Key Messages

Gender

- A significant relationship was found between gender and GAD-7 (F=6.677 p=.01) with females exiting the mental health intervention with lower reductions in anxiety compared to males.
- Across sites (including female only and mixed only), a smaller percentage of females (73%) were identified with having a positive reliable change in CORE-34 compared to males (84%).
- A strong statistical significance (F=11.096, p<.001) was found between gender and the length of intervention with females having on average a longer intervention (M=161.28) compared to males (M=146.51), however this is skewed by data from female only sites which had longer interventions to mixed sites.

Age

- The relationship between age and GAD-7 (p=.04) as well as PHQ-9 (p=.02) was found to be statistically significant with older individuals having better mental health outcomes.
- The relationship between age and completion rates was almost statistically significant (p=0.06) with older service users more likely to complete.

Ethnicity

- No statistically significant relationship was found relating to ethnicity, though further analysis should be conducted on a larger sample with increased ethnical diversity.

Vulnerabilities across 6 sites

- The relationship between *neurodiversity* and completion rates was found to be strongly statistically significant (F=7.487, p=.007) with neurodiverse service users less likely to complete.
- A statistically significant relationship was found between *severe mental health* and completion rates (F=7.916, p=.005) with individuals with severe mental health less likely to complete.
- A statistically significant relationship between *substance misuse* and CORE-34 reliable change (F=4.757, p=.03) with service users who had the identified vulnerability having lower measures of reliable change.

Introduction

Data in recent times has started evaluating the Mental Health Treatment Requirements (MHTRs) pathway, as part of the Community Orders or Suspended Sentence Orders. Preliminary analyses have shed light on the potential benefits of MHTRs on mental health issues in the probation population. Given the high number of service users at this stage it has become essential, however, to account for the diversity of the cohorts going through the programme. These profile variations could impact on treatment process and completion. Having a clearer understanding of service user profiles would therefore allow for tailored interventions aimed at maximising the treatment benefits for all individuals within the pathway.

This supplementary brief proposes the analysis of the following variables: gender, age, ethnicity, severe mental health, substance misuse and neurodiversity. The analysis focused on different stages of the treatment including sentencing and process as well as outcomes and completion. The outcomes of the analysis are reported below.

Gender

The first variable taken under scrutiny was gender. **There was no significant difference between males and females in terms of CORE-34 outcomes, however, a significant difference was identified for GAD-7 (Anxiety).** Given the sample
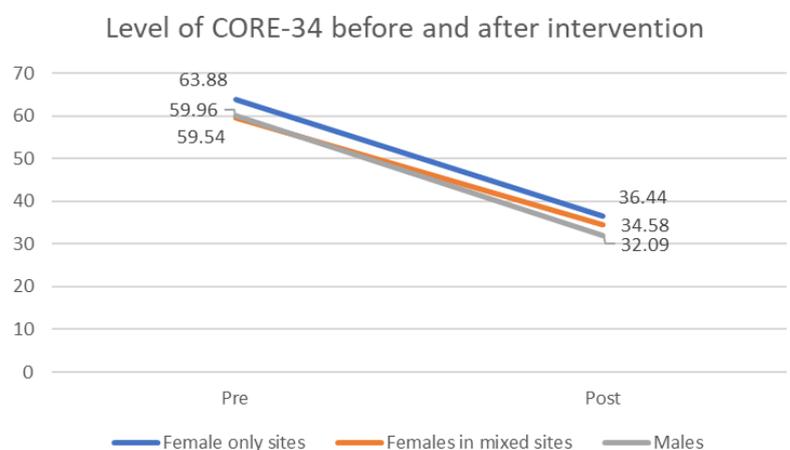

Figure 1. Mean level of CORE-34 before and after the intervention for female only and mixed sites

Level of GAD-7 before and after intervention
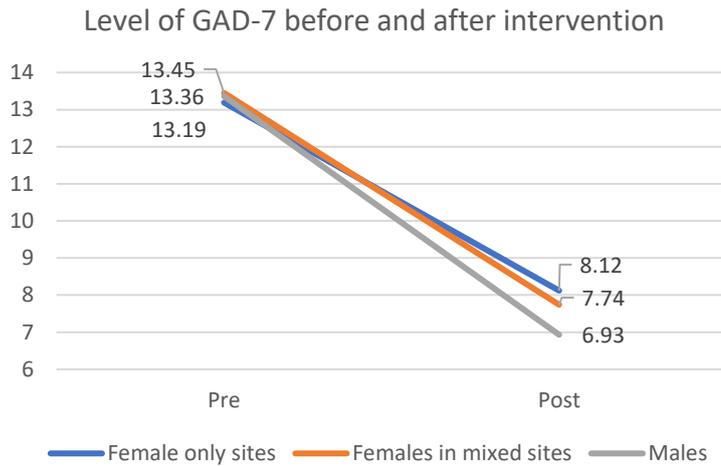
Figure 2. Mean level of GAD-7 before and after the intervention for female only and mixed sites

