healthcare.
- The data suggest that referral to Enhance is associated with a reduction in visits to A&E and unplanned hospital stays, in the three months after referral compared to the three months before referral.
- The data suggest that the number of outpatient visits and use of the patient transport service increased slightly in the Enhance group following referral, compared to the matched comparison subgroup, which may indicate that Enhance clients are supported to access appropriate healthcare appointments.
- Although few of the differences in mean difference across groups are statistically significant, we (and the WYICB data controllers) consider that this is more likely to be due to issues with the data - particularly the differences in the size of groups, and lack of baseline equivalence between groups – rather than indicating that there is no real difference between groups. This is because the mean values indicate a consistent direction of effect for most health service use outcomes – that Enhance participants reduce their service use, while the matched comparison groups' service use either stays the same or increases.
- Non-clinical activity was not available for the matched comparison analysis, but in the Enhance Discharge Feedback Survey, it was recorded that Enhance saved as much, if not more, non clinical time as clinical time.

3. Financial and cost benefit analysis

The total cost of funding Enhance in year 3 was given as £1M. £805,000 was then invested in the 14 third sector delivery partners in total broken down as reported in table 6.

Delivery Partner	Year 3 investment
Health For All	£140,000
Armley Helping Hands	£130,000
Leeds Irish Health & Homes	£90,000
Age UK Leeds	£78,000
OPAL	£55,000
Burmantofts Community Friends	£50,000
Crossgates & District Good Neighbours Scheme	£50,000
NET Garforth	£50,000
Feel Good Factor	£42,000
MAECare	£40,000
Seacroft Friends & Neighbours	£40,000
AVSED/Otley	£40,000
Total	£805,000

Table 6: The total cost of funding Enhance in year 3

The remainder of the £1M was paid to Leeds Older People's Forum for programme management with £37k paid back to LCH for their own project manager costs.

Costs for LCH staff were supplied by LCH as reported in Table 7.

Band	Mid-point	Top of scale
3	£15.39	£15.39
4	£16.18	£17.81
5	£19.54	£22.14
6	£24.34	£27.87
7	£29.66	£32.33
8a	£36.37	£37.14

Table 7: Cost time for LCH staff (costed based on the mid-point of clinician's hourly rates)

Costs for the wider health system outcomes were taken from the annual PSSRU unit costs manual – the latest version being from 2023 <https://www.pssru.ac.uk/unitcostsreport/> - and from the King’s Fund³ key facts and figure 2024. These are reported in Table 8.

Event	Unit cost
Attending urgent care with low level of investigation & treatment	£91 per visit
Attending major A&E dept with complex investigation and treatment	£137 to £445 per visit
Patient taken to A&E by ambulance	£417 per trip
Ambulance call outs without A&E trip	£287 per callout
Community nurse visit of 15 mins (band 5)	£15
Outpatient attendance	£217 per episode
Non-elective inpatient stays (short stays)	£857 per episode
Non-elective inpatient stays (long stays)	£4719 per episode
Elective inpatient stays	£6256 per episode
Day cases	£1111 per episode
Cost of patient transport ⁴	£38 per journey
Cost of urgent care 111 call ⁵	£147

Table 8: Cost for wider health system

Cost benefits to LCH staff

According to findings from the Enhance Discharge Feedback Survey (October 2024 – data up to 04/11/2024), Enhance in Year 3 has had a direct impact to health outcomes and value for money. Findings indicate that Enhance constitutes benefits for participants in terms of supporting them with social needs and improving their health and wellbeing. In addition, LCH staff indicated that Enhance had saved them time and enabled some appointments to be managed by staff at a lower band, making further savings.

³ <https://www.kingsfund.org.uk/insight-and-analysis/data-and-charts/key-facts-figures-nhs#:~:text=For%20someone%20who%20attends%20an,%C2%A3137%20to%20%C2%A3445.>

⁴ <https://www.england.nhs.uk/wp-content/uploads/2021/08/B0682-fnal-report-of-the-non-emergency-patient-transport-review.pdf>

⁵ <https://www.ncbi.nlm.nih.gov/books/NBK575169/>

Summary of time savings and reduction of visits/appointments by the service team

Survey results suggest that Enhance saved time for LCH teams and services. Feedback from 33 LCH staff who had referred their patients to Enhance in the first part of Year 3 found:

- 27 (82%) said Enhance had saved time for their team / service
- 25 (76%) said between 46 – 98 visits were saved – an average of 1.8 – 3.9 visits per person (at 15-60 minutes per visit)
- 20 (60%) said Enhance enabled shorter visits / appointments
- 25 (76%) said between approximately 36 – 59+ hours of non-clinical time saved – an average of approximately 1.4 – 2.4+ hours per person⁶
- 9 (27%) said that Enhance enabled fewer and / or lower band staff to support the person clinically
- 17 (51%) said earlier discharge was enabled, saving between 53 – 62+ days on the caseload – an average of 3.1 – 3.6+ days per person
- 4 (12%) said Enhance reduced the person's DNA's / cancellations
- 9 (27%) said Enhance had a positive impact on waiting list / waiting times
- 8 (24%) said a referral to the Neighbourhood Team or other LCH service was prevented
- 8 (24%) said Enhance enabled access to an LCH clinic or health hub

LCH data indicate significant growth in LCH referrals from year 2 to year 3 to date (end of October 2024): 622 referrals have been recorded on SystemOne (S1) in the first 7 months of year 3, compared with 618 for the whole of year 2, which if extrapolated, equates to 1,066 referrals. We anticipate a continued 5% increase in referrals for the remainder of year 3 which would result in 1,423 referrals in year 3 from increased referrals from Recovery Hubs, some NTs and 3 additional self-management Health Hubs - an 129% increase from year 2. Similarly, Year 4 predicted referrals are expected to show 25% growth, projecting 1779 referrals in total in Years 4 and 5.

