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Evaluation of the North Yorkshire Horizons Adult Drug and Alcohol Treatment and Recovery Services

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Foreword

The commissioning of adult drug and alcohol misuse treatment services was the first major project that North Yorkshire County Council completed after the transfer of public health responsibilities from the NHS to local government in 2013. Service users, providers and stakeholders all agreed that there would be a new vision for services. Among the aspirations were that services needed to be integrated, access had to be improved and services needed to promote recovery.

When North Yorkshire Horizons started operations in October 2014 it offered a single service for substance misuse that replaced a dozen others. It offered a single point of contact and it featured recovery and mentoring as a more prominent aspect of the service model than previously. For those of us who took part in the service transformation that gave rise to North Yorkshire Horizons, it would have been easy to think that the task had been accomplished. However, it is outcomes that matter.

That is why this evaluation is so important. It is an independent assessment of whether the new service model is working in the way we expect and contributing to improved public health outcomes. It examines data but also reflects the voices and experiences of people who use and deliver the services. It provides useful information for us in North Yorkshire on what works and the findings are already helping us to improve the services.

The added value of this evaluation is the potential to inform other commissioners and providers who like us in North Yorkshire are considering how best to deliver high-quality and cost effective services that make a difference to people and families affected by substance misuse problems.



Dr Lincoln Sargeant,
Director of Public Health for North Yorkshire

A handwritten signature in black ink, appearing to read 'L. Sargeant', written in a cursive style.

EXECUTIVE SUMMARY

Context

Substance misuse remains a key UK public health priority. Given the wide ranging impacts of substance misuse on health, wellbeing, crime, families and the wider economy, contemporary recovery orientated systems of treatment for substance misuse now recognise the added value of community-based support systems that focus on developing individual's strengths and quality of life. Treatment programmes for substance misuse are encouraged by the Government to provide a more recovery orientated system of care which not only treats the substance misuse problem but also considers the wider socio-ecological environment to improve health, wellness and quality of life.

In light of current policy recommendations, specialist adult substance misuse services in North Yorkshire have been recently reconfigured, and now incorporate an integrated approach to substance misuse treatment and recovery. The new service called North Yorkshire Horizons, was implemented in October 2014 following a two year review and subsequent procurement process. It comprises a treatment service and a Recovery & Mentoring (R&M) service, operating as an integrated service. North Yorkshire Horizons aims to provide a holistic means of promoting recovery capital for adults who misuse and are dependent on drugs and/or alcohol across North Yorkshire. The Public Health Institute, Liverpool John Moores University (LJMU), was commissioned to undertake a two-year evaluation of North Yorkshire Horizons. An interim report was produced following the first year of the evaluation which provided an overview of the evaluation methodology, Year One evaluation activities and findings, and details regarding next steps. This final report presents all of the activities and findings for the evaluation and provides recommendations for the future provision of North Yorkshire Horizons.

Methods

The two-year evaluation incorporated qualitative and quantitative methods to provide evidence of the process, impact, effectiveness and cost-effectiveness of North Yorkshire Horizons.

ANALYSIS OF SECONDARY QUANTITATIVE DATA provided by North Yorkshire Horizons was conducted across a number of data sets including structured treatment, criminal justice treatment, needle exchange and R&M service. This analysis provides an overview of demographics, drug profile and outcomes achieved.

COST EFFECTIVENESS ANALYSIS was undertaken in the second year (June 2015 – June 2016) of this evaluation to determine whether the new service model is delivering value for money as well as exploring the cost consequences had these services not been commissioned.

QUALITATIVE INTERVIEWS have been undertaken with service users and peer mentors of the North Yorkshire Horizons Treatment and Recovery & Mentoring services (n=27) and key stakeholders (n=14). The stakeholder interviews included those who were involved in either commissioning or providing North Yorkshire Horizons, or involved as a partner agency (e.g. Police). The interviews were transcribed and thematic analysis was applied to the transcripts using NVivo QSR10.

Quantitative Findings

A total of 2582 individuals accessed structured treatment interventions provided by North Yorkshire Horizons, or based in GP practices and supported by North Yorkshire Horizons (as defined by the Public Health England [PHE] National Drug Treatment Monitoring System [NDTMS]). 532 individuals were engaged with criminal justice interventions provided by North Yorkshire Horizons, following referral by a criminal justice agency (as defined by the Criminal Justice Interventions Team). In total, 878 individuals accessed needle exchange services. This included North Yorkshire Horizons hub based services and pharmacies (PNEX). A further 1064 engaged with the R&M Service; 889 (83.6%) individuals following their completion of structured treatment within North Yorkshire Horizons. The substance misuse profile of service users is detailed below:

Drug profile 4 groups	Opiate		Non-opiate		Non-opiate and alcohol		Alcohol only		Total	
	n	%	n	%	N	%	n	%	n	%
Structured	1106	42.8	252	9.8	151	5.8	1073	41.6	2582	100
Criminal Justice	161	31.0	214	41.2	72	13.8	73	14.0	532	100
Needle exchange	722	82.2	153	17.4	3	0.3	0	0	878	100
R&M	319	30.0	89	8.4	67	6.3	589	55.4	1064	100

North Yorkshire Horizons received 4711 referrals during the first 18 months of service. This includes all referrals that were made through the SPOC (single point of contact). Self-referrals made up two thirds of all referrals (n=1888, 40.1%). A total of 2846 treatment interventions were accessed by the 2582 individuals during the 18 month evaluation. For clients accessing structured treatment, most accessed psychosocial interventions (n=1487, 52.5%), followed by pharmacological interventions (n=857, 30.1%) and recovery support (n=502, 17.6%).

The treatment service recorded improved individual outcomes during time in treatment including improved finances, housing, reduced drug related offending, physical health, unpaid employment,

life skills, education or training, parental skills, social network, paid employment, coping skills, mental health and family relationships. During the 18 month evaluation period, 3379 improved outcomes were recorded for 890 individuals. Almost one fifth of all reported outcomes evidenced an improvement in coping skills (n=660, 19.5%) whilst accessing treatment. Other key improvements included family relationships (n=431, 12.8%), life skills (n=413, 12.2%), physical health (n=355, 10.5%) and mental health (n=353, 10.4%).

A number of other measures were used to assess outcomes for individuals engaged with structured treatment and this included Treatment Outcome Profile (TOP) data, the Alcohol Use Disorders Identification Test (AUDIT), the Generalized Anxiety Disorder (GAD-7) questionnaire, the Patient Health (PHQ9) questionnaire, the quality of life (EQ-5D) questionnaire and the severity of alcohol dependence questionnaire (SADQ). Analysis of the National Drug Treatment Monitoring System (NDTMS) Treatment Outcomes Profile (TOP) in general evidenced a reduction in substance use and injecting between first and last TOPs assessments, and also showed an increase in quality of life and health and wellbeing scores.

The Sundial outcomes monitoring tool also measured progress across six key outcomes including secure base, inclusion, supportive relationships, identity, coping strategies and goals. Additional outcomes were also monitored by the R&M service, and overall 446 positive/improved individual outcomes were reported during the evaluation period. This included 195 positive outcomes for clients engaged in education, and 251 reported as having 'no housing problem'.

Cost Effectiveness Findings

The data from the PHE Spend and Outcomes tool suggests that spend on substance misuse services per head of population is low in North Yorkshire compared to similar local authorities. This spend should be considered in the context of the level of drug and alcohol related problems in North Yorkshire. There are few measures of drug related needs that are available at Local Authority level, apart from drug treatment related metrics. North Yorkshire has a relatively high rate of alcohol related hospital admissions in males when compared to areas of a similar average level of deprivation.

The richest population data that could be costed and which was therefore used within this evaluation was around the economic value of quality of life improvements (measured through the Treatment Outcome Profiles and the EQ-5D quality of life questionnaire). The evaluation specifically focussed on alcohol related hospital admissions, and on drug and alcohol-related crime and antisocial behaviour. The majority of the economic analysis is based only on these outcomes.

In the EQ-5D sample measured within this evaluation (n=68), average index scores increased for the 68 people who were followed up twice, from 0.67 at baseline to 0.77 at follow up, a 15% increase. The average follow-up time was 78 days. This increase in utility of 0.1 would equate to 0.1 QALYs

(quality adjusted life years) gained per person if it was maintained for 1 year. A QALY is the equivalent of one year of full health. This improvement in health would be valued at £2000 per person based on the National Institute for Health & Care Excellence (NICE)'s public health methods (NICE generally value public health QALYs at up to £20,000).

Drug and alcohol related offending data was supplied by the North Yorkshire Police and Crime Commissioner's office. Cost estimates were applied to this data and the total cost of crime and antisocial behaviour where alcohol was mentioned was £5.3million per year, while the total cost of crime where drugs were mentioned was £1.2million per year, which indicates a considerable economic cost of drug and alcohol related criminal activity within North Yorkshire.

Alcohol specific admissions data was provided by PHE. The estimated direct healthcare cost of alcohol specific admissions in North Yorkshire was £4.9million in 2015/16, so as with crime there was a considerable economic cost to the public purse.

A series of Markov chain economic models were constructed for the four unique substance groups used by PHE; these were opiate, alcohol only, alcohol and non-opiate, and non-opiate only. These economic models were populated with cost data from the North Yorkshire Horizons Treatment and Recovery & Mentoring services, as well as quality of life data, and data on costs of consequences of drug and alcohol dependence such as crime and healthcare resource use.

The results of these economic models suggest that services are considered to be cost effective for all four substance groups (e.g. opiate, alcohol only, non-opiate & alcohol, and non-opiate only). For opiates, alcohol only, and alcohol & non-opiates, treatment would most likely be cost saving to the public purse in the long term. For non-opiates only, treatment was not cost saving but would be considered very cost effective with a very low incremental cost per QALY gained of £64. The groups where the biggest gains are likely to be achieved are the two alcohol groups: alcohol only and non-opiate and alcohol; who on average gained the equivalent of eight years of perfect health (8 QALYs) over their lifetime through having access to Treatment and Recovery & Mentoring Services, and had cost savings of around £50k-£60k. The opiate user groups gained around three QALYs and had lifetime cost savings of around £72k.

Overall this modelling suggests that investment in adult drug and alcohol services in North Yorkshire is a cost effective use of resources and generates a high return on investment. But this does not mean that North Yorkshire Horizons is entirely optimal and cannot be made more efficient. For example, it may be possible to achieve lower rates of unplanned discharge where people do not complete structured treatment, and the number of people moving from structured treatment into Recovery & Mentoring services could be increased to promote likelihood of sustained recovery.

Qualitative Findings

Overall the stakeholders and service users who were interviewed as part of this evaluation were positive about the service provided by North Yorkshire Horizons. The majority discussed how the delivery of the Recovery & Mentoring service alongside the Treatment Service helped to provide a flexible service that could be adapted to suit the needs of the various service users. The referral process and the Single Point of Contact (SPOC) allowed numerous pathways for potential service users to access the service and this was praised by both stakeholders and service users. Overall, North Yorkshire Horizons was seen to facilitate a friendly and supportive atmosphere which helped to promote recovery and challenge the stigma that is often associated with addiction.

Issues that were discussed by stakeholders and service users included location of the services/ hubs, and concerns about the suitability of peer mentoring.

It was noted that in order for peer mentoring to be successful, volunteers had to be carefully selected, trained and supported to ensure that they could successfully facilitate other service users' recovery and not have their own recovery put at risk. The benefit of having a peer mentor that current service users could relate to in terms of their experience of addiction was seen as important to the majority of the service users that were interviewed. The majority of stakeholders also recognised this as important. A small number of service users and stakeholders did, however, acknowledge that peer mentoring and SMART meetings might not suit all service users who may prefer to only have recovery meetings with trained professionals and may not feel comfortable in a peer/group setting.

The problems caused by the locations of the hubs were due to the combination of urban, suburban and rural areas within North Yorkshire and this was recognised by both stakeholders and service users. The use of community buildings for 'self-management and recovery training' (SMART) meetings helped to address the issues related to location. There was some discussion of key workers visiting service users in locations closer to their homes which was valued by the service users who had experience of this, although this provision appeared to be inconsistent across the service as a whole. Those service users who engaged in a community alcohol detox appreciated the nurse from North Yorkshire Horizons visiting them at home.

Recommendations

The following recommendations have been made based on the findings of this evaluation and how they compare with the published evidence base:

SERVICE DELIVERY

- **North Yorkshire Horizons should continue to encourage service users to volunteer to become peer mentors and ensure that all those who are suitable and wish to volunteer receive appropriate support and training.** A minority of service users did discuss delays in receiving

training and did not always feel supported in their progression to peer mentoring. Therefore, by ensuring that service users who are ready to progress to being peer mentors are supported and trained North Yorkshire Horizons will contribute to positive recovery outcomes for these service users who in turn will potentially provide meaningful support to other service users. Peer mentoring is highly valued by many of the service users and stakeholders.

- **North Yorkshire Horizons should carefully manage and monitor peer mentors.** Whilst the majority of service users reported positive experiences of peer mentoring, there were some negative experiences reported. This was in addition to trepidation about peer mentoring from a small number of stakeholders. It is important that the peer mentoring is managed and monitored appropriately by experienced North Yorkshire Horizons staff to ensure that there are no detrimental effects for service users or peer mentors.
- **North Yorkshire Horizons should continue to provide different activities for service users and work towards establishing new relationships with relevant services.** The service users enjoyed the different vocational activities and training that was provided and many of them also discussed how North Yorkshire Horizons had helped them to access additional support in terms of housing and employment, which was supported by the outcomes measured during treatment and recovery. Any new potential collaborations should be explored to help widen opportunities available for service users to help provide better recovery outcomes.
- **The use of community settings for SMART meetings should continue, and North Yorkshire Horizons should continue to expand the number of locations for these meetings.** The majority of the service users, peer mentors and stakeholders believed that the use of community settings for SMART meetings was important in overcoming the stigma associated with drug and alcohol addiction. Also, due to the nature of the North Yorkshire area in terms of the combination of rural and urban locations, the use of community buildings was seen by service users and stakeholders as an important way of providing services in the more rural locations.
- **North Yorkshire Horizons should continue to provide a flexible Treatment and Recovery & Mentoring Service.** The majority of the service users praised the flexibility of the service, including the numerous referral pathways and the combination of meetings with key workers and health professionals, holistic therapies, training and activities in addition to the SMART meetings. However, a small number of service users did not wish to engage with group activities. Furthermore, a minority of stakeholders and service users also felt that there should be some distinctions made between the provision for those who were being treated for an alcohol addiction as opposed to other substances because of a perceived difference in need. It is important that North Yorkshire Horizons continues to be flexible in the support available and that they work with service users to determine which aspects of the service will help them to achieve a sustainable recovery.

- **Additional provision should be considered for out of hours support and support sessions for relatives of service users if costs and feasibility allow.** A small number of service users discussed how relapses often occurred during the night. Also, it was recognised that addiction often impacted on relatives who required emotional support as well as education in understanding addiction so that they could help their family member through treatment and recovery. As these issues were only discussed by a minority of service users but could potentially benefit many service users it is recommended that, if costs and feasibility allow, these services are piloted and subsequently evaluated to determine if they are cost-effective.
- **The possibility of providing SMART meetings for specific groups should be explored.** Some stakeholders and service users stated that there may be differences in the needs of those who have an alcohol addiction compared to an addiction to other substances. There were also some concerns about people who were still using drugs and alcohol being in meetings with those who are now abstinent but vulnerable to relapse. Therefore, the provision of some meetings that were aimed at specific groups should be considered to try to ensure the needs of all service users are being met.

RESEARCH, MONITORING AND COST EFFECTIVENESS

- **North Yorkshire Horizons should continue to focus on robust data collection and monitoring.** The treatment service collects a vast amount of data which was readily available for this evaluation. The service also strives to improve data collection at a regional and national level and improve the quality of data reported. North Yorkshire Horizons should continue with their internal data processes which will help them effectively monitor their clients' progress, identify gaps in treatment and evidence the effectiveness of the service. The R&M Service would benefit from a wider data collection (to further demonstrate the journey) and could consider using treatment reporting templates as best practice, where appropriate to do so.
- **North Yorkshire Horizons should continue to further implement the use of outcome measures.** The treatment and R&M service have both implemented a number of outcome measures to evidence effectiveness. However, the assessments need to be conducted on a more routine and consistent basis to allow for further data analysis of outcomes. The services should also aim to complete assessments for all clients and ensure follow up assessments are completed where possible. The routine monitoring of outcomes will allow the service to further show improvements from clients.
- **North Yorkshire Horizons should consider more ways to keep service users engaged with treatment and encourage more service users in treatment to move into the Recovery & Mentoring services.** The economic evaluation suggested that overall the drug treatment

provided by North Yorkshire Horizons is cost effective. However, it also demonstrated that some substance groups have high rates of unplanned discharge where people do not complete treatment and that the number of people moving from structured treatment into recovery and mentoring services could be increased. Addressing these issues would help to further improve the cost effectiveness of North Yorkshire Horizons.

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1. INTRODUCTION

1.1. Context

Drug and alcohol misuse is a significant cause of premature mortality and morbidity in the UK (Murray, 2013). In 2014, nearly one in nine deaths registered among people in their 20s and 30s in England and Wales were related to drug misuse (Public Health England (PHE), 2016). In terms of alcohol misuse, over one million admissions to hospital in England in 2013-2014 were linked to alcohol-related disease, as well as injuries, medical conditions, or a secondary diagnosis that were alcohol related (HSCIC, 2016). Between 2011 and 2012, almost nine per cent of adults in England had used an illegal drug (Department of Health, 2013). Moreover, the number of hospital admissions for poisoning by illicit drugs increased by 76.7% between 2003/04 and 2013/14, although the number admitted for a drug related mental health or behavioural disorder had decreased by 11% (HSCIC, 2014).