included data from both female only and mixed sites a comparison between the two was deemed useful to shed light on the role of gender in sentencing, process, engagement, and outcomes. Of the females found suitable in the mixed sites 87.5% were sentenced to an MHTR compared to 80.9% males. In the female sites the percentage dropped to 68.7%. In the mixed sites, female had on average a higher percentage of treatment completers (67.9%) compared to males (61.4%). In the female only sites the percentage was of completers was 77.8%. When analysing outcomes females in both mixed (72.6%) and female only sites (71.7%) had lower percentages of positive CORE-34 reliable change than males (84.1%). As seen in Figure 1, although males and females in mixed sites start at the same mean level of CORE-34 outcomes are slightly better for males, whereas for female only sites both the mean CORE-34 before and after the treatment are slightly higher. Although approximating significance, the relationship between gender and CORE-34 outcomes was not found to be statistically significant (F=3.51, p=.062). Conversely, the relationship between the variable and GAD-7, as seen in Figure 2, was found to be statistically significant (F=6.67, p=.01), with females exiting the programme with poorer mental health outcomes in terms of anxiety compared with males. This finding raises questions on the relationship of different mental health issues and gender. A strong statistical significance was identified in relation to gender was length of intervention (F=11.10, p<.001), with females (167.45 days) having on average longer interventions than males (146.51 days), though this was skewed by female only sites which had a mean of 183.44 days. Removing the female only sites the average length of intervention for females decreased to 161.28 days, however, a sizable difference compared to the average length for males was still present.

Age

The second variable explored in the analysis was age. **Here, a statistically significant relationship was found between age and outcomes for both GAD-7 (F=1.44, p=.036) as well as PHQ-9 (F=1.53, p=.018).** As seen in Figure 3 and 4, older age groups have a less sizable difference between the mean CORE-34 and PHQ-9 levels before and after the intervention compared to younger age groups. Here it should be noted the differences in sample sizes of each age group. Additionally, the relationship between age and completion rates was found to be almost statistically significant (F=1.35, p=.064) where older age groups had on average a lower percentage of non-completers than younger age groups. Table 1. illustrates the percentages of non-completers of those sentenced to an MHTR. A key finding here is the high percentage of non-completers in the young adults age group (18-24). Given these findings, it is recommended that this age group be monitored to ensure equity in mental health outcomes.

Mean GAD-7 before and after intervention for different age groups
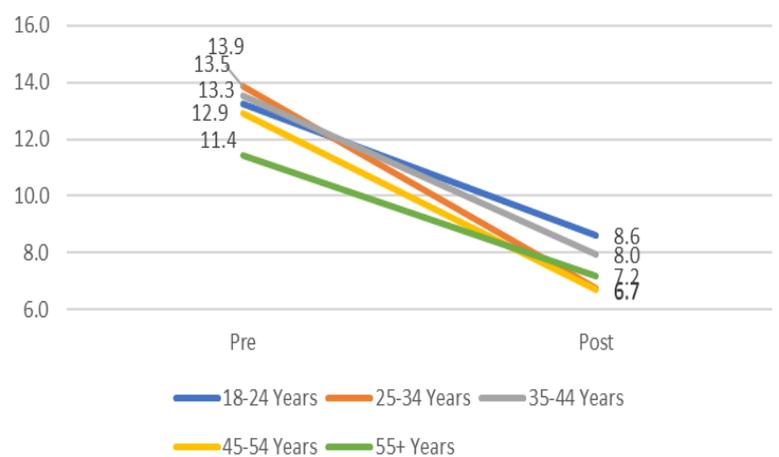
Figure 3. Mean level of anxiety before and after the intervention for different age groups

Age group	N	% of non completers
18-24 Years	149	44.3
25-34 Years	252	39.3
35-44 Years	185	36.8
45-54 Years	131	26.7
55+ Years	37	8.1

Table 1. Percentage of non-completers for different age groups

Figure 4. Mean level of depression before and after the intervention for different age groups

Ethnicity

Data pertinent to the ethnicity of service users was also analysed where **no statistically significant relationship was found**. Further analysis should be conducted on a sample with increased ethnical diversity to analyse the variable's relationship with the programme more accurately.