Based on the time savings registered for LCH and considering that the Enhance Discharge Feedback Survey forms were completed by LCH staff ranging from Band 3 to Band 8a as indicated in Table 8, an average cost per hour was modelled across all bands (£23.58), two scenarios based on most and least time saved were modelled to come up with predicted potential savings for Years 3-5 as indicated in Table 9.

⁶ Non-clinical time saved and time saved by earlier discharge are likely to be underestimates as the survey response options recorded all spells of 5 days or more as 5+ which has been rounded down to 5 days in the analysis.

Lowest time saved scenario						
	Clinical visit saved per person	Clinical time saved per visit	Non clinical time saved per person	Total predicted LCH referrals	Number affected (76%)	Total amount predicted to be saved
Year 3	1.8	15min	1.4 hours	1423	1081	£47,157
Years 4 & 5 Projected	1.8	15 min	1.4 hours	1779	1352	£58,692
Highest time saved scenario						
Year 3	3.9	60 min	2.4 hours	1423	1081	£160,587
Years 4 & 5 Projected	3.9	60 min	2.4 hours	1779	1352	£200,845

Table 9: Value of time savings in clinical visits and non-clinical time to LCH staff

The Enhance discharge feedback survey also indicated further savings to LCH:

- 20 (60%) said Enhance enabled shorter visits / appointments – a conservative assumption is that 30 minutes are saved per visit – assuming only one visit per person @£23.58 per hour x 854 (60% of 1423) = **£10,069**
- 17 (51%) said earlier discharge was enabled, saving between 53 – 62+ days on the caseload – an average of 3.1 – 3.6+ days per person. A conservative estimate is that this might save an average of one 30 minute visit per person for 726 people (51% of 1423) @£23.58 per hour = **£8,560**
- 8 (24%) said a referral to the Neighbourhood Team or other LCH service was prevented – a conservative assumption would be to assume each referral avoided saves a minimum of 2 visits (90 minutes) per person @ £23.58 per hour for 342 people (24% of 1423) = **£8,053**

Podiatry Enhance pilot study

A pilot study was conducted to assess benefits for podiatry to refer patients to Enhance for support with accessing podiatry services at clinics instead of home visits they were receiving. Among ten referrals to Enhance, eight were supported. Some were supported to attend podiatry clinic short term (3) and long-term (3) and 1 has been discharged from podiatry caseload. Therefore, 4 out of 8 patients will no longer receive podiatry home visit which will save time of staff and associated costs.

Attending podiatry clinics rather than home visit had two benefits. First, each visit to clinic under Enhance support saved 15-30 minutes of band 6 staff time for eight patients in six months. A simple calculation gives 16 patients in 12 months and a total of 4-8 hours which would save £24.34 per hour and **£194.72** per year for only 16 patients. It is difficult to predict how many podiatry patients could benefit from Enhance if it were rolled out – but as this pilot study included two clinics and there are 18 across Leeds, a conservative estimate of the value of time saved would be £194.72 x 9 = **£1752**

Second, Enhance podiatry reduced musculoskeletal risks for staff as podiatry home visits are not usually safe settings for staff. Third, Enhance allows DPs to prevent the service making referrals to multiple other agencies.

Overall, Enhance Podiatry pilot has shown that Enhance is of benefits in terms of supporting some participants to attend clinics, either in the short or long term, reducing time spent on non clinical needs as well as supporting their social needs and improving their health and wellbeing. However, since Enhance is commissioned to provide 12 weeks of support, it is difficult for DPs to continue to transport participants to clinic on a long-term basis for participants who are not able to manage the transport independently. Nevertheless, there are some cost benefits through clinical and non-clinical time savings.

Total cost savings based on time saved by LCH staff

Feedback from Enhance has indicated that the 'highest scenario' from Table 8 is more realistic than the lowest, and for the Podiatry roll out, so this brings the total indicative savings to LCH in this section to £160,587 + £10,069 + £8,560 + £8,053 + £195 = **£187,464**.

Other savings to LCH

There would be additional savings, probably larger in scale than the Podiatry savings, for Enhance support to access self management hubs, but we do not have data for these.

It is also likely that Enhance support would prevent the following scenarios over the course of one year:

- 1 foot amputation
 - Cost to NHS: Elective inpatient stay = **£6,256**
 - Cost to LCH: **£238.22**
 - *3 visits per week @30 mins length of visits*
 - *1 x 30 min visits Band 5 and 2 x 30 min visit Band 3 per week.*
 - *6 weeks total duration*

- 4 hospital admissions for uncontrolled diabetes
 - Cost to NHS: Attending major A&E dept by ambulance (£417) x4 with complex investigation and treatment: £137-£445 per visit x4; non-elective inpatient short stay @ £857 x2; non-elective inpatient long stay @ £4719 x 2 = **£13,984**
 - Cost to LCH: **£3766** (3 people for 4 weeks plus 1 person for a full year)
 - *7 visits per week (daily to support insulin administration @15 mins length of visits*
 - *1 x 15 min visits Band 5 and 6 x 15 min visit B3 per week.*
 - *4 weeks total duration (or potential whole lifetime if they can't manage their own insulin.)*