Drug and alcohol dependency is a key priority for the UK Government. Strategies emphasise the importance of reducing harm, public cost, and helping people to recover from their dependency (HM Government, 2010). Drug-related crime is estimated to cost the UK £13.3 billion per year, and the professional and informal support involved in promoting recovery from substance misuse is financially, physically and emotionally costly (Department of Health, 2015). Given the wider impacts of substance misuse on health, wellbeing, crime, families and the wider economy, contemporary recovery orientated systems of treatment for substance misuse now recognise the added value of community-based support systems that focus on developing individuals' strengths and quality of life (White, 2009). Such holistic strategies that take a 'whole person' approach are distinct from more biomedical notions of recovery, which typically involve eliminating symptoms of dependency on drugs.

Strategies to comprehensively tackle drug and alcohol related problems using a more holistic compared to biomedical approach have been detailed in the 2010 'Drug Strategy' and the 2012 'Social Justice Strategy and the Alcohol Strategy' (HM Government, 2010, 2012a, b). Common amongst these strategies is for the recommendation that services must consider a 'whole person' approach to recovery which focuses on more than abstinence and remission. Without addressing the wider socio-ecological environment of recovery, biomedical approaches are likely to prove ineffective at promoting long-term positive outcomes for individuals affected by substance misuse (Deacon, 2013).

The 2014 paper by PHE "Why Invest" estimated that the total economic cost of drug addiction in England was £15.4 billion and that the total cost of alcohol related harm was £21billion. This means that policy interventions, as well as prevention, community level interventions, and interventions to help individuals who are drug or alcohol dependent have the potential to produce a large cost saving to society. The main benefits from drug and alcohol treatment include criminal justice savings, healthcare savings, and productivity benefits. Injecting drug users can have a high social

cost because they may commit crime to fund their habit, and may also have a high risk of getting infectious diseases like HIV and Hepatitis B.

The 2010 Drug Strategy was structured around three themes:

- Reducing demand;
- Restricting supply; and
- Building recovery in communities.

With two overarching aims:

- Reduce illicit and other harmful drug use; and
- Increase the numbers recovering from their dependence.

The strategy stated that value for money will have been achieved if the money spent on tackling drug use is less than the monetised benefits resulting from the Drug Strategy. Data are available to monitor trends in drug use (generally through the Crime Survey for England and Wales [CSEW] which asks questions about drug use) and also the numbers leaving drug treatment drug free (from National Drug Treatment Monitoring System [NDTMS] data). There is evidence that the multinational 'war on drugs' has not been successful in reducing drug use, as it mainly involves supply-side interventions in what is a demand-led market.

1.2. Recovery

Recovery is recognised as a dynamic process which focuses on a person's strengths, relationships, preferences and material needs. Treatment programmes for substance misuse are encouraged to provide a more recovery-orientated system of care which not only treat the substance misuse problem, but also consider the wider socio-ecological determinants of health and wellbeing (The Health Foundation, 2014; White, 2009). There has been a significant shift in UK policy towards an integrated recovery-oriented model that is focused towards a more person-centred philosophy for the delivery of drug treatment (Best et al, 2010). The aim for commissioners is to focus on re-integrating service users back into the community, so not only providing support in terms of treatment, but also training and employment (HM Government, 2008) so that ultimately 'those who do use drugs not only enter treatment but complete it and re-establish their lives' (2008:4).

A systematic review of narrative studies highlighted that recovery processes involve hope, optimism, identity, meaning in life and empowerment (Leamy et al, 2011). Although such unique personal experiences make recovery hard to empirically define (Laudet, 2007; Knopf, 2011; Witbrodt et al, 2015), the following will be used to define recovery for the purpose of this report:

'...the experience (a process and a sustained status) through which individuals, families, and communities impacted by severe alcohol and other drug (AOD) problems utilize internal and external resources to voluntarily resolve these problems, heal the wounds inflicted by AOD-related problems, vulnerability to such problems, and develop a healthy, productive, and meaningful life.' (White, 2007, p.236).

This definition is also similar to that advocated by the UK Drug Policy Commission (2012), which define recovery as:

'A process of voluntary sustained control over substance use which maximised health and wellbeing and participation in the rights, roles and responsibilities of society'. UK Drug Policy Commission (2012, p.6).

Laudet (2016) argues that recovery support services are imperative in helping more people who have an addiction achieve and maintain recovery. This can be achieved through capitalising efforts to create a continuing care model that is comprehensive, integrated and person centred (Laudet, 2016, p127).

1.3. Recovery Capital

Recovery capital is recognised as the quantity and quality of resources that a person can draw on to initiate and sustain recovery from addiction (Granfield and Cloud, 1999). Originally founded on the concept of social capital, recovery capital embraces the ideas of several social scientists who have addressed the function of a person's resources within the social structures to which they belong (Bourdieu and Wacquant, 1992; Teachman et al, 1997). Recovery capital includes four components: social, physical, human, and cultural capital (Cloud and Granfield, 2008). Collective recovery capital refers to the resources within a community that support the recovery process (Best and Laudet, 2010). On the whole, these bio-psychosocial components align with the 'Public Health Outcomes Framework' (developed by the Conservative and Liberal Democrat coalition government, 2010 - 2015), which proposes that health services should be developed in ways that consider broader determinants of health, such as employment, education, social networks, poverty, crime and housing (Department of Health, 2012). Furthermore, recovery capital provides substantiated reasoning for treatment programmes to ensure that they are connected to organisations that can support individuals in areas of life other than substance misuse.

Focussing on recovery capital requires substance misuse treatment programmes to provide person-centred services which focus on strengths-based approaches and not just eradication of weaknesses (Laudet and White, 2008). Evidence has shown that individuals with a greater recovery capital are able to become more empowered in order to achieve their full potential and an optimal quality of life, during which they can positively contribute to and become actively involved in society (Laudet, White, and Cloud, 2008). The notion of recovery capital aligns with broader

concepts of health which refer to promoting a state of physical, mental and social wellbeing, not merely the absence of disease or infirmity, while being able to adapt to adversity and self-manage (Huber et al, 2011). Recovery capital also focuses on the need to tackle and improve wider determinants of health, such as a person's socioeconomic status, health behaviours and experiences of stigma (Cloud and Granfield, 2008).

Best and Laudet (2010) suggest that a key element of recovery capital relates to the perceived level of social support available to a person, which may include family, peers, mutual aid groups, local treatment services, suitable housing and employment opportunities. There is also substantial evidence that the characteristics of professionals delivering treatment, and the therapeutic relationship service users have with them, accounts for more variability in recovery outcomes compared to the 'active ingredients' of specific treatments (Blow et al., 2007; Castonguay et al, 2006). This aligns with a recovery oriented approach to substance misuse treatment, in terms of the increasing recognition that meaningful recovery is not just attributed to the specific treatments provided. Rather, it is the collaborative actions of service users developing strong social networks and self-esteem via the services provided which enables them to recognise the significant role they can play in their own recovery (Bracken et al, 2012; Kelly et al, 2009; Tew et al, 2012). Evidence shows that positive social support networks can amplify resilience to stress, increase self-efficacy for initiating or continuing abstinence, enhance quality of life, predict long-term reductions in substance use and improve subjective wellbeing among individuals with substance misuse disorders, including those with comorbid psychiatric disorders (Laudet and Stanick, 2010). Low levels of social support have been found to predict relapse, and it can sometimes be distressing for individuals in recovery to realise that their friendships associated with previous drug networks tend to become eroded along their recovery journey (Granfield and Cloud, 2001; Laudet et al, 2006).

As previously highlighted, individuals in recovery may encounter a range of related problems, including poor social functioning, unemployment, financial insecurity, homelessness, relationship problems and other stressful life circumstances. While this might mean that many individuals with substance use disorders concurrently experience cognate mental health difficulties, such as anxiety and depression, others may further engage in unhealthy lifestyle behaviours, perhaps as a means of coping with stress, negative thoughts and emotions. Services should acknowledge that lifestyle behaviours are not always chosen freely or based on intrinsic motivation or readiness to change; instead health behaviours largely occur as a by-product of individuals' culture, life circumstances and the resources they have access to. Substance misuse treatment and recovery services should work to address broader issues such as a person's access to positive social support and financial, material and psychological resources.

1.4. Peer Support

One significant form of social support in recovery is the support provided by peers, with multiple research findings demonstrating that contact with positive peer support predicts reduced substance misuse and eventual abstinence (White, 2009; Moos 2008; Marshall et al, 2015; Penn, 2016). Peer support also offers opportunities to adopt more positive social norms that promote engagement in enjoyable sober and non-drug use activities, which override the norms of pro-drug use networks (Laudet et al, 2004).

In addition to peer support, a more formal provision of this is termed peer mentoring. By definition, a peer mentor is someone who has personal experience of a certain issue, such as substance misuse, but is now recovered and has been trained in a way that enables them to appropriately share their own experiences with others facing similar circumstances (Finnegan et al, 2010). Unlike trained professionals, peer mentors have an absence of role inequality, which may otherwise prompt the individuals they support to feel undermined and less willing to engage with them (Tolan, 2008). It has also been argued that effective support for mental health issues, including substance misuse, requires employing more individuals with lived experiences to act as peers, leaders and teachers within services (Lawn, 2015).

To promote recovery capital amongst individuals, services can train peer mentors who are either recovered, currently stable, or those who have left treatment abstinent. In most recovery services, peer mentors are provided with training that equips them with the understanding, skills and confidence to support other vulnerable individuals in a safe and effective manner. Once qualified, they can be assigned in a voluntary or paid capacity to 'meet and greet' new or established service users on their arrival and during certain activities to help reassure them and make them feel at ease. Peer mentoring services for substance misuse have also been successfully established in prisons, where there are often a large proportion of people with substance misuse problems (Cook et al, 2008; Fletcher and Batty, 2013).

1.5. North Yorkshire Horizons

Drug and alcohol treatment services are funded mainly through Local Authority public health budgets and make up around a third of the public health spend nationally, representing the greatest Local Authority programme in terms of spend (other large areas of spend include the healthy child programme and sexual health). The national Public Health Grant has been reduced since 2015/16, so local authorities have had to find significant savings. Based on data from PHE's Spend and Outcomes Tool, North Yorkshire spends less than the national average and less than their ONS (statistically similar) Local Authority cluster on public health. This is particularly relevant with regards to spend on drugs and alcohol, specifically alcohol, where the spend per head of population is £1.59 compared to an average of £2.93 within the ONS cluster, and £4.30 nationally.

It should be noted that some of the variance reported may be due to differences in attributing costs by Local Authorities, rather than genuine differences in spend.

In light of the emerging evidence which recommended implementation of a consistent recovery-oriented focus within substance misuse services, adult services were reconfigured during 2012-2014 across North Yorkshire. The new integrated treatment and recovery service, called North Yorkshire Horizons, opened in October 2014.

As an initial means of promoting inclusive and person-centred support, the re-design of North Yorkshire Substance Misuse Services (now called North Yorkshire Horizons) was informed by service users, parents, carers, and service providers, via workshops held in the main localities of North Yorkshire during 2013. Many individuals highlighted the need for peer mentors to assist in recovery journeys, as well as a meet and greet service.

In addition to its endeavour to provide a successful peer mentoring aspect to the service, North Yorkshire Horizons aims to promote recovery capital and positive outcomes among services users by being designed on the following principles:

- To engage (and re-engage) individuals into recovery, helping them to navigate services that may help them (including, but not exclusively, treatment services),
- To offer a personalised, strengths-based response that meets the needs of individuals and to develop service responses that meet the needs of collective groups (e.g. the development of abstinence groups),
- To contribute towards the overall system outcome of increasing the proportion of individuals who successfully complete treatment services,
- To develop a wide range of partnerships, recognising that more than one agency will need to contribute to the wider recovery of each individual,
- To provide opportunities for individuals who are in sustained recovery to become involved in the delivery of the service (i.e. to develop a peer-mentoring network).

Within these principles, North Yorkshire Horizons aims to provide a holistic means of promoting recovery capital, rather than solely focusing on biomedical intervention.

The service comprises a treatment and an R&M aspect:

- The treatment aspect of the service focuses on providing interventions with a clear goal of moving to lower intensity support as soon as is feasible. Recovery planning is encouraged at the start of the journey with the treatment service, drawing on mainstream and wider support services to support recovery, and transition from structured treatment is supported by mutual aid groups and the Recovery and Mentoring Service. Referrals are accepted from any source, including via professionals, and self/family referral. Service access aims to be flexible, and the provision includes harm reduction interventions, brief interventions,

psychosocial interventions, pharmacological interventions and access to Tier 4 inpatient and residential services when clinically appropriate.

- The R&M aspect of the service was based upon an open access policy. The service is responsible for engaging individuals into the service – it manages the SPOC (single point of contact), and hosts ‘meet and greet’ sessions in community settings and venues. The Recovery & Mentoring team can offer support to service users whilst they are engaged with treatment services and for up to 6 months after, through provision of direct support and opportunities to engage with recovery groups, peer support, volunteering opportunities etc. The team is also responsible for facilitating service users’ engagement with recovery communities in the broadest sense.

1.6. Evaluation

The Public Health Institute, LJMU, was commissioned to undertake a two-year evaluation of North Yorkshire Horizons. This evaluation explores service use, discharges, re-representations, relapses, outcomes and cost-effectiveness. It comprised a combination of qualitative, quantitative and cost effectiveness analyses. The evaluation planning commenced during summer of 2014, and recruitment and data collection commenced in October 2014.

An interim report was produced in September 2015. This final report presents findings from all aspects of the evaluation separately, as well as a triangulation of the key overall themes. Recommendations for the future provision based on the findings of this evaluation and the evidence base are also presented.

2. METHODOLOGY

Due to the complex nature of this service evaluation, a mixed-methods approach was deemed most appropriate. This enabled robust and valid exploration of service data and cost benefits, whilst exploring qualitative experiences of service implementation, operation, outcomes and impact.

2.1. Quantitative Analysis Methods

The quantitative analysis utilises a number of data sets and measures detailed below:

NORTH YORKSHIRE HORIZONS SERVICE ACTIVITY DATA

- The treatment service provided a tabulated summary of client demographics and service delivery data which is collected and analysed for the North Yorkshire Horizons Key Performance Indicator monthly commissioner report (October 2014 – March 2016).
- The treatment service provided a data extract for clients who accessed their structured treatment element programmes (October 2014 – March 2016). This includes data that is reported to the National Drug Treatment Monitoring System (NDTMS) hosted by Public Health England (PHE). PHE monitors the performance of structured drug and alcohol treatment services in England by collecting treatment data through the NDTMS, and service providers upload a monthly data submission to NDTMS. The treatment service is responsible for this requirement on behalf of North Yorkshire Horizons. This data set included 2582 individuals in structured treatment.
- The treatment service also provided a data extract for their clients who are referred into treatment through the criminal justice system (October 2014 – March 2016) for the Criminal Justice Interventions Team (CJIT) dataset. CJIT data are collected as part of the NDTMS and facilitates the monitoring of drug and alcohol treatment delivered to service users who are also engaged with criminal justice agencies including drug treatment within prison. This data set included 532 individuals referred through criminal justice interventions.
- A data extract for the needle exchange service was also provided by the treatment service (October 2014 – March 2016) which included needle exchange services delivered by North Yorkshire Horizons hubs and pharmacies (PNEX). This data set included 878 individuals accessing needle exchange services.
- Finally a data extract was provided by the treatment service detailing the demographic information for individuals accessing the R&M service. This data set included 1064 individuals who engaged with the R&M service, both concurrently and independently of the Treatment Service.

INDIVIDUAL OUTCOME DATA

- The treatment service provided a copy of the North Yorkshire Horizons Key Performance Indicator monthly commissioner reports
- The R&M service provided a copy of their management information reports
- The NDTMS data extract allowed for an analysis of Treatment Outcome Profile (TOP) data – self reported TOP data is collected as part of the PHE NDTMS dataset, on service users engaged in structured treatment programmes. The TOP is a series of short questions which plots a client’s progress through structured treatment from assessment and care plan reviews to discharge from structured services. Data was available for all NDTMS (n=2582) clients.
- The treatment service also adopts a number of other data collection tools to assess needs and monitor individual changes, including the following:
 - Positive outcomes achieved - the treatment service records self-reported positive outcomes achieved during time in treatment including improved finances, housing, reduced drug related offending, physical health, unpaid employment, life skills, education or training, parental skills, social network, paid employment, coping skills, mental health and family relationships. This data included 3379 positive outcomes recorded for 890 individuals
 - The Alcohol Use Disorders Identification Test (AUDIT) – this is a validated alcohol screening tool which is endorsed by the National Institute for Health and Care Excellence which requires individuals to answer questions about their alcohol consumption and associated behaviours. The AUDIT assessment was conducted 5052 times across the evaluation period. The assessment was completed once for 2330 individuals, twice for 1674, three times for 783, four times for 221, five times for 38, six times for five and seven times for one individual.
 - The Generalized Anxiety Disorder (GAD-7) validated questionnaire - individuals completed the self-administered seven item scale to assess their health status in the previous two weeks. The GAD-7 was completed once for 427 individuals, twice for 15 individuals and three times for one individual.
 - The Patient Health (PHQ9) validated questionnaire – individuals completed the PHQ9 to assess health and to screen and monitor the severity of depression. The PHQ-9 was completed once for 427 individuals, twice for 15 individuals and three times for one individual.
 - The EuroQol five dimensions questionnaire (EQ-5D) – individuals completed the EQ-5D; a NICE approved quality of life measure and validated instrument for measuring health status designed to provide a ‘descriptive profile and single index value’ for health status. The EQ-5D was completed once for 156 individuals, twice for 68 individuals and three times for six individuals.
 - The severity of alcohol dependence questionnaire (SADQ) - individuals completed the self-administered, 20 item scale to measure their severity of dependence. The SADQ was completed 225 times for 185 individuals.