Vulnerabilities across 6 sites

Neurodiversity

Across the data, 6 sites reported vulnerabilities for their service users. Data were collected identifying individuals presumed to be neurodiverse by service providers. Upon analysing the data, a statistically significant relationship was found between neurodiversity and completion rates with sizable differences in the percentage of non-completers for neurotypical (29.2%) and neurodiverse (46.8%) service users. This relationship was found to be statistically significant ($F=7.487$, $p=.007$). This data sheds light on the potential added obstacles neurodiverse service users might encounter during the treatment that could affect their ability to complete the programme. The relationship between the variable and days between sentence and start date was also found to be statistically significant ($F=5.217$, $p=.023$) with a higher mean number of days for neurodiverse service users (128.9 days) compared to neurotypical service users (102.8 days). Once again, the difference in sample sizes (78 vs 370) should be taken into consideration where it would be prudent that further analysis be based on a bigger sample of neurodiverse service users.
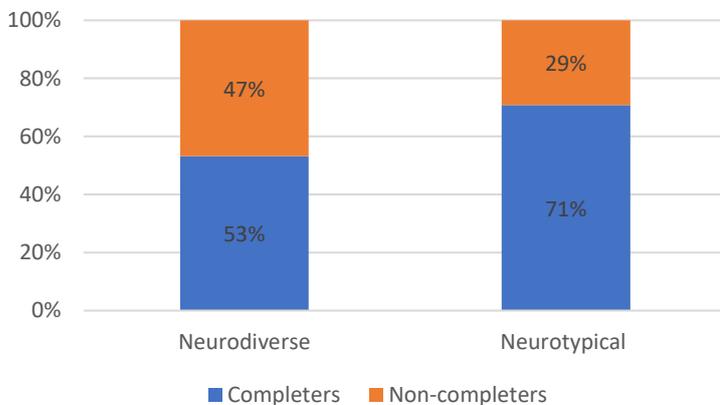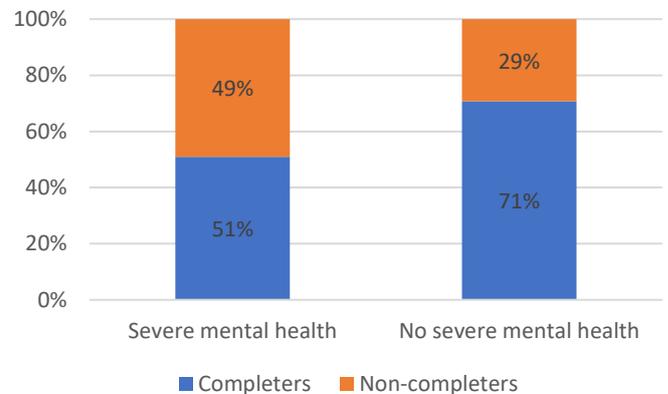
Severe mental health

A second vulnerability taken into analysis was that of severe mental health, identified by service providers. Here a statistically significant relationship was found between severe mental health and completion rates (F=7.916, p=.005) with individuals with severe mental health less likely to complete.

Substance misuse

Finally, substance misuse was analysed, and a statistically significant relationship was found between the variable and CORE-34 Reliable change (F=4.757, p=.03), with service users who had the identified vulnerability having lower measures of reliable change. Once again, larger sample sizes (currently N=41 and N=147) would facilitate a more accurate analysis and explore this relationship in more depth.

Additional variables

Additional analyses were conducted exploring the process and outcomes of veterans, sole carers and pregnant women. At this stage there is not enough data to make reliable conclusions, however, through the expansion of the programme these variables will be further explored and their relationship to the programme analysed.

Discussion

This supplementary brief has highlighted the differences in terms of outcomes across a range of factors. The outcomes of this analysis have identified clear differences within the cohorts, and it is therefore recommended that the above factors be monitored to reduce inequities within the programme. An analysis that yielded particularly significant results is that pertinent to neurodiversity where individuals identified with this vulnerability were less likely to complete the intervention and had on average longer waiting times between sentence and start of intervention. Given this evidence it is therefore recommended that service providers engage with neurodiversity related resources available via the NHS CSTR platform to verify and maximise equity between the neurodiverse and neurotypical cohorts. A second cohort to be closely monitored is that of young adults (18-24) which have a higher percentage of non-completers compared to older cohorts. Surveying this cohort is encouraged to ensure parity within service users and maximise outcomes.

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