- 2 hospital admissions for chest infection
 - Cost to NHS: Attending major A&E department with complex investigation and treatment (£445), non-elective inpatient long stay (£4719) = £5164 x 2 = **£10,328**
 - Cost to LCH: **£363.70**
 - *4 visits per week via Home ward @60 mins length of visits*
 - *4 x 60 min visits Band 8a (community Matron)*
 - *4 visit total duration*

- 2 hospital admissions for severe respiratory disease exacerbation
 - Cost to NHS: Attending major A&E dept by ambulance (£417), with complex investigation and treatment (£445), non-elective inpatient long stay (£4719) = £5,581 x 2 = **£11,162**
 - Cost to LCH: **£363.70**
 - *4 visits per week via Home ward @60 mins length of visits*
 - *4 x 60 min visits Band 8a (community Matron)*
 - *4 visit total duration*

- 2 severe leg ulcers
 - Total cost (NHS & LCH) £6425 per person x2 = £12,850⁷
 - Cost to LCH: **£1,830.76**
 - *7 visits per week @60 mins length of visits*
 - *2 x 60 min visits Band 5 staff nurse and 5x 60 mins Band 3*
 - *6 weeks of visit total duration*
 - Cost to NHS = £12,850 - £1,830.76 = **£11,019.24**

- 1 broken hip as a result of a fall
 - Cost to NHS: Attending major A&E dept by ambulance (£417), with complex investigation and treatment (£137-£445), non-elective inpatient long stay (£4,719) = **£5,427**
 - Cost to LCH: **£377.85**
 - *2 visits per week @60 mins length of visits*
 - *2 x 60 min visits Band 6 physio*
 - *6 weeks total duration*

- 1 broken wrist as a result of a fall
 - Cost to NHS: Attending urgent care = **£91**
 - Cost to LCH: **£146.74**
 - *1 visits per week @60 mins length of visits*
 - *1 x 60 min visits Band 6 first week then Band 4 for the rest of the weeks 1x 60 mins*
 - *6 weeks total duration*

- 15 A & E attendance
 - Attending major A&E dept by ambulance (£417), with complex investigation and treatment (£137-£445) = **£10,620**

The total cost saved to the NHS if Enhance prevents all of these incidents would be **£68,887** plus savings to LCH in terms of follow up care of approximately **£7,087**.

N.B. These are conservative estimates, and do not include salary oncosts or the costs of equipment and dressing in the community, so the savings would likely be higher.

⁷ Based on cost in this paper <https://bmjopen.bmj.com/content/12/1/e056790> with BoE inflation calculator

Savings to the NHS

Potential savings to the NHS have been calculated based on the predicted total Enhance referrals for year 3 (n=1423), multiplied by:

(i) the difference in means before and after in the Enhance cohort, where this is a reduction in service use.

(ii) the difference in mean differences between the Enhance and the matched cohort subgroup, where this indicates a relative reduction in service use for the Enhance groups.

Activity	Enhance	Matched cohort	Matched cohort subgroup	Potential savings for Enhance
UC111	N=214	N=89,582	N=7481	(i) 128.07 x £147 = £18,826 (ii) 369.98 x £147 = £54,387
<i>Before</i>	0.43 (0.87)	1.40 (2.86)*	1.42 (1.05)*	
<i>After</i>	0.34 (0.81)	1.45 (4.18)*	1.59 (7.59)*	
<i>Difference</i>	0.09 (1.05)	-0.05	-0.17 (7.63)*	
UC999	N=214	N=89,574	N=7481	(i) 85.38 x £287 = £24,504 (ii) 28.46 x £287 = £8,168
<i>Before</i>	0.91 (1.88)	1.63 (2.73)*	1.65 (2.00)*	
<i>After</i>	0.85 (1.81)	1.63 (4.99)*	1.60 (1.73)*	
<i>Difference</i>	0.06 (1.95)	0	0.04 (0.29)	
A&E	N=214	N=86,758	N=7483	(i) 199.22 x £445 = £88,653 (ii) n/a
<i>Before</i>	0.66 (1.16)	0.07 (0.31)*	0.76 (0.75)	
<i>After</i>	0.52 (1.04)	0.07 (0.31)*	0.16 (0.53)*	
<i>Difference</i>	0.14 (1.25)	0	0.60 (0.82)*	
Outpatients	N=214	N=86,758	N=7483	(i) n/a (ii) n/a
<i>Before</i>	1.84 (2.26)	0.52 (1.25)*	0.97 (1.89)*	
<i>After</i>	1.90 (2.47)	0.54 (1.31)*	0.85 (1.78)*	
<i>Difference</i>	-0.06 (2.65)	-0.02	0.12 (1.90)	
NES	N=214	N=89,584	N=7483	(i) 184.99 x £857 = £158,536 (ii) n/a
<i>Before</i>	0.49 (0.86)	0.06 (0.31)*	0.76 (0.78)*	
<i>After</i>	0.36 (0.76)	0.06 (0.30)*	0.14 (0.47)*	
<i>Difference</i>	0.13 (1.02)	0	0.61 (0.86)*	
ES	N=214	N=89,584	N=7,483	(i) 128.07 x £6256 = £801,206 (ii) 120.96 x £6256 = £756,694
<i>Before</i>	0.20 (1.08)	0.11 (0.43)*	0.14 (0.55)	
<i>After</i>	0.11 (0.52)	0.11 (0.45)	0.13 (0.66)	
<i>Difference</i>	0.09 (0.77)	0	0.005 (0.72)	
CN	N=214	N=89,584	N=7,481	(i) 2177.19 x £15 = £32,658 (ii) 2732.16 x £15 = £40,982
<i>Before</i>	24.59 (40.45)	6.12 (16.29)*	7.64 (17.69)*	
<i>After</i>	23.06 (40.53)	6.26 (16.85)*	8.03 (19.78)*	
<i>Difference</i>	1.53 (42.5)	-0.14	-0.39 (17.9)	
PTS	N=214	N=89,580	N=7,482	(i) n/a (ii) n/a
<i>Before</i>	1.14 (5.64)	6.16 (13.98)*	5.94 (13.69)*	
<i>After</i>	1.24 (5.71)	6.10 (13.55)*	5.90 (13.28)*	
<i>Difference</i>	-0.10 (2.43)	0.06	0.04 (12.62)	