- The R&M service also collected a number of individual outcome data:
 - Sundial outcomes monitoring tool (a local adaptation of the Outcome Star) – the sundial assessment measures progress across six key outcomes including secure base, inclusion, supportive relationships, identity, coping strategies and goals. A total of 333 outcomes, for 272 individuals were reported.
 - Positive outcomes achieved – the R&M service record positive outcomes relating to housing status and engagement with education. This data included 446 positive outcomes for 247 individuals.

PREVIOUS PROVIDERS' SERVICE DATA

It was not possible to access previous providers' raw NDTMS data (12 organisations) in order to make pre and post service re-configuration comparisons. Therefore pre-analysed performance reports were accessed through NDTMS.net to make comparisons before and after the launch of North Yorkshire Horizons. NDTMS.net is a website that provides access to national statistics for drug and alcohol treatment at the National Drug Evidence Centre on behalf of Public Health England. Other publically available data sources were also utilised including Public Health England (including DOMES reporting) and Office for National Statistics.

EXTERNAL DATA

A number of data sets were utilised to inform the cost effectiveness analysis:

- Crime data provided by the Police & Crime Commissioning team comprising information on drug and alcohol related arrests, crime and ASB
- Hospital Episodes Statistics data provided by Public Health England including information on alcohol specific hospital admissions
- Drug treatment prescription data provided by North Yorkshire County Council including information on North Yorkshire Horizons prescribing (prescription drug, prescriber and cost)
- North Yorkshire County Council and the treatment and R&M services also provided a cost breakdown of services and interventions

EXPLORATION AND ANALYSIS OF DATA

The research team examined the aforementioned service data to identify:

- Demographics of clients accessing all aspects of the North Yorkshire Horizons Service, including sex, age, residence and ethnicity
- Substance misuse profile of all clients accessing North Yorkshire Horizons
- Referrals into the service, including referral source

- Waiting times for the Treatment Service
- Treatment interventions accessed and service locations
- Needle exchange return rates
- Outcomes achieved during structured and non-structured treatment, including length of stay in treatment
- Treatment Service discharge rates and reasons, including re-presentations
- A comparison of individuals transferred over from the previous treatment providers in North Yorkshire and new clients presenting to North Yorkshire Horizons
- A comparison and journey mapping for individuals who accessed the treatment aspect of the service and then went onto engage with the R&M service
- The treatment data and outcome data was also utilised for the cost effectiveness evaluation

2.2. Cost Effectiveness Analysis Methods

Cost effectiveness can mean different things to different people. Quite often economic value is measured in terms of return on investment or cost benefit ratio; this is the ratio of financial benefits or savings compared to the investment. Social return on investment (SROI) is a related method that involves attempting to measure the individual social value from any stakeholders who have a material interest in the programme. SROI may often produce a higher ratio than other methods as it often has a broader perspective, including individual social value to service users. But because SROI methods are less standardised, it can be difficult to compare one SROI analysis with another, whereas other economic evaluation methods are more standardised.

Perspective is important in measuring cost effectiveness. Drug treatment is a programme that has cross sector effects, where spend in one sector (Local Authority public health) produces benefits in other sectors (such as criminal justice, health, and social benefits). For any economic evaluation, it is important that an appropriate perspective is used that includes all of the objectives of the programme. In this case, the economic evaluation will include a public sector perspective that includes crime, healthcare, and the value of health benefits in terms of QALYs.

Many health related programmes are measured in terms of cost utility analysis (CUA) which measures the net costs per QALY gained. QALYs are a summary measure of health related quality of life (HRQoL) and longevity, so if somebody lives longer, or their quality of life increases, they gain QALYs. QALYs are particularly useful as a common currency that can be used to compare many different types of health intervention. With cost utility, a programme or intervention may be considered to be cost effective even if it doesn't produce a cost saving, as long as it produces QALY gains at a reasonable cost. NICE generally consider public health programmes to be cost effective if the incremental cost per QALY is less than £20,000. For some clinical interventions, for instance cancer treatments that extend life, NICE may be willing to pay up to £50,000 per QALY gained. The Treasury value QALYs at £60,000 (Glover and Henderson, 2010). In the past, crime-related QALYs have been valued at £81,000 (Carthy et al., 1999). There has been work produced by the University

of York that suggests the incremental value of QALYs for current NHS spend is around £14,000 and this is what new programmes should be measured against (McCabe et al., 2008). The original cost per QALY threshold was derived from USA Medicare decision making around kidney dialysis, which at the time was one of the most expensive treatments at around \$50,000 per QALY (although has a very high degree of certainty of how it works) (Grosse, 2008).

So in short, there are many different estimates of what is a reasonable threshold of willingness to pay for one QALY. In this evaluation, interventions will be compared to the NICE public health threshold of an incremental cost of £20,000 per QALY gained. This is often calculated using net healthcare costs but in the case of drug treatment it is more appropriate to adopt a broader perspective that includes other public sector costs such as crime. There are also questions around whether a utilitarian approach, trying to maximise QALYs across the whole population, should be favoured over an egalitarian approach, trying to get each individual in the population to have equitable opportunity for quality adjusted life expectancy. There is also the question of whether QALYs from disadvantaged groups should be valued higher as a mechanism towards reducing health inequalities. There have been several methods developed for this, including distributional cost effectiveness analysis (DCEA). The current analysis will not weight QALYs for inequalities but it is worth considering that drug and alcohol dependence often affect the most disadvantaged populations so any programmes may be considered to be more cost effective if an additional weight was given for disadvantage.

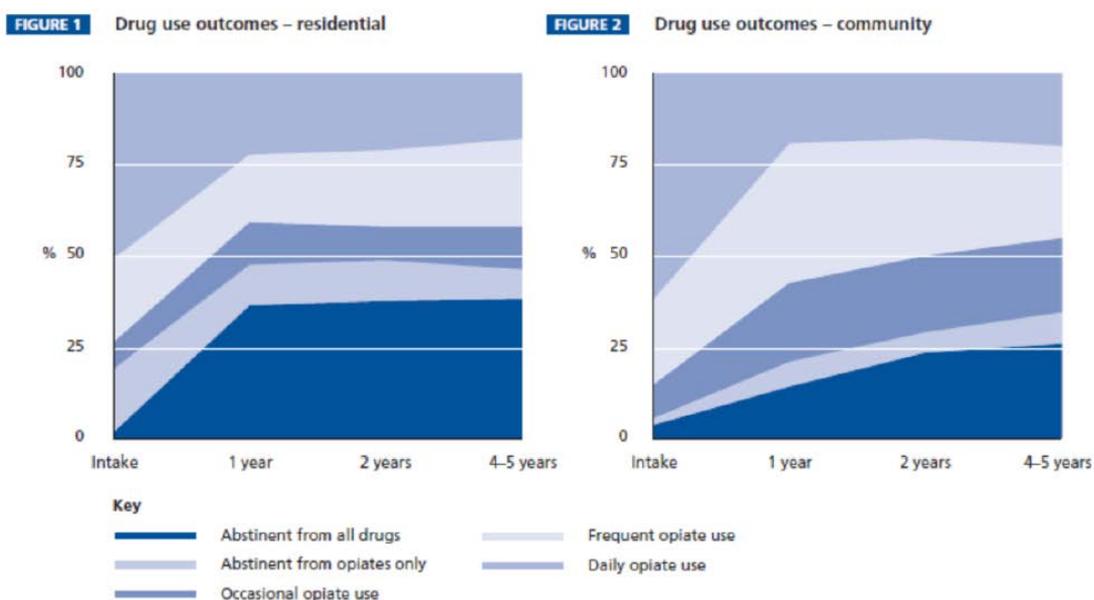
Summary of previous UK economic evaluations of drug and alcohol treatment

Spending on UK drug treatment research and evaluation has been very low in comparison to the size of the drug treatment budget so there has not been a huge amount of research into drug and alcohol treatment, and even less with an economic component. Previous large scale economic evaluations have included NTORS and DTORS (for drug treatment), and UKATT for alcohol. UKATT is the only recent large scale UK randomised trial of drug or alcohol treatment. Randomised trials are typically not used as a methodology because it is recognised that drug and alcohol treatment works and it would therefore not be ethical to withhold drug or alcohol treatment from eligible people. This means that nearly all drug and alcohol treatment evaluations have a 'before and after' or cohort design which can lead to some biases, partly because it may be difficult to know what the comparator or counterfactual is. In future there may be more opportunity to carry out pragmatic trials of drug and alcohol treatment but it can be difficult to match areas up and share data. So for instance for this piece of work North Yorkshire could potentially be compared with other areas that have taken a different approach; the new North Yorkshire Horizons has focused more on alcohol than the previous treatment system, and has deliberately had a separate treatment and recovery service to give each equal energy.

National Treatment Outcome Research Study (NTORS)

The National Treatment Outcome Research Study (NTORS) was a large scale study into drug treatment carried out in England and Wales between 1995 and 2000 (Godfrey et al., 2004). This study was commissioned at a time when politicians had raised doubts about the effectiveness of methadone maintenance therapy which had been around since the mid-1980s as a treatment for heroin addicts. This study found that for every extra £1 spent on drug misuse treatment, more than £3 was saved on costs of crime. The total cost benefit ratio was quoted as £9.50 in benefits for every £1 spent.

Figure 1. Drug treatment outcomes in the NTORS study.



Drug Treatment Outcome Research Study (DTORS)

The Drug Treatment Outcome Research Study (DTORS, 2009) looked at outcomes for drug users (including problematic and non-problematic drug users) and included a cost effectiveness element. It combined cost and activity data from NDTMS with interview data for around 1,800 people that was used to estimate QALYs gained and resource use (health and social care, and cost of offences). The QALYs were calculated using the SF-12 (Short form 12) survey instrument. There was a lot of variation in the average QALY gains for individuals. In the DTORS, the net benefits of drug treatment were positive in 80% of clients. The average net saving was £6,500 per person for drug treatment, compared to no treatment. The average net benefit ratio was around £2.50 for every £1 spent (Davies et al., 2009). This is much lower than the NTORS ratio of £9.50 for every £1 spent but was measured over a time period of 51 weeks compared to a 4 year time period in the NTORS, as well as there being other differences in measuring costs and benefits between the two studies (Godfrey et al., 2004).

The average number of QALYs gained in the DTORS study were quite small (0.05 QALYs) and subject to a lot of uncertainty. The QALY estimates in the DTORS used the SF-12 survey instrument rather than the EQ-5D which is considered by NICE to be the gold standard. The DTORS cost effectiveness study was also a before and after study, which may underestimate the QALY gains from drug treatment, as without drug treatment individual quality of life may have declined rather than been stable, and a higher proportion of individuals may have died as well. It may not be considered ethical or practical to run randomised controlled trials in drug treatment but there may be scope for more robust research designs like cluster randomised controlled trials or natural trials in future.

Table 1. Estimated costs and QALYs over a 51 week period, data from the DTORS 2009.

Parameter	Without treatment	With treatment	Net benefit
Cost of structured treatment	-	£4,914	-
Cost of health and social care	£4,543	£3,120	£1,423
Cost of reported offences	£50,585	£39,967	£10,618
Total	£55,127	£43,087	£12,041
QALYs	0.63	0.68	0.05

United Kingdom Alcohol Treatment Trial (UKATT)

The UKATT (UKATT Research Team, 2005) was the largest recent UK study of alcohol treatment. This was a randomised control trial (RCT) which compared two different types of alcohol treatment, thus removing the potential ethical problem of withholding treatment from one group. The UKATT compared Motivational Enhancement Therapy (MET) with what was then a new technique, Social Behaviour and Network Therapy, (SBNT) in terms of their relative cost effectiveness. The study showed that SBNT was more cost-saving and less effective than MET but these differences were not statistically significant. For UKATT, effectiveness data were collected from 1999 to 2001 from seven treatment sites. Costs were derived from sources published between 1998 and 2002. The cost data were reported to reflect 2000 to 2001 prices. QALY were calculated using the EQ-5D which is often said to be the gold standard health related quality of life tool. In the motivational therapy group, the mean EQ-5D score was 0.616 (standard deviation, SD=0.299) at baseline, 0.684 (SD=0.293) at 3 months and 0.671 (SD=0.311) at 12 months. In the social network group, the mean EQ-5D score was 0.589 (SD=0.298) at baseline, 0.648 (SD=0.314) at 3 months and 0.626 (SD=0.324) at 12 months. After adjusting for baseline differences in the analysis, the social network therapy group achieved 0.0113 QALYs less than the motivational group, but the difference was not statistically significant (bias corrected 95% CI: 0.0532 fewer to 0.0235 more). The average treatment cost was £221 in the social behaviour and network therapy group and £129 in the motivational group. An incremental analysis was performed. Motivational enhancement therapy had an incremental cost-effectiveness ratio of £18,230 per QALY gained (marginal cost of 206 divided by marginal utility gain of 0.0113 QALYs) in comparison with social therapy. The improvements seen in EQ-5D scores in the UKATT are similar to those seen in the North Yorkshire Horizon sample.

National evaluation of crack cocaine treatment and outcome study (NECTOS)

The National evaluation of crack cocaine treatment and outcome study (NECTOS) was published in 2007 (Weaver et al., 2007). This was planned to have several elements to it;

- Process evaluation: quantitative measurement of service activity and treatment process
- Outcome evaluation: quantitative assessment of client and service-based outcomes
- Economic evaluation: an assessment of unit cost per patient for each service
- Qualitative investigation: qualitative multi-perspective (client, staff, management) investigation of service management, service delivery and treatment process.

The economic evaluation element did not look at cost effectiveness or outcomes; it only looked at the average cost of delivering the service. This evaluation found that the unit cost of delivering the service varied significantly between £992 per client in one Manchester service, to £6,132 per client in a London service. The services were a mixture of 'Tier 2 drop in' services and 'Tier 3 casework'

services. The study found that one in four crack users funded their drug use wholly or partly through criminal activity. This study has a lot of useful qualitative information but less useful economic information, apart from a possible range of values to benchmark costs of drug treatment for crack users against.

Drug Outcome Research in Scotland (DORIS) study

This study followed a sample of 1007 drug users recruited from 33 drug treatment agencies (including five prisons) from across Scotland in 2001/02 and followed up at eight months (DORIS2), 16 months (DORIS3) and 33 months (DORIS4). The study achieved 70% follow up at 33 months. More than twenty reports have been published on the DORIS study (e.g. McKeganey et al., 2006). This study found that residential rehabilitation treatment produced the best outcomes, with outcomes better for clients in the community than in prisons. Like many other studies, DORIS found that, as drug consumption reduced, so did criminal activity. DORIS did not include any direct cost effectiveness, economic or quality of life element, although did include the Short Form 36 (SF-36) Health Survey Questionnaire which can be transformed into utility scores and QALYs. Based on their responses to the SF-36 questionnaire, DORIS respondents reported poorer health than the UK population as a whole on a number of dimensions: they reported much poorer mental health, more role limitations due to emotional problems, more role limitations due to physical problems, lower energy and vitality, more pain, poorer social functioning, and perceived themselves to have poorer general health. There was a very strong independent association between an improvement in mental health and recent abstinence from non-prescription drugs. The DORIS sample were 12 times more likely to die than their non-drug- using peers.

Table 2. DORIS scores

Mean SF-36 scores at DORIS1 compared to UK normative scores reported by Jenkinson et al (1993)			
	DORIS1 (n = 990)	UK normative scores (n = 4959)	
SF-36 scale	Mean (standard deviation)	Mean (standard deviation)	Difference between mean scores
Physical functioning	84.8 (20.3)	88.4 (17.9)	3.6
Social functioning	53.8 (33.4)	88.0 (19.5)	34.2
Role limitation due to physical problems	53.6 (44.0)	85.8 (29.9)	32.2
Role limitation due to emotional problems	40.6 (44.5)	82.9 (31.8)	42.3
Mental health	46.7 (23.9)	73.8 (17.2)	27.1
Energy and vitality	40.1 (22.9)	61.1 (19.6)	21.0
Pain	51.8 (32.7)	81.5 (21.6)	29.7
General health perception	47.6 (24.6)	73.5 (19.9)	25.9

Other Studies

There is also a modelling study by Mortimer and Segal (2005) that looked at various alcohol interventions. There has been a Health Technology Assessment looking at diversion and Aftercare

for drug using offenders (Hayhurst et al., 2015) and studies looking at the cost effectiveness of the drug interventions programme (e.g. Collins et al., 2016).

There have been various modelling studies produced for NICE; for instance Connock et al. (2007) looked at the cost effectiveness of buprenorphine and methadone opiate substitution therapy (OST) and found both were likely to be cost effective interventions. There is an alcohol intervention return on investment (ROI) tool developed for NICE which allows some treatment interventions to be modelled, as well as policy and brief interventions. The treatment interventions included in this tool are;

- Acute alcohol withdrawal – direct access/inpatient detoxification
- Acute alcohol withdrawal – hybrid inpatient/outpatient
- Acamprosate to support relapse prevention
- Naltrexone to support relapse prevention
- Behavioural Self Control Training
- Coping/social skills training
- eCBT
- Marital/Family therapy
- Motivational interviewing

Several Value for Money tools and Cost Effectiveness Tools have been produced by the National Treatment Agency (NTA) and PHE. These have often been made available to commissioners only so are not in the public domain. In 2016 PHE are looking at producing a social return on investment tool which includes the impact of drug use on families.

There have been several studies based on data from the NDTMS such as Beynon et al. (2010).