Table 10: Difference in Mean Difference analysis between the Enhance and the matched cohort subgroup and associated potential savings

In Table 10, total potential savings to the wider NHS from Enhance support are indicated to be between:

- (a) £18,826 + £8,168 + £88,653 + £158,536 + £756,694 = **£1,030,877** (lowest) and
(b) £54,387 + £24,504 + £88,653 + £158,536 + £801,206 = **£1,127,376** (highest)

Return on investment

The total estimated cost savings in year 3 = AT LEAST

Savings to LCH

£187,464 LCH staff time saved (estimate from discharge feedback survey) plus 28% oncosts = £239,954
+ £7,087 cost to LCH of prevention scenarios (x2 for non-clinical time = £14,174)
+ £32,658 to £40,982 from WYICB data (from table 10, CN covariate)
= **£286,786 to £295,110**

Savings to wider NHS

+ £68,887 cost to NHS of prevention scenarios
+ £1,030,877 to £1,127,376 cost to NHS of service use prevented
= **£1,099,764 to £1,196,263**

TOTAL SAVINGS = £1,386,550 (ROI + 38.7%) to £1,491,283 (ROI +49.1%)

The above calculations show that Enhance is expected to give a positive return on investment of between 38.7% and 49.1%.

Value for money

The return on investment (ROI) is based on the money saved directly by saving clinical time and appointments to LCH and the wider NHS. Given that there are gaps in the data available and a range of assumptions have been made, this is calculated to be more than £1,386,550 and could be as much as, or even more than, £1,491,283. £1M was the investment for Year 3, so this return represents a ROI of between +38.7% and +49.1%. However, that is not the full story.

This is likely to be an underestimate, as data on non-clinical time saved for LCH staff was not all available for the analysis, and conservative estimates were used throughout.

However, in a cost benefit analysis, the ROI is not the only consideration to take into account, as this only tells us the direct financial savings associated with the investment. Other benefits, that are more difficult to place a financial value on, relate to improvements in the health, wellbeing and quality of life of people supported by the Enhance service. We have seen that these include participants being supported with social needs, being supported to claim welfare benefits that they are entitled to, and improving their health and wellbeing.

There are also other benefits reported by staff in the discharge surveys that we were not able to monetise, including reduced musculoskeletal risks for staff as podiatry home visits are not usually safe settings for staff, prevention of referrals to multiple other agencies, reducing waiting times (and associated deterioration of health whilst waiting leading to greater treatment and care costs), reducing DNAs and cancellations.

While it is not possible to place a direct financial value on health and wellbeing benefits, the National Institute of Health and Care Excellence (NICE) considers an appropriate funding threshold to be £20,000 per quality-adjusted life-year (QALY)⁸. A QALY is a year of life lived in perfect health⁹. That is, if an intervention has an impact of supporting one person to have a year of perfect health or quality of life, that is worth £20,000. For Enhance participants, a more realistic estimate of their best achievable quality of life might be 0.5 of perfect health (on a scale of 0 to 1), representing £10,000. With more than 1000 referrals per year, even if only 5% of Enhance clients benefited in terms of improved health or quality of life for one year, this would represent additional value of £500,000 to NICE. It is also likely to be reflected in longer term savings to the NHS and LCH as people will stay healthier for longer and need less care.

Therefore, Enhance, even at the most conservative estimate of cost vs benefit, represents a good return on investment and good value for money.

Caveats/ limitations/ assumptions

- In the comparative study, the benefits observed are over a three month follow-up period, but it is likely that the benefits from being supported by Enhance would persist for longer than three months, so the financial impact to the NHS is likely underestimated. We had planned to also analyse health service use data at 6 months post-referral but it was not possible to retrieve data beyond 3 months from the WYICB dataset, due to the short time between Enhance referral and data download.
- A significant proportion of clinicians' non-clinical time e.g. liaising with and making referrals to other agencies and benefit applications, will not be recorded in SystemOne in a way that the data could be shared for this analysis, so the time saved by LCH staff and potential cost savings in the comparative study is also likely an underestimate.
- Neighbourhood team (NT) clinicians often delegate non-clinical support to NT Coordinators who provide administrative support to the Neighbourhood Teams. So by referring to Enhance it will often / quite often be a time saving for Neighbourhood Team Coordinators (NTCs), however, NTCs don't consistently record that activity on SystemOne in a way that data can be reported, so associated time savings for the NTCs are not reflected in either the LCH or the LDM datasets.
- The time and cost saved for LCH staff is also likely underestimated because the response options in the discharge feedback survey were limited – the top option being 5+ days saved – any time this box was ticked it was recorded as 5 days, but it could have been more.
- In the comparative study, the Enhance cohort is matched with a population cohort using covariates most similar to the Enhance cohort – however, one covariate that could not be matched was the trigger for the Enhance referral. We initially thought this would be hospital discharge, but only 60% of the Enhance cohort had a hospital discharge date close to their referral date. 'Deterioration' is anecdotally a trigger but we could not identify an appropriate proxy measure for this in the matched cohort. Therefore, the cohorts are not an exact match