There have been studies of drug treatment in other countries, such as The Drug Abuse Treatment Outcome Study (DATOS) in the USA, the North American Opiate Medication Initiative (NAOMI) study in Canada, The ROSIE Study of Drug Treatment Outcomes in Ireland, and the VEDETTE study in Italy.

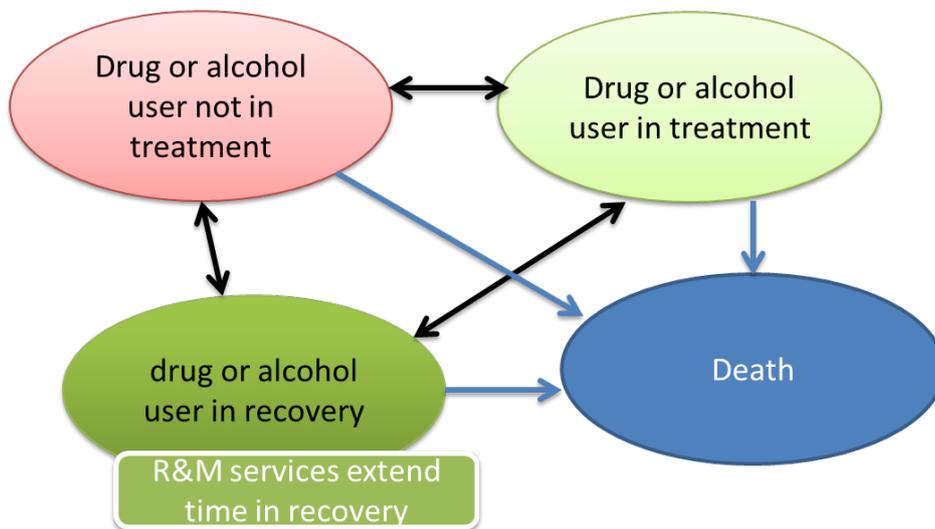
2.3. Modelling Methods

The models used were decision trees that led into Markov state models. Markov models involve individuals existing in a set of mutually exclusive and collectively exhaustive health states and having a probability of moving between these states within a time period or cycle. The present models used six month cycles. So for a model of drug and alcohol treatment, individuals may start off as being dependent and not being treatment, and then have a probability of moving into treatment, into recovery, and then becoming drug or alcohol free or of relapsing. Markov models allow complex, long term systems to be modelled and conceptualised in quite simple terms. The model was run with a 60-year time horizon (120 six month cycles) and costs and benefits were discounted at 1.5% for QALYs and 3.5% for costs. The models were tested by running 10,000 Monte

Carlo micro simulations to get a range of possible results that accounted for uncertainty in input parameters. Outcomes were modelled over the lifetime of individuals using North Yorkshire Horizons. The costs and outcomes had a public sector perspective.

The model was mainly driven by local data which is uncontrolled 'before and after' data which means we do not know what would have happened without the intervention (the counterfactual). To control for this, the modelling used data from other sources of evidence or extrapolated based on the individual's condition at baseline. For example if the average quality of life score increases from 12 at baseline to 15 when leaving treatment six months later, we may assume that without treatment the quality of life score would have remained at 12 – this in itself may be a conservative assumption because in reality quality of life would have deteriorated without treatment.

Figure 2. Schematic of drug and alcohol treatment Markov models.



Needle and syringe exchange

The present modelling did not look at needle and syringe exchange. By its nature needle and syringe exchange is provided so that individuals can access services easily and in confidence.

Needle and syringe programmes (NSPs) are very cost effective. A worldwide study (Health Outcomes International & Drummond, 2002) found that cities with an initial HIV prevalence less than 10% and with sero-surveys over a period of at least three years, the mean annual decrease in HIV prevalence was 4.0% in cities that introduced NSPs, compared with a mean annual 28.6% increase in cities without NSPs. On average, HCV prevalence in cities with NSPs was 37% lower than in cities without NSPs.

Residential Detox and Rehab

This evaluation did not specifically model residential detox or rehab, although individuals who use these services would be included in the costing and activity data. From 2006 to 2014, North Yorkshire has consistently had around 1% of clients with residential rehabilitation recorded as part of their latest treatment journey within NDTMS data, compared with the rest of England which have had on average 3%, dropping to 2% in the most recent years. Residential services are typically very costly compared to other forms of drug treatment, so it may be worth looking specifically at costs per outcome for these services. A report by the Department for Work and Pensions (2015) suggested that long term outcomes are better for opiate users who have a residential component to their treatment pathway, but residential rehab is considerably more expensive and it may take up to 12 years to get a return on investment. The DORIS study also found that residential detox produced the best outcomes. Drug and alcohol users do not generally self-select or will not be randomized to residential rehab so it is difficult to make a valid comparison with individuals not using residential rehab.

Positive Benefits of Drug Use

This economic evaluation will not consider the value of any positive benefits of drug use. There may be some benefits of drug use for individuals in enhancing social occasions, or helping them to relax. Some individuals may be self-medicating for mental health conditions, but the working assumption is that by the time an individual comes into drug treatment, any benefits they have from continuing drug use are far outweighed by the harmful consequences of drug use. This has been observed in longitudinal studies of drug users (e.g. Holmberg, 1985). Individual baseline scores on the TOPs are proof of this; many individuals have problems in terms of health, crime, and housing where drug use has been a contributor.

Data Used

NDTMS data and non-NDTMS reportable data were provided by DISC and Lifeline. In general unless otherwise stated, data was used for April 2015 to March 2016 (15/16 financial year). This was the time period used in order to get a full year of data and to have given the service some time to 'bed in' as it began in October 2014.

For the economic modelling, data were analysed by the four mutually exclusive categories introduced by PHE from 2014/15.

These are:

1. Opiate; 2. Alcohol only; 3. Non-opiate only; 4. Alcohol and non-opiate

The most important thing to note about these four categories is that if someone has an opiate drug recorded within their NDTMS dataset as any of their 1-3 drugs of misuse, they will be put into the opiate category, even if, in some cases, another drug such as alcohol may be causing the most harm to that individual.

Costing data

There are different approaches to putting a cost on drug treatment and on outcomes from drug and alcohol use. Micro costing or 'bottom up' costing involves looking at costs for each individual and then aggregating them up, while macro- (gross) or 'top down' costing involves looking at total costs and dividing them to get an average cost per person. In general, 'top down' macro costing produces higher costs than 'bottom up' micro costing but micro costing may be more accurate and produces richer data. The present evaluation has mainly used 'top down' macro costing as a micro costing exercise was outside of the scope of this piece of work. The costing data is outlined in more detail in the sections that summaries each model.

2.4. Qualitative Research Methods

Qualitative interviews were carried out with service users and peer mentors from the Treatment and Recovery & Mentoring aspects of North Yorkshire Horizons, as well as stakeholders who were either involved in the commissioning or provision of North Yorkshire Horizon, or who worked for partner agencies.

Ethical approval to carry out the study was granted by Liverpool John Moores University Research Ethics Committee (reference 14/EHC/052).

Stakeholder Interviews

A list of stakeholders was provided to the research team by North Yorkshire County Council Public Health Team. These stakeholders were contacted by email and telephone and were invited to take

part in a telephone interview. Fifteen interviews were carried out with staff, managers and commissioners of North Yorkshire Horizons, as well colleagues from partner agencies spanning health, criminal justice and children's services.

The interviews were semi-structured; the researchers had a list of pre-determined open ended questions that allowed for participants to expand upon their answers. Due to the broad spectrum of stakeholders taking part in telephone interviews, the interview questions were adapted based on the participant's job role to ensure that relevant data was collected. All of the participants were sent a copy of the Participant Information Sheet prior to their interview which included information about the background of the research, what taking part would entail and safeguarding procedures. Participants were asked to provide verbal consent to take part in the interview and were made aware that interviews would be audio-recorded and transcribed, and all the data collected would be anonymised and stored securely. The interviews lasted between 10 to 45 minutes, with the length of the interview being determined by how much knowledge and involvement the stakeholder had with the integrated substance misuse services in North Yorkshire.

Service User Interviews

A total of 27 interviews were carried out with service users of the Treatment and/or Recovery & Mentoring aspects of North Yorkshire Horizons, as well as peer mentors (9 were carried out between January and March 2016 and 18 between October 2015 and February 2016). Interviews were carried out until saturation of data was achieved (i.e. no new themes were developing and the main themes had been conformed). The recruitment of service users for the telephone interviews was primarily carried out by the key workers who worked within North Yorkshire Horizons. The key workers were provided with recruitment posters to help promote the research as well as Participant Information Sheets which provided information about the research including why it was being carried out, what taking part would involve and safeguarding procedures that were in place in case of a disclosure. Key workers provided the research team with the contact details for service users who had expressed an interest in participating. These participants were contacted by telephone by the research team to answer any queries about the research and to schedule a suitable day/time for the telephone interview. One participant contacted the research team directly as they had seen the interview opportunity advertised within their local North Yorkshire Horizons service hub. Participants provided verbal consent to take part in the interviews and were made aware that their interview would be audio-recorded and transcribed and that all data collected would be stored securely and anonymised. The following table outlines the service users who took part in the evaluation:

PARTICIPANT NUMBER	SERVICE	LOCATION
Service User 1	Treatment	Skipton
Service User 2	Recovery & Mentoring Service	Skipton
Service User 3	Treatment and Recovery & Mentoring Service	Skipton
Service User 4	Recovery & Mentoring Service	Scarborough
Service User 5	Recovery & Mentoring Service	Scarborough
Service User 6	Recovery & Mentoring Service	Harrogate
Service User 7	Treatment and Recovery & Mentoring Service	Skipton
Service User 8	Recovery & Mentoring Service	Harrogate
Service User 9	Treatment and Recovery & Mentoring Service	Skipton
Service User 10	Recovery & Mentoring Service	Harrogate
Service User 11	Treatment and Recovery & Mentoring Service	Harrogate
Service User 12	Treatment and Recovery & Mentoring Service	Scarborough
Service User 13	Recovery & Mentoring Service	Northallerton
Service User 14	Treatment and Recovery & Mentoring Service	Harrogate
Service User 15	Treatment and Recovery & Mentoring Service	Skipton
Service User 16	Recovery & Mentoring Service	Selby
Service User 17	Treatment and Recovery & Mentoring Service	Skipton
Service User 18	Recovery & Mentoring Service	Selby
Service User 19	Recovery & Mentoring Service	Scarborough
Service User 20	Treatment and Recovery & Mentoring Service	Northallerton
Service User 21	Recovery & Mentoring Service	Harrogate
Service User 22	Treatment and Recovery & Mentoring Service	Harrogate
Service User 23	Recovery & Mentoring Service	Harrogate
Service User 24	Recovery & Mentoring Service	Scarborough
Service User 25	Treatment and Recovery & Mentoring Service	Scarborough
Peer Mentor 1	Recovery & Mentoring Service	Selby
Peer Mentor 2	Recovery & Mentoring Service	Scarborough

The interviews were semi-structured; the researchers had a list of pre-determined open ended questions that allowed for participants to expand upon their answers. There were generic questions that were asked of both Treatment and R&M service users as well as questions that had been adapted to refer to the specific elements of treatment and recovery. Participants were provided with a £10 voucher for taking part that could not be redeemed in licensed premises.

Qualitative Data Analysis

Initial analysis of some of the stakeholder and service user interviews was included in the interim report. However, as a substantial number of interviews were carried out following the interim report it was decided that all the interviews would be re-analysed so that common themes could be identified across them. Full verbatim transcripts were made from the interviews. In order to protect confidentiality, stakeholders and service users have been assigned a code in the write up of the data, although the location of the service users' hubs have been included. Thematic analysis (Braun and Clarke, 2006) was carried out on the transcripts from both the stakeholder and service user interviews using QSR NVivo 10. A staged thematic analysis (Burnard, 1991; 2008) was used. This interpretive approach involved the researcher becoming familiar with the data and applying pre-determined (therefore deductive) codes (or themes) to all of the text. These codes were then grouped into categories and emerging themes were identified. Illustrative verbatim quotations are used in the analysis to highlight these themes. The stakeholder interviews were analysed separately to the service user interviews. All service user interview transcripts were analysed together, with codes allowing for distinctions to be made between participants who were engaged in Treatment and Recovery & Mentoring aspects of North Yorkshire Horizons. Coding, analysis and write up of the data from both the stakeholder and service user interviews was carried out independently by one member of the research team and was checked for accuracy and consistency by another.

Limitations

Stakeholder recruitment and engagement proved difficult due to non-response and/or diary time constraints. This meant that not all of the stakeholders who were contacted were able to take part and therefore their viewpoint is not represented in this evaluation. However, enough interviews were carried out with stakeholders in order to reach saturation of data. In addition to this, using key workers to recruit service users could potentially lead to some bias in the sample. Participants who were more engaged with the service may have been more likely to have participated in an interview because they were in regular contact with their key worker and therefore are more likely to have been encouraged to participate. Thus the perspectives of those who are not engaging in the integrated substance misuse services in North Yorkshire may not be represented in this evaluation. Also, as discussed previously, the interviews were carried out over an extended period of time; those that were carried out earlier tended to focus on the set up and early stages of the service and any mobilisation challenges associated with this.

3. FINDINGS

3.1. Quantitative findings

3.1.1 WHO ACCESSED NORTH YORKSHIRE HORIZONS?

An overview of North Yorkshire Horizons, the overall picture during the evaluation, is shown in table 3.

Table 3. Population and treatment estimates

Population		Male		White British			
		n	%	n		%	
Population estimates							
	2014	14/15	14/15	14/15		14/15	
England ¹	54,316,600	26,773,200	49.3	45,682,100 ²		83.3	
Yorkshire and The Humber	5,360,027	2,641,404	49.3	-		86.82	
North Yorkshire	601,536	296,034	49.2	-		92.62	
In treatment population							
April 2015 – March 2016						Age	
National NDTMS ³	288,843	201,215	69.7	239,083	84.7	range	mean
Oct 2014 – Mar 2016							
North Yorkshire Horizons	3,360	-	-	-	-	18-82	-
NDTMS – individuals engaged in structured interventions	2,582	1,684	65.2	2,351	91.1	19-82	42
CJIT – individuals referred through criminal justice route	532	419	78.8	523	98.3	18-65	33
Needle Exchange	878	755	86	861	98.1	18-68	36
R&M*	1,064	624	58.6	-	-	19-82	43

*includes individuals who accessed structured treatment before the R&M service and individuals new to the R&M service

¹ ONS 2014 - UK population mid-year estimates
<http://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates>

² ONS 2011 - Population Estimates by Ethnic Group 2002 – 2009
<http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Population+Estimates+by+Ethnic+Group>

³ Statistics from the NDTMS: 1 April 2015 to 31 March 2016 <http://www.nta.nhs.uk/statistics.aspx>

DEMOGRAPHIC PROFILE OF SERVICE USERS ENGAGED IN NORTH YORKSHIRE HORIZONS

Across the 18 month reporting period 3360 individuals accessed North Yorkshire Horizons.

CLIENTS ACCESSING TREATMENT SERVICE AT NORTH YORKSHIRE HORIZONS AND RECORDED THROUGH THE PUBLIC HEALTH ENGLAND NATIONAL DRUG TREATMENT MONITORING SYSTEM (NDTMS) – STRUCTURED TREATMENT INTERVENTIONS

A total of 2582 (n=2849 episodes) individuals accessed structured treatment programmes (as defined by National Drug Treatment Monitoring System [NDTMS]) during the first 18 months of service. These clients are referred to as ‘NDTMS clients’ hereafter. Some NDTMS clients accessed structured treatment programmes within North Yorkshire Horizons more than once during this time, with individuals having between one and three episodes of structured treatment each during the evaluation period (mean number of times in structured treatment n=1). However, the majority of NDTMS clients were engaged in structured treatment programmes once (n=2338, 90.5%). Almost two thirds (n=1511, 63.2%) of NDTMS clients had been in treatment on at least one previous occasion⁴ before starting treatment with North Yorkshire Horizons. Individuals were aged between 19-82 years, with a mean age of 42. The majority of service users accessing structured treatment were males (n=1684, 65.2%) and 91.1% (n=2351) stated their ethnicity as White British.

CLIENTS ACCESSING TREATMENT AT NORTH YORKSHIRE HORIZONS AND RECORDED THROUGH THE PUBLIC HEALTH ENGLAND CRIMINAL JUSTICE INTERVENTION TEAM (CJIT) – REFERRED THROUGH CRIMINAL JUSTICE AGENCY

A number of individuals (n=532 [n=556 episodes]) also engaged with criminal justice treatment interventions delivered by North Yorkshire Horizons during the evaluation period (as defined by the Criminal Justice Intervention Team [CJIT]). These clients are referred to as ‘CJIT clients’ hereafter. A higher proportion of CJIT clients defined their ethnicity as White British compared to the cohort of NDTMS clients (n=523 [98.3% vs 91.1%]). CJIT clients were aged between 18-65 years, but had a younger average age compared to NDTMS clients (33 years vs 42 years). The majority of offences⁵ recorded for CJIT clients included possession of illicit drugs (n=203, 39.1%), and ‘other offence’ (n=144, 27.7%). Other offences included theft, assault and supply.

CLIENTS ACCESSING NEEDLE EXCHANGE SERVICES - AT NORTH YORKSHIRE HORIZONS AND VIA PHARMACIES

During October 2014 to March 2016, 878 individuals accessed needle exchange services (n=889 episodes), this included those provided by North Yorkshire Horizons and pharmacies (PNEX). These clients are referred to as ‘NEX clients’ hereafter. NEX clients had a younger mean age than NDTMS clients (mean age 36 years vs 42 years). Similarly to other cohorts of service users reported, more

⁴ NDTMS previously treated: missing data n=191, 7.4%

⁵ CJIT offence: data missing n=13, 2.4%

males accessed needle exchange services than females. With a higher proportion of males accessing needle exchange services compared to structured treatment (86.0% vs 65.2% for NDTMS clients). A greater proportion also defined their ethnicity as White British (n=861 [98.1% vs 91.1% for NDTMS clients]).

RECOVERY & MENTORING SERVICE

CLIENTS ACCESSING THE RECOVERY & MENTORING (R&M) SERVICE AT NORTH YORKSHIRE HORIZONS

A total of 1064 service users were engaged with the R&M Service during the evaluation period. These clients are referred to as 'RMS clients' hereafter. RMS clients were aged between 19-82 years and had a higher average age (n=43 years) than NDTMS clients. A higher proportion of females were engaged in the R&M service than in the treatment service/ NDTMS clients (n=440, 41.4% compared to 34.8%).

A proportion of RMS clients (n=175, 16.4%) could not be matched with NDTMS data during the evaluation period, and were therefore not previously engaged in the treatment aspect of North Yorkshire Horizons. Therefore 889 (83.6%) RMS clients had previously been engaged with the treatment aspect of North Yorkshire Horizons and had gone onto engage with the R&M service. It was possible to match 876 of the 889 (98.5%) to the treatment data set which allowed further exploration of the treatment and recovery journey. Of those who engaged in both treatment and then R&M aspects of North Yorkshire Horizons during the evaluation period, 59.1% (n=518) were male and individuals were aged between 19 and 82 (mean age n=43). RMS clients who had not previously engaged in treatment had similar demographics (n=106, 56.4% males; aged 20-78 [mean age 43]).

RESIDENCE AND HOUSING STATUS

The majority of NDTMS and CJIT clients resided within the North Yorkshire County Council footprint (NDTMS: n=2540, 98.4%; CJIT: n=515, 96.8%). As expected, the majority of NDTMS clients resided in the large market towns of Harrogate (n=800, 31.0%) and Scarborough (n=673, 26.1%).

Table 4. Local Authority of residence

Local Authority	n	%
Harrogate	800	31.0
Scarborough	673	26.1
Selby	328	12.7
Craven	258	10.0
Hambleton	240	9.3
Ryedale	133	5.2
Richmondshire	108	4.2
Other*	42	1.1
Total	2582	100

*Other Local Authorities of residence include: Bradford, Leeds, Pendle, East Riding of Yorkshire, Lancaster, Birmingham, Darlington, Derby, Middlesbrough, North Lincolnshire, North Tyneside, Peterborough, Sefton, Stockton-on-Tees, Stropshire, Tameside, Wigan and York.

Only a small proportion of NDTMS clients reported having a housing problem⁶ (n=247, 9.9%). This included urgent housing need (no fixed above n=94, 3.8%) or housing problem (n=153, 6.1%). The majority of CJIT clients also had no housing problem reported⁷ (n=400, 82.5%). This position is reflective of national data for 2015/16, which showed that the majority of those in structured treatment interventions across England had no housing problem (80.1%)⁸.

FAMILY STATUS

Two fifths of NDTMS clients were not parents⁹ (n=1015, 40.4%). The majority had no children living with them (n=897, 34.7%). Of those who had all (n=466, 18.5%) or some of their children living with them¹⁰ (n=128, 5.1%), they had between one and seven children living with them, with almost a quarter (n=571, 22.8%) having one to two children living with them. A small proportion of children were recorded as subject to a child protection plan (n=81, 5.8%) or were a looked after child/in foster care (n=44, 3.1%)¹¹. During the evaluation period, 1.7% (n=44) of NDTMS clients¹² and 0.8% (n=4) of CJIT clients¹³ were pregnant when they presented to structured treatment interventions.

⁶ Accommodation need: data missing n=86, 3.3%

⁷ CJIT accommodation need: data missing n=47, 8.8%

⁸ Statistics from the NDTMS: 1 April 2015 to 31 March 2016 <http://www.nta.nhs.uk/statistics.aspx>

⁹ Parental status: data missing n=67, 2.6%

¹⁰ Number of children living with client: data missing n=80, 3.1%

¹¹ Children living with client: data missing n=1181, 45.7%

HEALTH STATUS

A quarter (n=627, 25.7%) of NDTMS clients reported having a perceived or diagnosed mental health condition/concern¹⁴. This is based on self-reported information on dual diagnosis recorded within NDTMS.

EMPLOYMENT STATUS

A third (n=794, 32.6%) of NDTMS clients were reported as in regular employment¹⁵ during their assessment for structured treatment at North Yorkshire Horizons, with just under a third not working due to long term sickness or disability (n=754, 31.0%) and 23.0% (n=560) were unemployed and seeking work. North Yorkshire Horizons has a small proportion of students (n=19, 0.8%) and retired populations (n=93, 3.8%) engaged in structured interventions.

DRUG AND ALCOHOL PROFILE FOR INDIVIDUALS ACCESSING NORTH YORKSHIRE HORIZONS

Substance use is categorised by the Public Health England four mutually exclusive drug groups (PHE, 2014¹⁶), which takes all substance use of individuals into account (across primary, secondary and tertiary use) and avoids the double counting of alcohol users. Table 5 below presents the groupings.

¹² Number of pregnant clients: data missing n=65, 2.5%

¹³ CJIT pregnant status: data missing n=1, 0.2%

¹⁴ NDTMS dual diagnosis: data missing n=143, 5.5%

¹⁵ NDTMS employment status: data missing n=148, 5.7%

¹⁶ An explanation to the change in reporting methodology can be found here:

<http://www.nta.nhs.uk/uploads/newmethodologicalchangesinreporting.pdf>

Table 5. PHE mutually exclusive groups

Seven mutually exclusive groups	Four mutually exclusive groups
1. Opiate only	1. Opiate
2. Opiate and alcohol	2. Alcohol only
3. Opiate and non-opiate	3. Non-opiate only
4. Opiate, alcohol and non-opiate	4. Alcohol and non-opiate
5. Non-opiate only	
6. Alcohol only	
7. Alcohol and non-opiate	

OPIATES: any mention of opiates in any episode means a client is included in the opiate group (irrespective of what other substances are cited)

ALCOHOL-ONLY: clients who present with alcohol and no other substances fall into the alcohol-only group

NON-OPIATES ONLY: clients who present with non-opiate substances (and not alcohol) fall into the non-opiate only group

NON-OPIATES AND ALCOHOL: clients who have a non-opiate substance *and* alcohol (but not opiates) recorded in any drug in any episode in their treatment journey are including in the non-opiates and alcohol group.

Based on the four mutually exclusive groups, a higher proportion of alcohol only users (41.6% vs 29.4%) and lower proportion of opiate only users (42.8% vs 51.9%) were engaged with structured treatment interventions delivered by North Yorkshire Horizons (NDTMS clients) compared to the overall national treatment system. CJIT clients were mainly non-opiate only users (41.2%). Over half (n=589, 55.4%) of RMS clients were reported as accessing for alcohol use only.

Table 6. Drug profile for the four PHE mutually exclusive groups

Drug profile 4 groups	Opiate		Non-opiate		Non-opiate and alcohol		Alcohol only		Total	
	n	%	n	%	N	%	n	%	n	%
National NDTMS	149,807	51.9	25,814	8.9	28,187	9.8	85,035	29.4	288,843	100
NDTMS	1106	42.8	252	9.8	151	5.8	1073	41.6	2582	100
CJIT ¹⁷	161	31.0	214	41.2	72	13.8	73	14.0	532	100
Needle exchange	722	82.2	153	17.4	3	0.3	0	0	878	100
R&M	319	30.0	89	8.4	67	6.3	589	55.4	1064	100

Just over a quarter (n=718, 27.8%) of NDTMS clients reported using a secondary drug, with cannabis, alcohol and crack reported as the most commonly used secondary drugs (n=157, 21.9%, n=117, 16.3% and n=108, 15.0% respectively). A small proportion reported tertiary drug use (n=256, 9.9%), with the most commonly used drugs being cannabis, alcohol and benzodiazepines (n=77, 30.1%, n=38, 14.8% and n=32, 12.5% respectively). A higher proportion of CJIT clients reported secondary (n=57, 26.9%)¹⁸ and tertiary (n=22, 34.0%)¹⁹ alcohol misuse.

ALCOHOL USE

NDTMS collect information around drinking days and units in the past 28 days. Almost a third (n=755, 30.6%) of clients did not drink on any days in the past month²⁰. Of those who did have drinking days in the past month (n=1714 [of the 2582 individuals]), two fifths drank everyday (past 28 days; n=698, 40.7%). The mean number of drinking days was 12. NDTMS collect information around how many units individuals consumed on a drinking day in the 28 days before their assessment, with clients drinking between 0-195 units on a typical drinking day²¹ (mean units n=12), and the majority of clients drinking between one and 30 units.

¹⁷ CJIT drug use: data missing n=12, 2.3%

¹⁸ CJIT secondary drug use: n=212, 39.8%

¹⁹ CJIT tertiary drug use: n=63, 11.8%

²⁰ Alcohol days: data missing n=113, 4.4%

²¹ For NDTMS 29.2% (n=755) did not consume any units

AGE AT FIRST USE

The average age that NDTMS clients first used²² the substance that led them to seek specialist support was aged 19 years, with individuals most likely to start using heroin at a mean age of 21 years, alcohol at aged 16 years and cannabis at aged 15 years.

ROUTE OF USE/ ADMINISTRATION OF SUBSTANCES

Over half of NDTMS clients interventions²³ most commonly consume their substance orally (n=1311, 51.0%), which corresponds to the higher proportion of alcohol only users engaged. Other administration routes reported included smoke (n=659, 25.7%), inject (n=493, 19.2%), sniff (n=84, 3.3%) and other (n=22, 0.9%). The most common routes for administration for CJIT²⁴ clients was smoke (n=182, 34.9%) and oral (n=157, 30.1%)²⁵ corresponding with the higher proportions of non-opiate and alcohol only users engaged.

INJECTING DRUG USE²⁶

The majority of NDTMS clients stated that they had never injected (n=1564, 62.7%); with 15.7% (n=393 [however 19.3% report injection as a route of administration]) current injectors and 21.1% (n=525) previous injectors. Although the majority of CJIT clients were non-opiate users (n=214, 41.2%), almost a third were opiate users (n=161, 31.0%); however the majority of CJIT clients had never injected²⁷ (n=344, 71.1%), with 16.7% (n=81) who previously injected and 11.8% (n=57) currently injecting. Of new presentations to treatment in England, 76% had never injected, 15% previously injected and 9% currently inject²⁸.

BLOOD BORNE VIRUS ASSESSMENT AND UPTAKE

Clients are assessed for eligibility for blood borne virus interventions when they engage with North Yorkshire Horizons, and they are offered vaccinations, testing, or referral to other specialist services as appropriate.

Over half engaged in structured treatment interventions had never been tested for hepatitis C (n=1212, 58.7%), and two thirds had received a hepatitis test²⁹ prior to treatment (n=759, 36.8%) with North Yorkshire Horizons. Almost half of clients engaged in structured treatment interventions had been offered and refused a hepatitis C test³⁰ during their time in treatment (n=1098, 44.3%).

²² NDTMS age first used drug 1 data missing n=81, 3.1%, CJIT age first used drug was not collected

²³ NDTMS drug 1 route: data missing n=13, 0.5%

²⁴ CJIT drug 1 route: data missing n=10, 1.9%

²⁵ Other CJIT drug routes: sniff n=79, (15.1%), n=99, (19.0%), other n=5 (1.0%)

²⁶ Injecting status: data missing n=86, 3.3%

²⁷ CJIT injecting status: data missing n=48, 9.0%

²⁸ Statistics from the NDTMS: 1 April 2015 to 31 March 2016 <http://www.nta.nhs.uk/statistics.aspx>

²⁹ Hep c test: data missing n=519, 20.1%

³⁰ Hep C intervention status: data missing: n=102, 4.0%

Almost a quarter did accept the test (n=614, 24.8%), whilst 29.3% were assessed as not appropriate to offer a test to (n=727, 29.3%) and 1.7% (n=41) had not been offered a test.

Just over a quarter of clients engaged in structured treatment interventions had completed the hepatitis B vaccination course (n=92, 28.5%) at some point³¹. A proportion reported immunity against Hepatitis B³² when they engaged with structured treatment at North Yorkshire Horizons (n=745, 30.0%). A further 15.1% (n=376) were offered and accepted the vaccination during their time in treatment with North Yorkshire Horizons, and a third declined the offer (n=834, 33.6%). A small proportion were not provided with the opportunity for a vaccination (n=30, 1.2%) and 19.0% (n=472) were assessed as not appropriate to offer.

THE NORTH YORKSHIRE HORIZONS NEEDLE EXCHANGE SERVICE

CLIENTS ACCESSING NEEDLE EXCHANGE SERVICES AT NORTH YORKSHIRE HORIZONS

During the period October 2014 to March 2016, n=878 individuals accessed the needle exchange service provided by North Yorkshire Horizons and pharmacies (n=889 episodes: when a client dis-engages and re-engages). Clients were aged between 18-68 years, but their mean age was younger than those engaged in structured treatment interventions (mean age 36 years vs 42 years). In keeping with the overall demographic profile of service users engaged with North Yorkshire Horizons, more males accessed needle exchange services than females; however the proportion of males was greater in comparison (n=755, 86.0%). Needle exchange also saw a higher representation of people defining their ethnicity as White British (n=861, 98.1%).

Heroin was the primary drug of choice for needle exchange service users (n=712, 81.1%) followed by steroids (n=113, 12.9%)³³. Steroid use was minimally represented in the substances reported by those engaged in structured treatment interventions and CJIT interventions (0.1% and 0.2% respectively). However it is noted that it is unlikely that steroid use would be listed as a primary substance in structured treatment. Two fifths (n=385, 43.8%) of needle exchange clients accessed the services at the Scarborough hub, followed by just under a third (n=257, 29.3%) at Harrogate. Other hubs accessed included Selby (n=120, 13.7%), Northallerton (n=95, 10.8%) and Skipton (n=21, 2.4%).

³¹ Hep B vaccination: data missing n=2259, 87.5%

³² Hep B intervention status: data missing n=100, 3.9%

³³ Other drug use by needle exchange clients included: amphetamines, mephedrone, subutex, benzodiazepines, cocaine, codeine, crack, HGH, methamphetamine, other opiates, other prescribed drugs

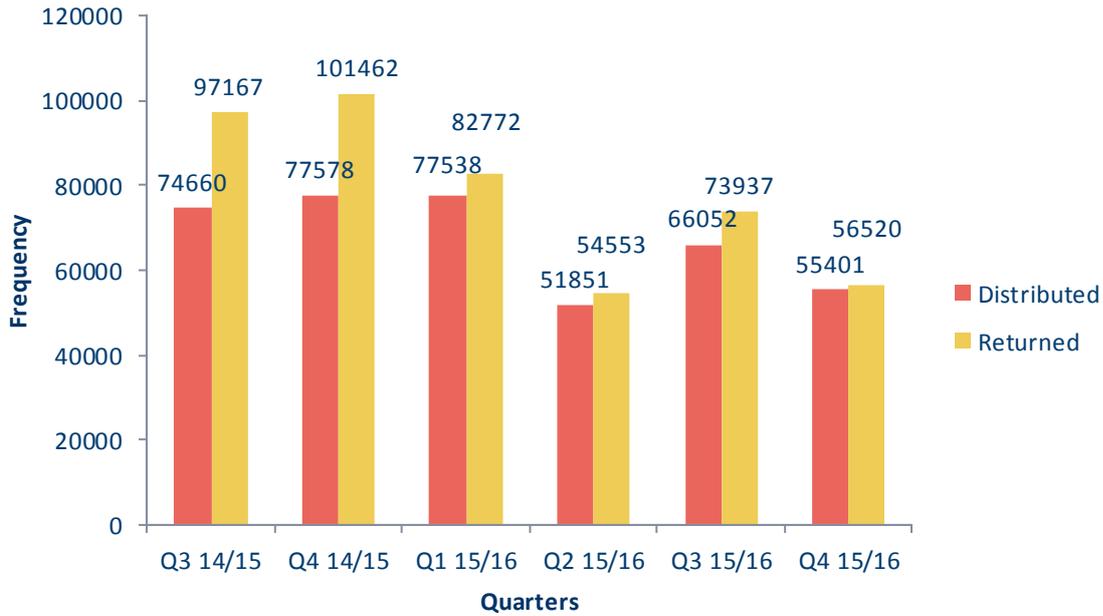


Figure 3. Needles distributed and returned by quarter period

The needle exchange service collects information on the number of needles distributed and returned through North Yorkshire Horizons and pharmacies. During the evaluation period (six quarters), more needles were returned than distributed, with quarters three and four of 2014/15 seeing the largest return rates (130.1% and 130.8% respectively).

The mobile service saw the largest proportion of returns during the evaluation (11979.8%). The largest proportion of return rates from each area were made by Scarborough Gym Peer Exchange (520.1%), Selby Hub (445.5%), Northallerton Hub (218.1%), Skipton Hub (150.9%) and Harrogate Hub (110.1%).

Table 7. Needle exchange distribution and return rates

Needle exchange	Distributed	Returned	Return rate (%)
Scarborough ³⁴	155207	206348	133.0
Mobile	833	99792	11979.8
Northallerton ³⁵	74404	35818	48.1
Skipton ³⁶	14728	7281	49.4
Harrogate ³⁷	118832	95121	80.0
Selby ³⁸	39076	22051	56.4

3.1.2. HOW DID INDIVIDUALS ACCESS NORTH YORKSHIRE HORIZONS?

REFERRAL SOURCE

North Yorkshire Horizons received n=4711 referrals during the first 18 months of service. This includes all referrals that were made through the SPOC (single point of contact). Self-referrals made up two fifths of all referrals (n=1888, 40.1%). The highest proportion of referrals (based on individuals) for service users who required structured treatment interventions were made through other substance use services (n=693, 26.8%). It is not known whether this is from internal or external treatment services. As expected, almost all CJIT referrals were made through the criminal justice system, and this included a high proportion of conditional cautions (n=208, 39.1%) and voluntary (self) referrals (n=129, 24.2%)³⁹.