⁸ <https://remapconsulting.com/funding/how-does-nice-make-cost-effectiveness-decisions-on-medicines-and-what-are-modifiers/>

⁹ <https://www.nice.org.uk/Glossary?letter=Q>

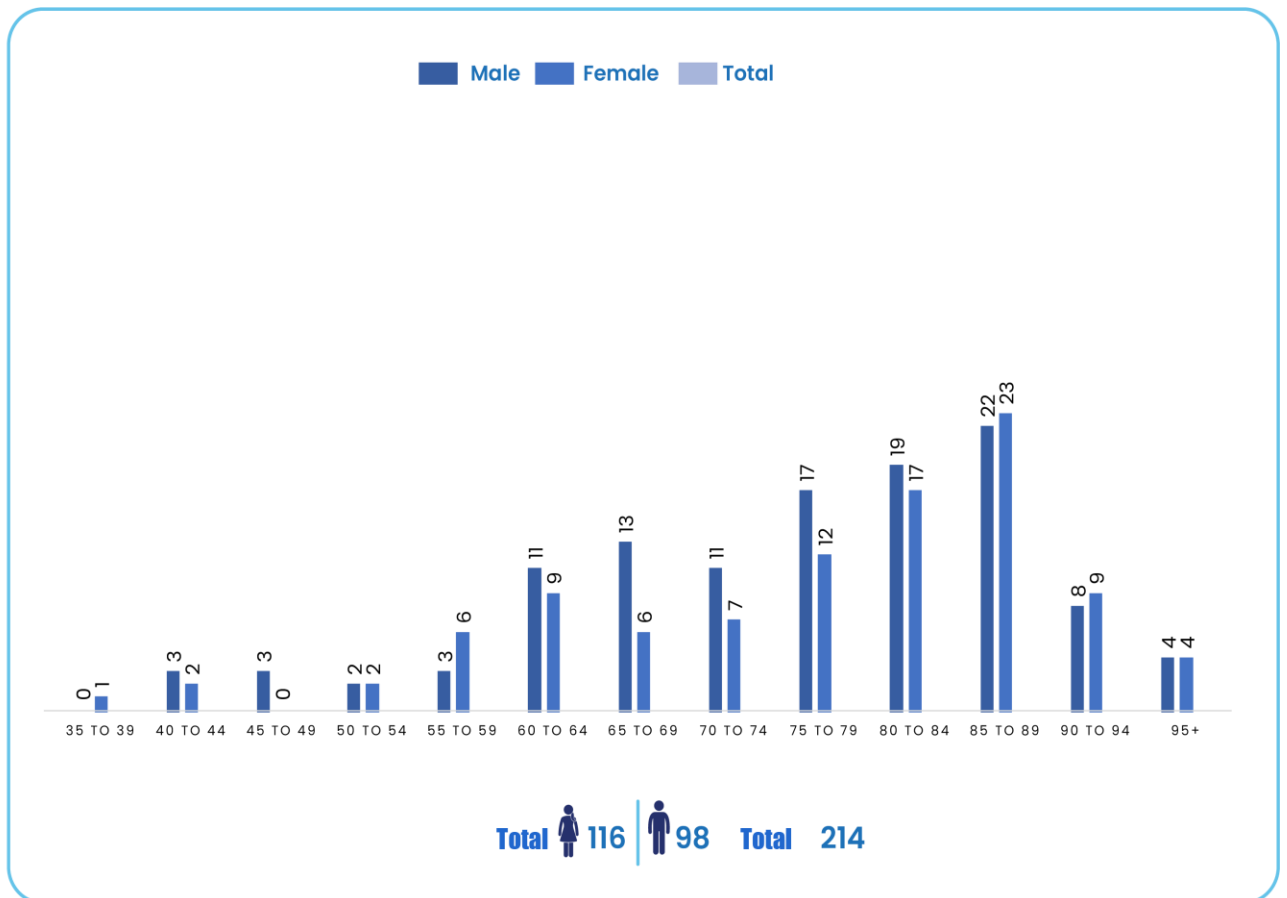
despite scoring highly in the propensity score matching. We have however generated a subgroup of the matched cohort using only those cases with either an A&E visit or an unplanned hospital stay in the three months prior, to try to include some potential indicators of deterioration and get a closer match. However, this is still not a perfect match, as can be seen in the mean scores presented in Table 6, and it overstates the impact on A&E and non-elective stays in this comparison group, due to regression to the mean. The only rigorous way to overcome this limitation would be to undertake a randomised controlled trial, meaning that participants would be matched for both known and unknown characteristics.