³⁴ Scarborough includes: Scarborough Hub, Women's Community Project, Gym Peer Exchange, Astons Pharmacy – Falsgrave, Astons Pharmacy – Ramshill, Lloyds Pharmacy – NMR, Lloyds Pharmacy – Malton, Boots Pharmacy – Whitby, Wrothwells Pharmacy - Pickering

³⁵ Northallerton includes: Northallerton Hub, Day Lewis Pharmacy – Northallerton, Tesco - Catterick Garrison, Boots Pharmacy – Richmond, Boots Pharmacy - Thirsk

³⁶ Skipton includes: Skipton Hub, Lloyds Pharmacy – Skipton, High Bentham

³⁷ Harrogate includes: Harrogate Hub, Asda – Harrogate, Lloyds Pharmacy – Starbeck, Lloyds Pharmacy – Knaresborough, Spa Pharmacy – Ripon, Lloyds - Kings Rd

³⁸ Selby includes: Selby Hub, Arc Pharmacy – Selby, Calcaria Pharmacy – Tadcaster

³⁹ Other CJIT referrals included voluntary - following release from prison, required by Offender Management scheme/DRR/ATR, requested by Offender Manager (Post DDR/ATR), voluntary - following cell sweep, restriction on bail, other and required assessment imposed following positive test (n=188, 35.3%)

Table 8. Referral source

Referral Source	North Yorkshire Horizons (Oct 2014 - Mar 2016)		NDTMS		CJIT ⁴⁰	
	n	%	n	%	n	%
A&E	29	0.6	123	4.8	-	-
Children and Family Services	53	1.1	21	0.8	-	-
Community Based Care	177	3.8	-	-	-	-
Criminal Justice	553	11.7	228	8.8	517	98.5
GP	773	16.4	478	18.5	-	-
Hospital	94	2.0	17	0.7	-	-
Other	706	15.0	19	0.7	8	1.5
Other Health and Mental Health	247	5.2	44	1.7	-	-
Self, Family or Friends	1888	40.1	957	37.1	-	-
Substance Misuse Services	191	4.1	693	26.8	-	-
Employment	-	-	2	0.1	-	-
Total	4711 ⁴¹	100.0	2582 ⁴²	100.0	525 ⁴³	100.0

Overall referral rates increased during their first quarter of 2015/16, gradually decreasing over the year. Referral numbers remained fairly consistent across the 18 months, with a peak in quarter one of 2015/16. A total of 138,081 new presentations to treatment were made in England during 2015/16. Of these, the majority were self-referrals (51.2%). Other referrals came from the criminal justice system (15.8%), health (19.9%) and substance misuse services (7.5%)⁴⁴. The majority (n=2534, 98.1%) started their treatment intervention on the day they were referred, with a further

⁴⁰ CJIT referral source: data missing n=7, 1.3%

⁴¹ This includes all referrals made including those who did not go on to engage with treatment

⁴² Referral rate for number of individuals referred and engaged in treatment

⁴³ Referral rate for number of individuals referred and engaged in treatment

⁴⁴ Statistics from the NDTMS: 1 April 2015 to 31 March 2016 <http://www.nta.nhs.uk/statistics.aspx>

0.7% (n=19) starting within seven days. this corresponded with national waiting times of 97% waiting three weeks and under⁴⁵.

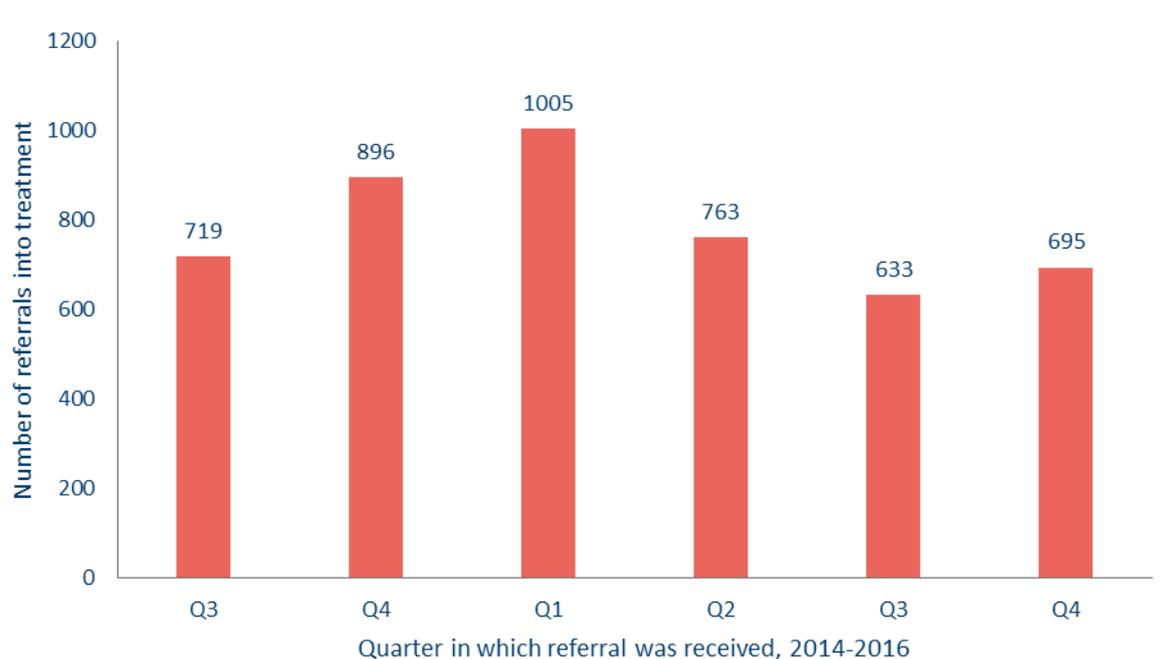


Figure 4. Referrals by quarter

3.1.3. WHAT TREATMENT DID INDIVIDUALS RECEIVE?

INTERVENTIONS ACCESSED

A total of n=2,846⁴⁶ treatment interventions were reported across structured treatment during the 18 month evaluation. For clients accessing structured treatment, the most accessed treatment was psychosocial interventions (n=1487, 52.2%), followed by pharmacological interventions (n=857, 30.1%) and recovery support (n=502, 17.6%). Females were more likely than males to access psychosocial interventions (37.0% vs 31.3%). A higher number of alcohol only users accessed psychosocial interventions (n=708) than opiate only users (n=317), with a larger number of opiate users accessing pharmacological interventions (n=496, compared to n=240 alcohol users).

⁴⁵ Statistics from the NDTMS: 1 April 2015 to 31 March 2016 <http://www.nta.nhs.uk/statistics.aspx>

⁴⁶ Modality codes: data missing n=4, 0.1%

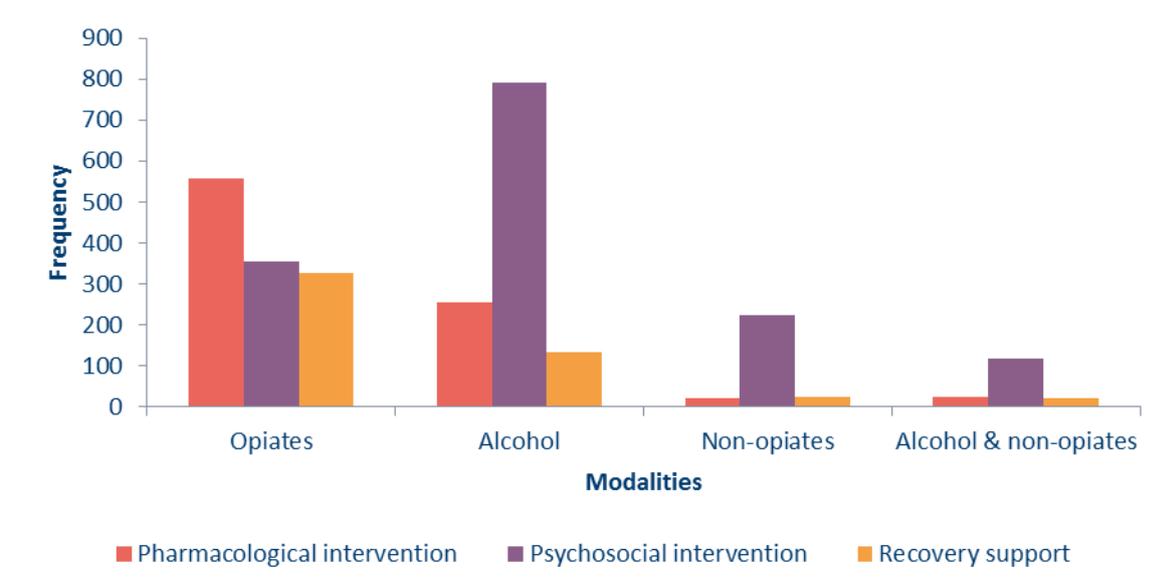


Figure 5. Treatment interventions accessed

3.1.4. COMPARING COHORTS

EXISTING SERVICE USERS VS NEW SERVICE USERS

A third (n=920, 35.6%) of all Service Users engaged with North Yorkshire Horizons during the evaluation period had transferred from one of the previous treatment services. A further 64.4% (n=1662) new clients presented to structured (NDTMS) treatment. NDTMS data was explored in an attempt to make comparisons between those already in treatment and those starting treatment after North Yorkshire Horizons was launched.

When comparing cohorts engaged in structured treatment interventions before and after the launch of North Yorkshire Horizons, demographic profiles were very similar across all drug/alcohol use; however, larger proportions of younger (aged under 30; 17.7% vs 8.0%) and older (aged over 60; 8.9% vs 3.8%) service users are engaged with North Yorkshire Horizons. Both groups saw the largest proportion of clients residing in Harrogate (before 28.5% vs after 32.4%) and Scarborough (before 27.1% vs after 25.5%).

When comparing cohorts engaged in services before and after the launch of North Yorkshire Horizons, the new service did see a shift in the primary substance(s) that brought individuals into treatment, with the number of opiate only users reducing following the launch of the North Yorkshire Horizons (before 74.5% vs after 25.3%) and the number of alcohol only and non-opiate users increasing. The proportion of current and previous injecting drug users (24.7% vs after 10.0%/ 31.3% vs after 14.3% respectively) presenting to structured treatment interventions also appears to have reduce following the implementation of North Yorkshire Horizons.

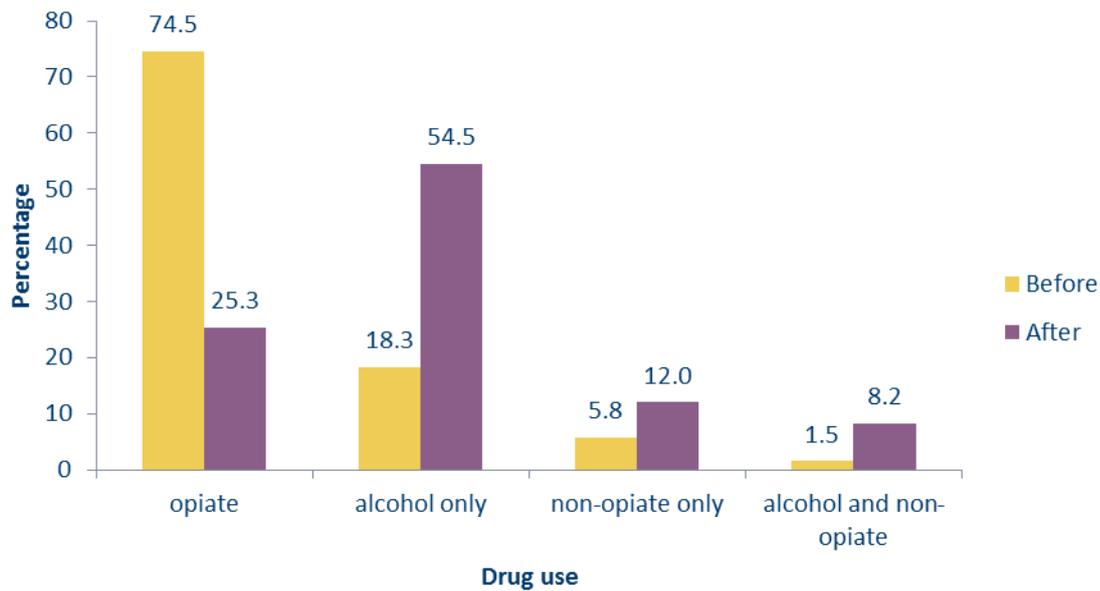


Figure 6. Drug profiles before and after the launch of North Yorkshire Horizons

The implementation of North Yorkshire Horizons has seen a shift in the way individuals are referred. Before North Yorkshire Horizons commenced, over half of individuals engaged with structured treatment interventions had entered treatment through referral by non-statutory drug services (before 55.3% vs after 9.3%). Proportions of GP referrals have remained consistent (before 20.7% vs after 17.3%). However proportions of self-referrals (before 15.1% vs after 48.3%) and criminal justice referrals (before 4.4% vs after 11.2%) have both increased since implementation of North Yorkshire Horizons. The number of psychological interventions increased following the launch (35.0% vs 61.3%), and the proportion of service users accessing psychological interventions increased following the launch (before 36.3% vs after 61.7%).

3.1.5. COMPLETING TREATMENT

DISCHARGES

Table 9. Discharges

Individuals discharged from structured (NDTMS) treatment	n	%	Individuals discharged from criminal justice route (CJIT)	n	%
Treatment completed drug free	187	13.7	Care plan objectives completed drug free	52	19.2
Treatment completed alcohol free	290	21.2	Care plan objectives completed alcohol free	2	0.7
Treatment completed occasional user not opiates or crack	178	13.1	Client still a class A drug user but no longer offending	12	4.4
Transferred not in custody	77	5.6	Transferred to another CJIT area	11	4.1
Transferred in custody	52	3.8	Transferred in custody	6	2.2
Incomplete dropped out	456	33.5	Client disengaged from CJIT	12	4.4
Incomplete treatment withdrawn by provider	14	1.0	Client has begun specialist treatment and no longer case managed by the CJIT	12	4.4
Incomplete retained in custody	19	1.4	Client has begun a community sentence and no longer case managed by CJIT	6	2.2
Incomplete treatment commencement declined by client	62	4.5	Did not want to engage	30	11.1
Incomplete client died	28	2.1	Died	1	0.4
Total	1363	100.0	Already case managed by treatment provider/other CJIT	2	0.7
			No further intervention needed	125	46.1
			Total	271	100.0

Just over half of the NDTMS clients were discharged from treatment during the 18 month evaluation period (n=1363, 52.8%). A third (n=456, 33.5%) dropped out of treatment, whilst just

over a third completed treatment drug or alcohol free (n=477, 34.9%). Almost half of the CJIT clients were assessed as not requiring any further intervention at the time of their discharge from treatment (n=125, 46.1%).

3.1.6 OUTCOMES ACHIEVED FOR INDIVIDUALS ACCESSING NORTH YORKSHIRE HORIZONS⁴⁷

OUTCOMES REPORTED AT THE TREATMENT SERVICE

POSITIVE OUTCOMES - TREATMENT

The treatment service record positive outcomes achieved during time in treatment including improved finances, housing, reduced drug related offending, physical health, unpaid employment, life skills, education or training, parental skills, social network, paid employment, coping skills, mental health and family relationships.

During the 18 month reporting period, 3379 positive outcomes were recorded for 890 individuals. Almost one fifth of all reported outcomes evidenced an improvement in coping skills (n=660, 19.5%) whilst accessing treatment. Other key improvements included family relationships (n=431, 12.8%), life skills (n=413, 12.2%), physical health (n=355, 10.5%) and mental health (n=353, 10.4%). There was little difference observed in the types of outcomes achieved by males and females; however a slightly higher proportion of males achieved positive outcomes for drug related offending (6.0% vs 2.6%) and more females reported an improvement in parenting skills (4.0% vs 1.6%).

⁴⁷ Please note that the relatively low follow up numbers and different intervals between measures make it difficult to make meaningful assumptions for the outcome measures and should be treated as descriptive.

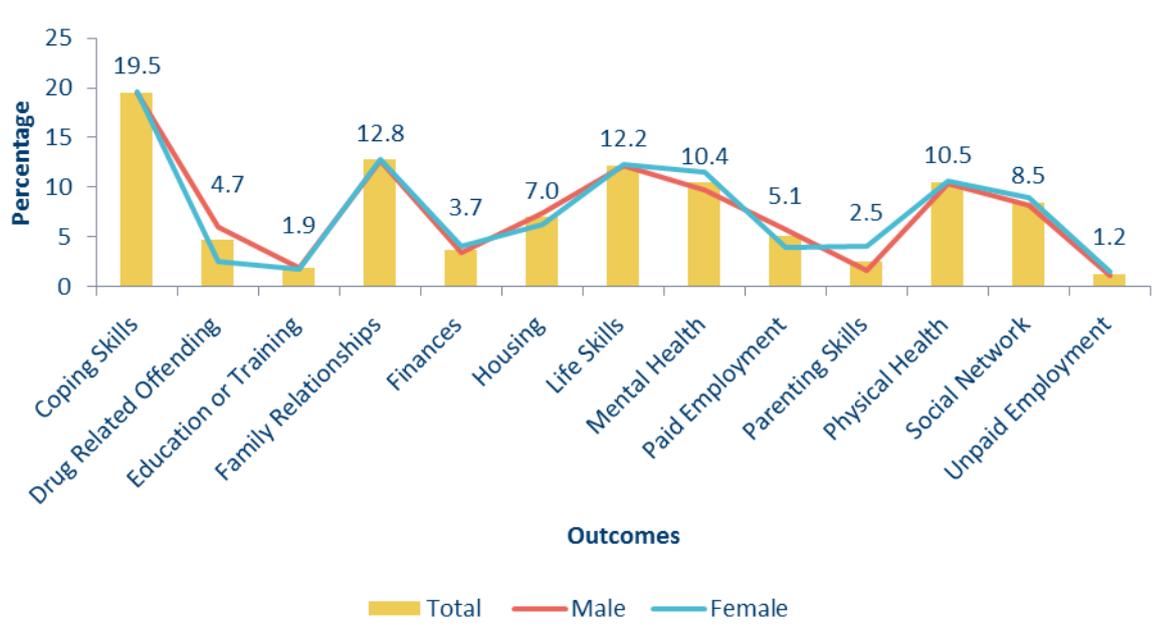


Figure 7. Positive treatment outcomes (all outcomes)

Again, proportions of outcomes did not differ significantly across drug use. However, opiate only users achieved a higher number of positive outcomes for housing compared to alcohol and non-opiate users (10.6% vs 5.2), alcohol only users achieved better outcomes for mental health and physical health compared to non-opiate only users (12.0% vs 8.0% and 12.1% vs 6.0% respectively), and opiate only users achieved fewer coping skills outcomes compared to other drug use (16.9% vs 20-21%).

The 890 individuals had a range of one to 21 outcomes, with the vast majority (n=879, 98.8%) having between one to 10 outcomes each. The average (mean) number of outcomes was four per person. Outcomes (including those listed above) were achieved by 64.2% (n=571) males and the mean age for positive outcomes recorded was 40 years. Individually, the majority of outcomes achieved were for coping skills (n=637, 71.6%). Almost half of positive outcomes were reported for alcohol only users (n=441, 49.6%), followed by opiate only (n=262, 29.4%), non-opiate only (n=130, 14.6%) and alcohol and non-opiate users (n=57, 6.4%).

SEVERITY OF ALCOHOL DEPENDENCE QUESTIONNAIRE (SADQ)⁴⁸

During the treatment element at North Yorkshire Horizons, individuals completed the severity of alcohol dependence questionnaire (SADQ); a self-administered, 20 item scale to measure their

⁴⁸ SADQ: <http://www.alcohollearningcentre.org.uk/Topics/Latest/Resource/?cid=4615> Kroneke K., Spitzer R., & Williams W. (2001). The PHQ-9: validity of a brief depression severity measure. JGIM, 2001, 16:606-616

severity of dependence⁴⁹. The scale includes five subscales with four questions in each section; physical withdrawal, affective withdrawal, withdrawal relief drinking, alcohol consumption and rapidity or reinstatement. Service users were asked to recall a typical period of heavy drinking in the last six months and to rate each question as either: almost never (score 0), sometimes (score 1), often (score 2) and nearly always (score 3). The questionnaire provides a total score of 0-60, with under 16 defined as mild physical dependence, over 16 suggesting moderate dependence and over 31 indicating severe alcohol dependence.

The SADQ was completed 225 times for 185 individuals. The majority completed the questionnaire on one occasion (n=185). Thirty five service users then went on to complete the questionnaire a second time, third (n=4) and fourth (n=1) time.

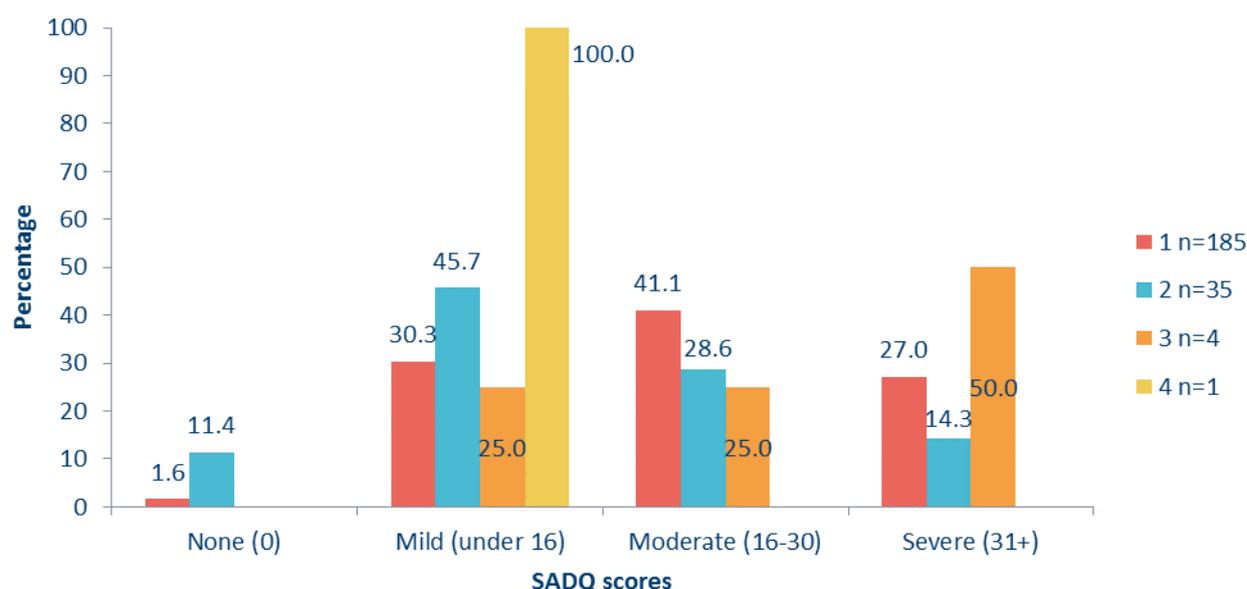


Figure 8. SADQ scores across four assessments

For the 35 individuals who participated in a second assessment, the average severity of alcohol dependence reduced from 27.0% to 14.3%, and moderate dependence also reduced from 41.1% to 28.6%. This corresponded with an increase in those classed as mild dependence (30.3% to 45.7%) and those not having any dependence on alcohol, with 11.4% (From 1.6%) of the 35 individuals scoring 0 at the second assessment. At first assessment, a slightly higher proportion of females had a severe (27.3% vs 26.9%) and moderate (43.9% vs 39.8%) dependence than males. Females who completed the second assessment saw better improvements in their SADQ score; males were more likely to have a severe dependence 19.0% vs 7.1% than females, whilst females also had a better improvement in no dependence, 21.4% vs 4.8%. The mean score for opiate only users (26.7 to 16.3),

⁴⁹ Edwards, G. and Gross, M.M. (1976) Alcohol dependence: provisional description of a clinical syndrome. *British Medical Journal* 1, 1058-1061.

Edwards, G. (1978) In G.Edwards and M.Grant, (eds.), *Alcoholism, Medicine and Psychiatry: New Knowledge and New Responses*. Groom Helm Ltd, London.

alcohol only users (21.7 to 16.7) and alcohol and non-opiate users (21.0 to 7.5) all decreased between the first and second assessment (non-opiate only users did not participate in any further assessments).

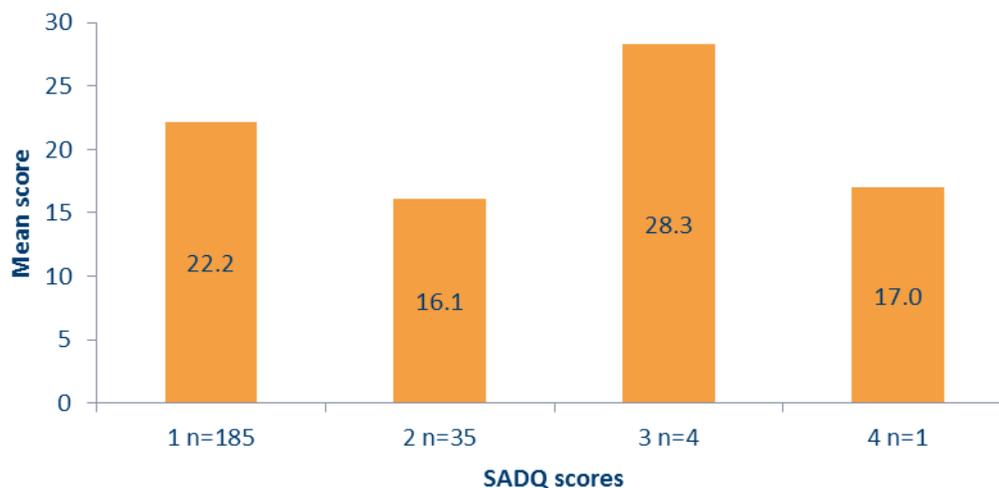


Figure 9. SADQ mean scores across four assessments

ALCOHOL USE DISORDERS IDENTIFICATION TEST (AUDIT)⁵⁰

The Alcohol Use Disorders Identification Test (AUDIT) provides 10 alcohol identification questions and is commonly used within primary care settings and substance misuse services. The AUDIT has questions relating to hazardous and harmful alcohol use, and dependence symptoms, with questions relating to frequency, quantity, impaired control, feeling of guilt, alcohol related injuries and concern from others. Each of the ten questions is scored from 0-4 (and asks about how frequently each statement occurred from never, monthly, a number of times per month, a number of times per week to daily) to give a maximum score of 40.

Total AUDIT scores of 0-7 indicate that alcohol education would be beneficial. Total scores of between eight and 15 suggest that the individual is drinking at a hazardous and harmful level; this score normally recommends 'simple' alcohol reduction advice. Scores between 16 and 19 recommend brief counselling and continued monitoring. AUDIT scores of 20 and above indicate possible dependence and further diagnostic evaluation and a referral for specialist treatment is recommended.

⁵⁰ AUDIT – World Health Organization

The AUDIT assessment was conducted 5052 times across the evaluation period. The assessment was completed once for 2330 individuals. AUDIT was completed, twice for 1674, three times for 783, four times for 221, five times for 38, six times for five and seven times for one individual.



Figure 10. Mean AUDIT scores across seven assessments

Across the seven stages, the majority of AUDIT assessments scored over eight in total (n=3135, 62.1%) suggesting some form of alcohol intervention was required. A further 20.9% (n=1058) scored 0 and 17.0% (n=859) scored under eight. Almost half of AUDIT assessments recorded an increased risk of alcohol dependence. 2391 (47.4%)

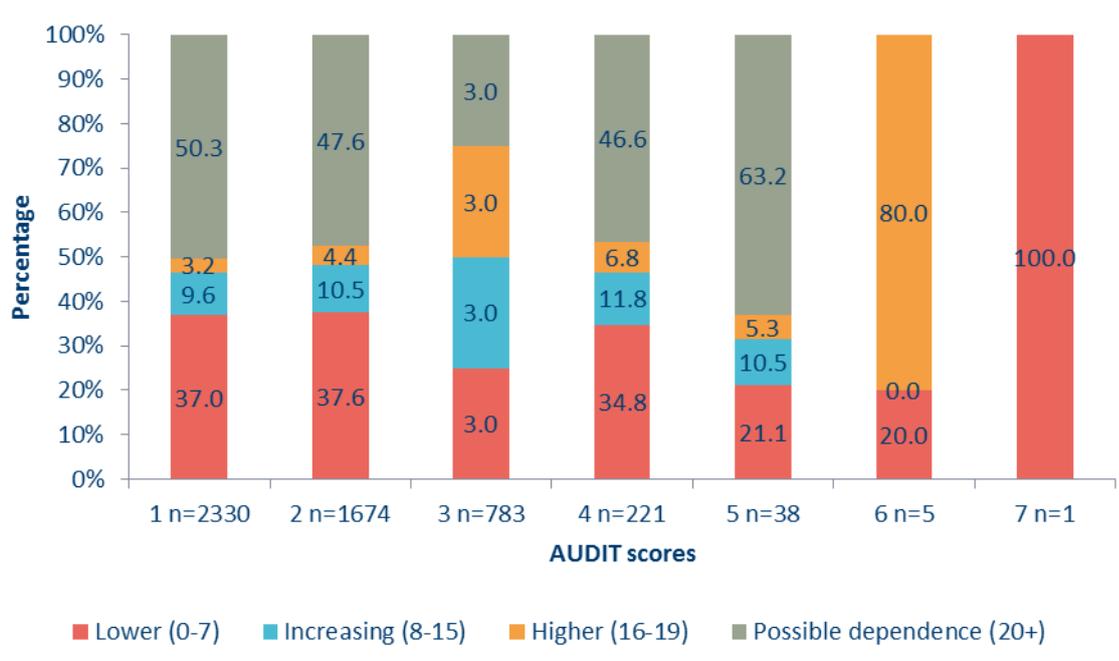


Figure 11. Proportion of (AUDIT) risk across seven assessments

For assessment one, half (50.3%) of the 2,330 individuals were assessed as having a possible alcohol dependence. This gradually decreased across the seven assessments (other than for 63.2% of the 38 individuals who completed assessment five) with the remaining small number of individuals who participated in all six and seven assessments decreasing their risk to lower levels during their time in treatment. This decrease in risk was also reflected across the other risk categories.

Similarly to the SADQ scores, females were more likely to score higher on the AUDIT at the first assessment compared to males (56.5% vs 36.8%). However, unlike the SADQ, females had a higher proportion of dependent scores across all assessments compared to males. As expected, individuals presenting as alcohol only and alcohol and non-opiate users had higher mean scores on the AUDIT assessment. Mean scores did decrease across the first three assessments for all drug groups. However, alcohol and non-opiate users (23.8 to 17.0) and opiate only (9.8 to 3.9) users saw a larger decrease in mean scores across five of the seven assessments.

GENERALIZED ANXIETY DISORDER QUESTIONNAIRE (GAD-7) ⁵¹

The Generalized Anxiety Disorder (GAD-7) questionnaire was also administered by the treatment service. Individuals completed the self-administered seven item scale to assess their health status in the previous two weeks. The GAD-7 questionnaire asks individuals about how 'bothered' they have felt by feeling anxious, worried, unable to relax, restless, irritable and feeling afraid. Service users were asked how often they had felt bothered in the last two weeks and were asked to choose from: not at all (score 0), several days (score 1), more than half the days (score 2) and nearly every day (score 3) with a total score of 21. Scores of 0-5 indicate mild anxiety; 6-10 moderate anxiety, 11-15 moderately severe anxiety and 15-21 indicates severe anxiety.

The GAD-7 was completed once for 427 individuals, twice for 15 individuals and three times for one individual. The GAD-7 had a small follow up rate and for the small number of individuals who did participate in a second and third assessment, whilst mild anxiety did decrease; moderate and severe anxiety levels appeared to increase.

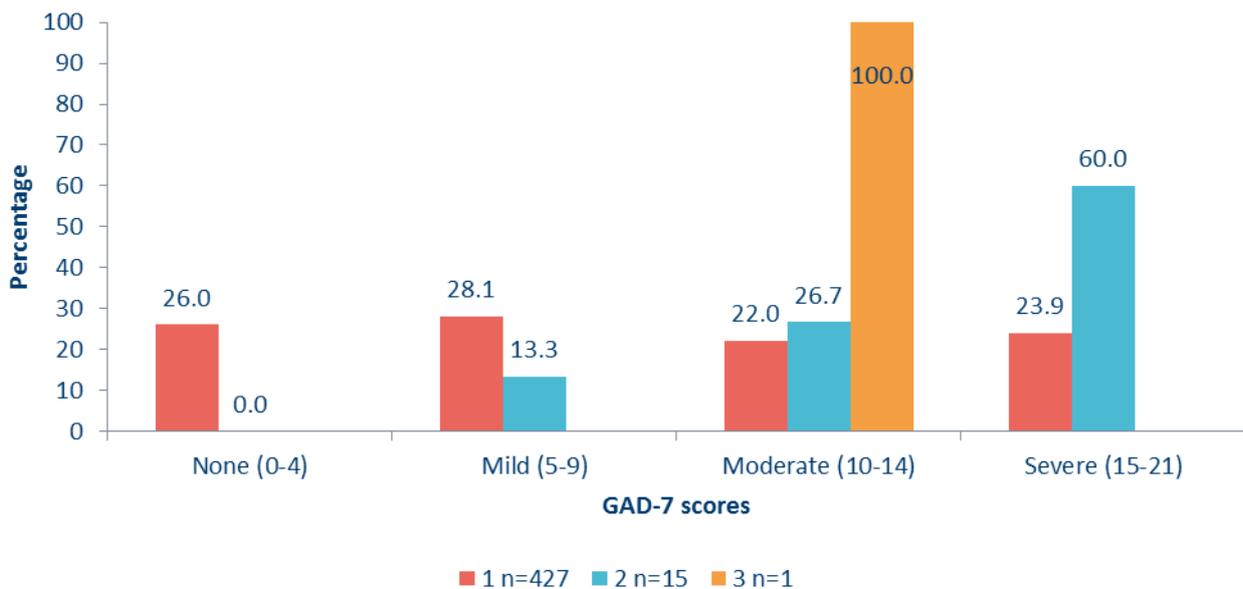


Figure 12. GAD-7 scores across three assessments

⁵¹ GAD-7 <http://archinte.jamanetwork.com/article.aspx?articleid=410326>

Spitzer RL, Kroenke K, Williams JB, et al; A brief measure for assessing generalized anxiety disorder: the GAD-7. Arch Intern Med. 2006 May 22;166(10):1092-7.