- In the comparative study, the financial value of time saved by Enhance for LCH activity using the CN covariate is likely to be an underestimate, as what is recorded in the dataset is the number of visits. We have applied a 'standard' visit length of 15 minutes at band 5, using the PSSRU unit cost resource. In practice, visits may last up to an hour and may be undertaken by bands 5-8.
- Salary oncosts were not included in the initial estimates for LCH staff time saved. From the PSSRU unit costs resource, salary oncost (employer NI plus superannuation) is around 28% of salary, so this has been added in.
- Potential savings on GP appointment times and callouts were not included in this analysis as they were not available in either the ICB or the LCH SystemOne datasets.
- There is potentially some double counting of savings to LCH staff time within the CN variable in the matched comparison study. However this is likely to be minor, and would make very little difference to the ROI totals.

Appendix: LDM demographic data for Enhance cohort (September - December 2023)

Age and Gender

Appendix Figure 1 shows that among all Enhance service users, women are more supported than men with 116 counts corresponding to 54.2% compared to 45.8%. Across both men and women, the highest proportion of service users are in the 85-89 age category.



Appendix Figure1: Enhance Service Users according to Age Category and Gender (counts)

Ethnicity

The appendix Table 1 indicates that Enhance service users are predominantly individuals from White British background, representing 80.8% of which 42.5% are women and 38.3% are men.

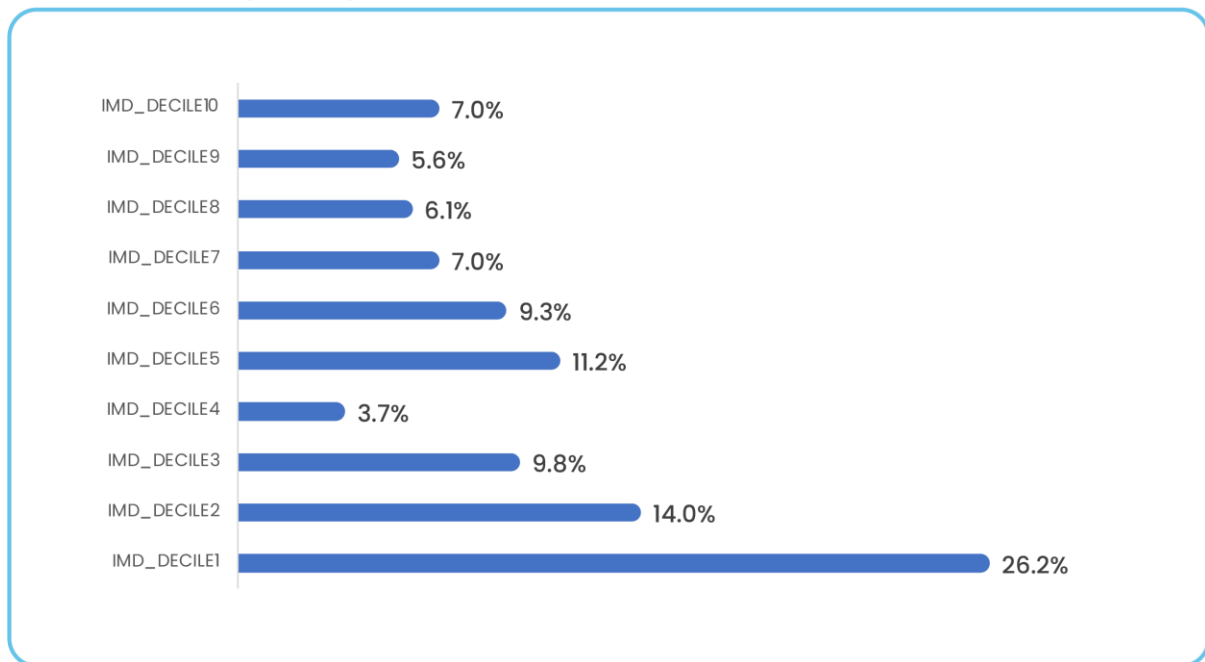
Ethnic group		Female	Male	Total
	Count	9	6	15
	% within Sex	7.8%	6.1%	7.0%
	% of Total	4.2%	2.8%	7.0%
Black African	Count	1	0	1
	% within Sex	0.9%	0.0%	0.5%
	% of Total	0.5%	0.0%	0.5%
Black Caribbean	Count	0	1	1
	% within Sex	0.0%	1.0%	0.5%
	% of Total	0.0%	0.5%	0.5%
Indian or British Indian	Count	2	1	3
	% within Sex	1.7%	1.0%	1.4%
	% of Total	0.9%	0.5%	1.4%
Mixed - White and Black Caribbean	Count	0	1	1
	% within Sex	0.0%	1.0%	0.5%
	% of Total	0.0%	0.5%	0.5%
Other Asian Background	Count	2	0	2
	% within Sex	1.7%	0.0%	0.9%
	% of Total	0.9%	0.0%	0.9%
Other Mixed Background	Count	0	1	1
	% within Sex	0.0%	1.0%	0.5%
	% of Total	0.0%	0.5%	0.5%
Other White Background	Count	10	5	15
	% within Sex	8.6%	5.1%	7.0%
	% of Total	4.7%	2.3%	7.0%
Pakistani or British Pakistani	Count	1	0	1
	% within Sex	0.9%	0.0%	0.5%
	% of Total	0.5%	0.0%	0.5%
Unknown	Count	0	1	1
	% within Sex	0.0%	1.0%	0.5%
	% of Total	0.0%	0.5%	0.5%
White British	Count	91	82	173
	% within Sex	78.4%	83.7%	80.8%
	% of Total	42.5%	38.3%	80.8%
	Count	116	98	214

Ethnic group		Female	Male	Total
	% within Sex	100.0%	100.0%	100.0%
	% of Total	54.2%	45.8%	100.0%

Appendix Table 1: Enhance Service Users in each ethnic category by gender

IMD

Enhance service users from IMD 1 represent 26.2% of the Enhance cohort, followed by IMD2 (14.0%). The low proportions of service users are observed in IMD4, IMD9 and IMD8 with 3.7%, 5.6% and 6.1%, respectively.



Appendix Figure 2: Proportion of Enhance Service Users by IMD category (percent)

PCN

Appendix Table 2 is about which PCNs Enhance service users are registered with. The data indicate that the highest proportion of service users were registered with Morley and District PCN (30 users representing 14%) followed by West Leeds (24 users representing 11.2%) and Beeston (9.8%).

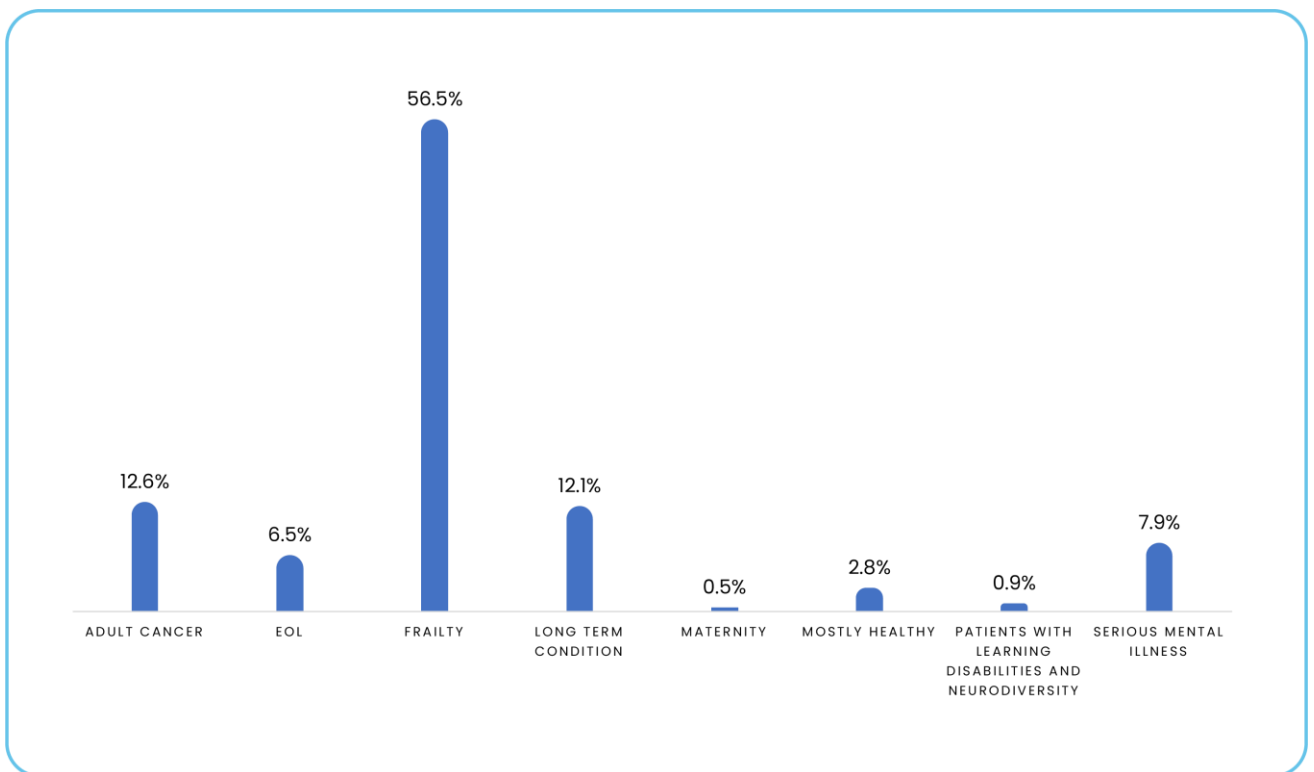
PCN Locality		
Armley	N	12
	Percent	5.6%
Beeston	N	21
	Percent	9.8%
Bramley, Wortley and Middleton	N	6
	Percent	2.8%
Burmantofts, Harehills and Richmond Hill	N	18
	Percent	8.4%
Central North Leeds	N	19
	Percent	8.9%
Chapelton	N	4
	Percent	1.9%
Cross Gates	N	12
	Percent	5.6%
Holt Park	N	5
	Percent	2.3%
LS25 / LS26	N	15
	Percent	7.0%
Middleton and Hunslet	N	5
	Percent	2.3%
Morley and District	N	30
	Percent	14.0%
No PCN	N	5
	Percent	2.3%
Seacroft	N	10
	Percent	4.7%
West Leeds	N	24
	Percent	11.2%
Wetherby	N	11
	Percent	5.1%
Woodsley	N	6
	Percent	2.8%
Yeadon	N	1
	Percent	0.5%
York Road	N	10
	Percent	4.7%

Total	N	214
	Percent	100.0%

Appendix Table 2: Proportion of Enhance Service Users Registered in Each PCN Locality

Population Segments

Appendix Figure 3 shows the proportion of service users in each population segment. The analysis indicated that 56.5% of Enhance service users are in the frailty population cohort, 12.6% in Adult Cancer, 12.1% in Long Term Conditions segment, and 7.9% in Serious Mental Illnesses. EoL represents 5% within the Enhance cohort.



Appendix Figure 3: Proportion of Enhance Service Users in Each Population Segment

Long-Term Conditions

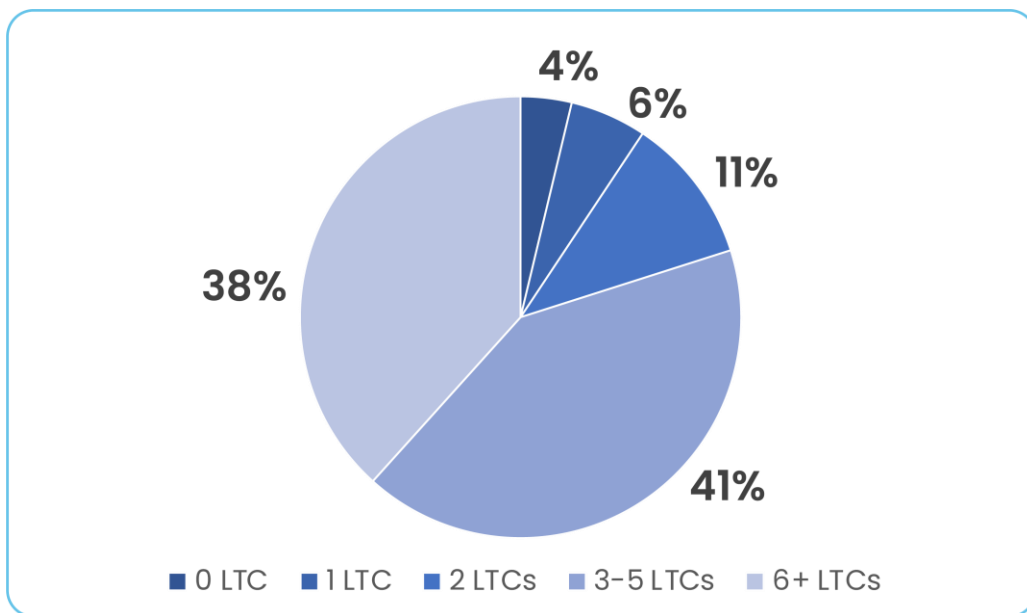
Appendix Table 3 shows the proportion of service users with long-term conditions. Service Users with three long-time conditions represent 15% within the Enhance Cohort, whereas service users with four and six long-term conditions represents 12.1% of the cohort, each.

Long-Term Conditions	Counts	Percent
0	8	3.7%
1	12	5.6%
2	23	10.7%
3	32	15.0%
4	26	12.1%

5	31	14.5%
6	26	12.1%
7	24	11.2%
8	17	7.9%
9	12	5.6%
10	2	0.9%
11	1	0.5%
Total	214	100.0%

Appendix Table 3: Distribution of Enhance Service Users with Long-Term Conditions

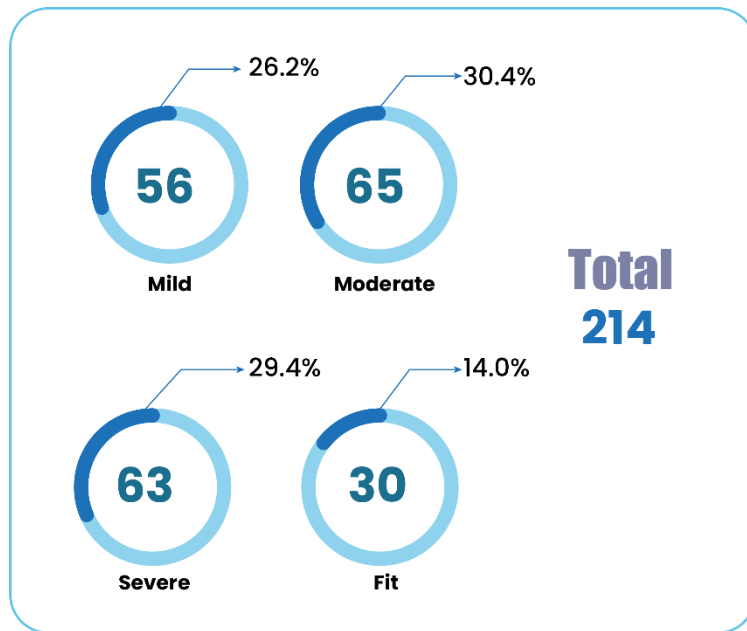
Appendix Figure 4 indicates that among all service users within Enhance Cohort, 41% have between 3 and 5 LTCs, and 38% have more than 6 LTCs.



Appendix Figure 4: Enhance Service Users with Multiple Long-Term Conditions

Frailty Levels

Appendix Figure 5 shows the proportion of service users according to frailty category. The highest proportions are observed in Moderate and Severe Frailty Categories (30.4% and 29.4% respectively). 14% of the service users in the cohort were classified as fit and 26% as Mild Frailty.



Appendix Figure 5: Proportion of Enhance Service Users in Each Frailty Category (count & Percent)