THE PATIENT HEALTH QUESTIONNAIRE PHQ9⁵²

The PHQ9 is a self-completed questionnaire used to assess health and to screen and monitor the severity of depression. Service users were asked how 'bothered' they felt by a series of statements in the past two weeks and asked to rate whether they felt this way not at all (score 0), several days (score 1), more than half the days (score 2), nearly every day (score 3), resulting in a total possible score of 27. A total score of 0-4 indicated no depression; 5-9 mild; 10-14 moderate, 15-19 moderately severe and 20+ severe depression. The PHQ9 was completed once for 427 individuals, twice for 15 individuals and three times for one individual. The PHQ9 also had a low follow up rate for further assessment and again whilst mild and moderate depression did appear to decrease, moderate and severe levels of depression did appear to increase.

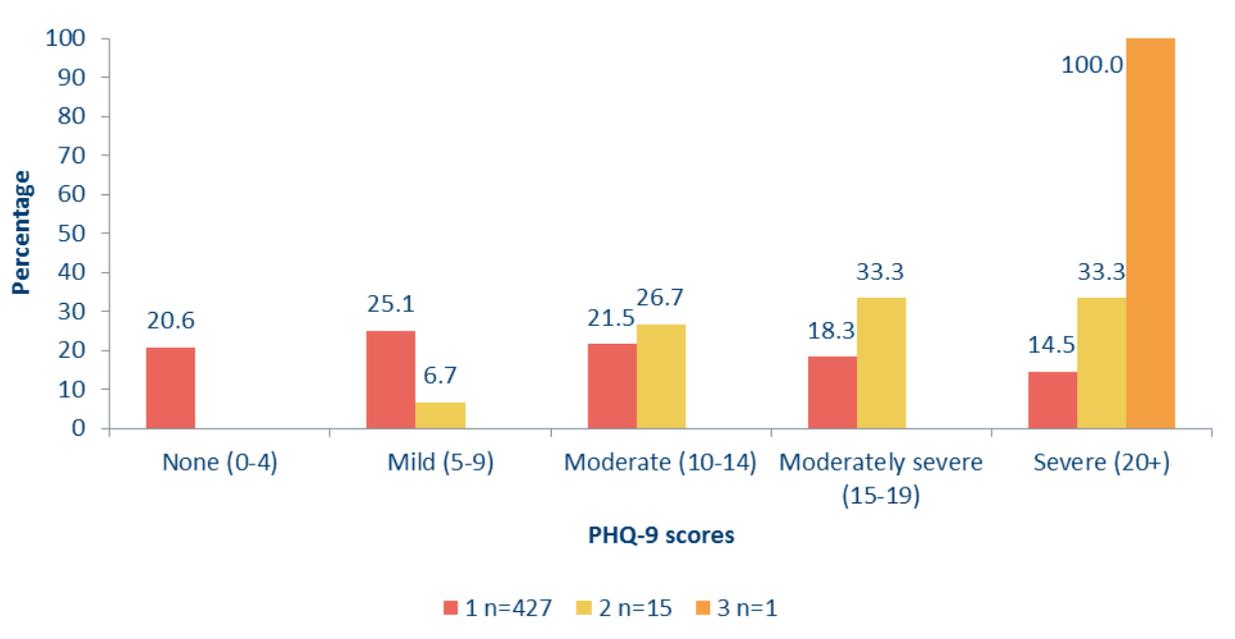


Figure 13. PHQ-9 scores across three assessments

⁵² Kroneke et al., 2001

The EQ-5D is a self-completed measure of health status, designed to provide a 'descriptive profile and single index value' for health status. The treatment service employed the EQ-5D-3L which measured five outcomes; mobility, self-care, usual activities, pain and discomfort and anxiety and depression. Service users were asked to rate the five measures on how they felt on the day of the assessment (e.g. as either no self-care problem, some self-care problems or unable to carry out self-care and no pain, moderate pain or extreme discomfort pain) which are then scored on three levels; level one: indicating no problem, level two: indicating some problems and level three; indicating extreme health problems, with a score of one indicating ideal health. Service users were then asked to rate their health out of 100, with 100 being ideal health. The EQ-5D was completed once for 156 individuals, twice for 68 individuals and three times for six individuals.

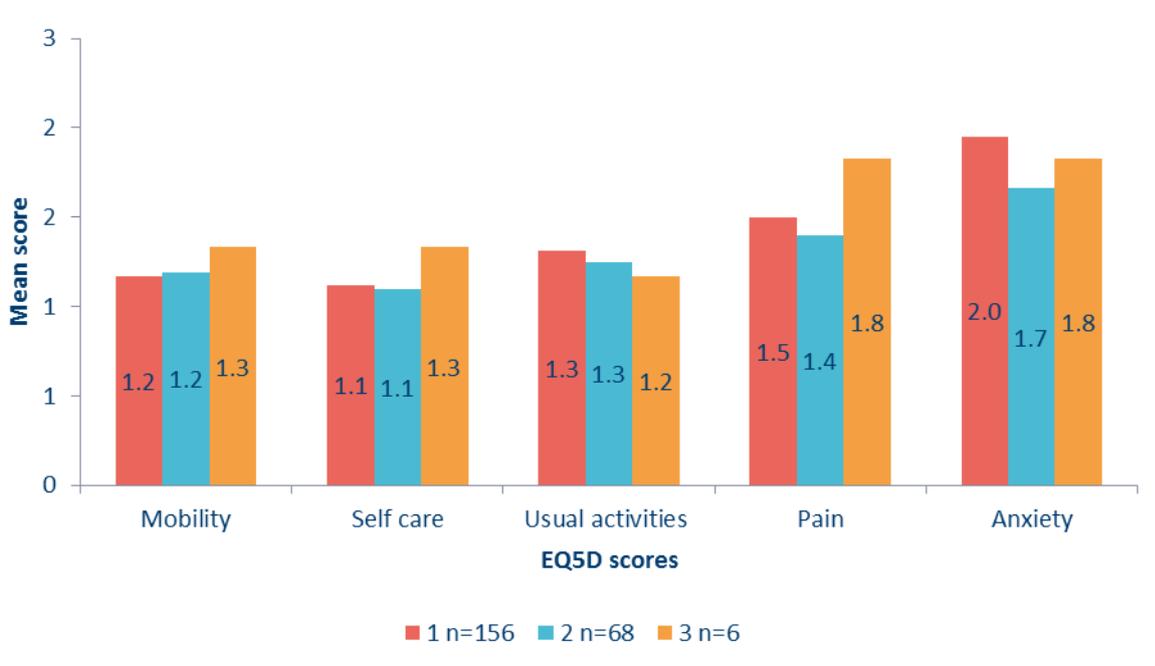


Figure 14. EQ-5D mean scores across three assessments

Exploring the mean scores for each measure, service users scored close to level one of having no problem at their initial assessment, which remained fairly consistent across the three assessments. Anxiety and depression did however have an initial mean score of two, indicating some problem which reduced slightly to 1.7 for the 68 individuals assessed on a second occasion and 1.8 for those assessed a third time. For the overall health score, the mean score increased from 51.0 during time

⁵³ EQ-5D developed by the EuroQol Group. EuroQol-a new facility for the measurement of health-related quality of life. Health Policy 1990;16:199-208

in treatment for the individuals followed up on a second and third occasion (55.1 and 55.3 respectively) suggesting that service users did feel that their overall health had improved during their time in treatment.

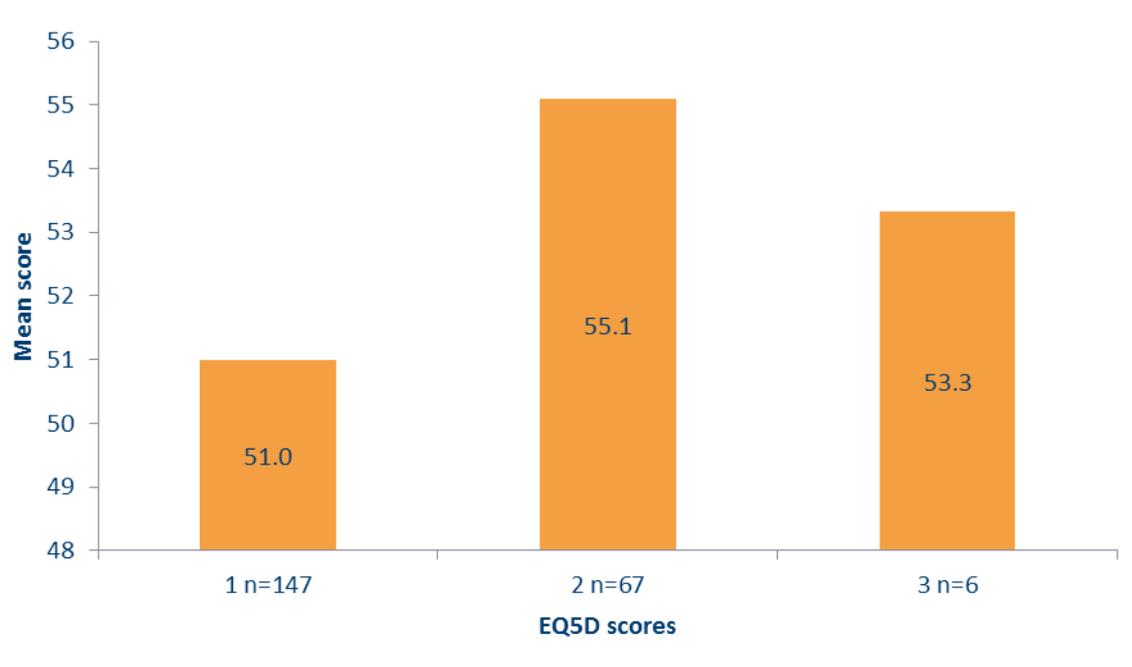


Figure 15. EQ-5D total health score across three assessments⁵⁴

TREATMENT OUTCOMES PROFILE (TOPS)

CLIENT PROFILE

Data were available for 2584 clients who accessed structured treatment interventions between October 2014 and April 2016. Just under two thirds (65.2%) of clients were male and over three in five (63.6%) were aged between 30 and 49 years.

TREATMENT OUTCOMES PROFILE DATA

TOP data is collected as part of the NDTMS dataset, on service users engaged in structured treatment interventions. The TOP is a series of short questions which plots a client's progress through structured treatment from assessment and care plan reviews to discharge from structured services. Drug treatment outcomes are grouped into four key domains, namely: drug and alcohol

⁵⁴ Total health scores not available for all clients

use, physical and psychological health, criminal involvement and offending and social functioning, and records data on client behaviour in the 28 days leading up to the TOP. Public Health England recommend that a TOP form should be completed at the start of each client’s treatment journey to record baseline behaviour, and follow up scores should be recorded every three months during structured treatment (usually alongside a care plan review) to capture changes in behaviour and outcomes. TOP data should also be collected at discharge and some services may use it to capture post-discharge outcomes.

NUMBER OF TOPS PER CLIENT

A total of 8079 TOPS were recorded for 2584 clients⁵⁵ between October 2014 and April 2016. This section compares outcomes at first and most recent TOP (hereafter referred to as last TOP) for clients during this period. In total, 128 clients had no TOP data and 513 clients had only had one TOP date recorded and so these records were removed from the analysis. First and last TOPs were therefore analysed for 1943 (75.2%) clients.

The mean number of TOPs for clients who had received more than one across the data collection period was 3.9 (median=4, range=2-9). As expected the number of TOPs increased with time in treatment; with clients in treatment >1 years having a significantly higher mean number of TOPs than those in treatment for <1 year (5.65 vs 3.89, $p < 0.05$). The mean number of TOPs per client is shown in table 10 below is roughly in line with the PHE guidance (once every three months). However, as discussed above, just under a quarter of clients (24.8%) had either no TOP or only one TOP recorded; 98% of those with no TOP recorded had been referred to treatment over a year prior to the end of the data collection period and one third (33.1%) of those with only one TOP had been in treatment for more than a year suggesting there are some opportunities to improve TOP completion for this client group.

Table 10. Mean number of TOPS by year in treatment

Number of years in treatment	Number of clients with TOPs	Mean	SD	P
<1	1342	3.11	1.16	<0.05
>1	601	5.65	1.125	

STAGE OF TREATMENT

Of the client with TOPs completed the majority (58.5%) had just engaged with structured treatment interventions when their earliest TOP in the data collection period was completed, with a further 40.1% under review. At last TOP, the majority of clients were under review (61.9%) with 29.9% at treatment exit stage and 3.9% at post-treatment exit stage.

⁵⁵ n=2582 individuals within NDTMS data set

Table 11. Treatment stage at first and last TOP

Treatment stage	Stage at first TOP		Stage at last TOP	
	n	%	n	%
Treatment start	1137	58.5	84	4.3
Review	779	40.1	1203	61.9
Treatment Exit	27	1.4	580	29.9
Post treatment Exit	0	0	76	3.9
Total	1943		1943	

DRUG AND ALCOHOL USE

Clients were grouped according to their substance use history using the NDTMS four mutually exclusive groups (opiates, alcohol only, non-opiates, non-opiates and alcohol). PHE (2014) define the four mutually exclusive groups. Where appropriate, the mutually exclusive groups will be used as comparators across the remaining analysis to highlight where outcomes vary by type of substance used.

Table 12 below shows TOPs clients broken down by the mutually exclusive groups; the largest proportion of clients (37.5%) were in the opiate group followed by the alcohol only group (36.2%).

Table 12. Clients by NDTMS Four Mutually Exclusive Groups

NDTMS mutually exclusive group	n	%
Opiates	729	37.5
Alcohol only	704	36.2
Non-opiate only	104	5.4
Non-opiate-and-alcohol	275	14.2
No substance recorded	131	6.7
Total	1943	

DRUG AND ALCOHOL USE IN PAST 28 DAYS

The proportion of clients reporting use of any substance (excluding tobacco) in the 28 days prior to their TOP decreased significantly from first TOP to last TOP (85.8% vs 71.3%, $p < 0.000$). At each TOP clients are asked to recall the number of using days for each substance in the past 28 days (4 weeks). Between first and last TOP there was a significant decline in the mean number of using days for alcohol (10.98 vs 7.69, $p = 0.00$) opiates (4.29 vs 2.92, $p = 0.00$), cocaine (0.39 vs 0.19, $p = 0.00$), cannabis (3.26 vs 2.66, $p = 0.01$) and other substances (1.11 vs 0.51, $p = 0.00$). There was no significant difference in the mean number of using days for crack (0.44 vs 0.28, $p = 0.09$) and amphetamines (0.4 vs 0.29, $p = 0.052$).

Alcohol was the substance with the highest mean number of using days at both first and last TOP followed by opiates. Alcohol was the substance with the largest decline in mean using days from first to last TOP. The mean number of days for crack, cocaine and amphetamines were low (less than one day per four weeks) at both first and last TOP.

Table 13. Drug and alcohol use in the 28 days prior to first and last TOP.

Any substance	% at first TOP review	% at last TOP review	P
Yes	85.8	71.3	<0.05
No	14.2	28.7	
Substance use in past 28 days	Mean (days)	Mean (days)	
Alcohol	10.98	7.69	<0.05
Opiates	4.29	2.92	<0.05
Crack	0.44	0.28	ns
Cocaine	0.39	0.19	<0.05
Amphetamines	0.4	0.29	ns
Cannabis	3.26	2.66	<0.05
Other substances	1.11	0.51	<0.05

There was a significant decline in the proportion of clients injecting between first TOP and last TOP (11.3% vs 9.2%, $p = 0.03$). Clients are asked to indicate the number of days they injected a non-prescribed drug in the 28 days prior to each TOP. There was a small but significant decrease in the mean number of injecting days from first TOP to last TOP (1.75 vs 1.28, $p = 0.001$). The number of individuals who reported sharing either by injecting with a needle or syringe used by somebody else

or by using a spoon water or filter used by someone else was low and there was no significant difference in the proportion at first and last TOP (0.9% vs 0.5%, $p=0.23$).

Table 14. Injecting and sharing in the 28 days prior to first and last TOP

	First TOP	Last TOP	p
Injecting	%	%	
Yes	11.3	9.2	<0.05
No	88.7	90.8	
Mean days	1.75	1.28	<0.05
Sharing			
Yes	0.9	0.5	ns
No	99.1	99.5	

Data at last TOP show a significant relationship between treatment stage and substance use ($p=0.000$), with a lower proportion of those at treatment exit and post treatment exit reporting substance use in the last 28 days (48% and 53% respectively) when compared to treatment start and review (89% and 83% respectively).

Table 15. Substance use in the 28 days prior to last TOP by stage

Stage	n	%	p
Treatment start	75	89	<0.05
Review	993	83	
Treatment Exit	278	48	
Post treatment exit	40	53	

CRIME

Clients are asked to indicate whether they have committed a crime in the 28 days preceding each TOP. The number of clients committing a crime was low at less than 4% at first and last TOP. There was a small but significant decrease in the number of people committing a crime from first to last TOP (3.6% vs 1.9%, $p=0.000$). Amongst those who had a crime recorded majority reported shoplifting (58% at first TOP, 55.6% at last TOP) followed by selling drugs (21.7% at first TOP, 16.7% at last TOP), assault or violence (20.3% at first TOP, 27.8% at last TOP) and property theft and burglary (14.5% at first top, 19.4% at last top).

There were differences in crime across the four NDTMS mutually exclusive groups; there were significant declines in the proportion of non-opiate and alcohol (5.8% vs 1.8%, $p=0.007$) and opiate (5.8% vs 3.4%, $p=0.028$) clients reporting crime. The number of alcohol and alcohol and non-opiate clients reporting crime in the 28 days prior to each TOP was low and there was no significant difference in crime at first and last TOP for alcohol (1.1% vs 0.5%, $p=0.219$) and non-opiate clients (1.9% vs 1%, $p=1.000$)

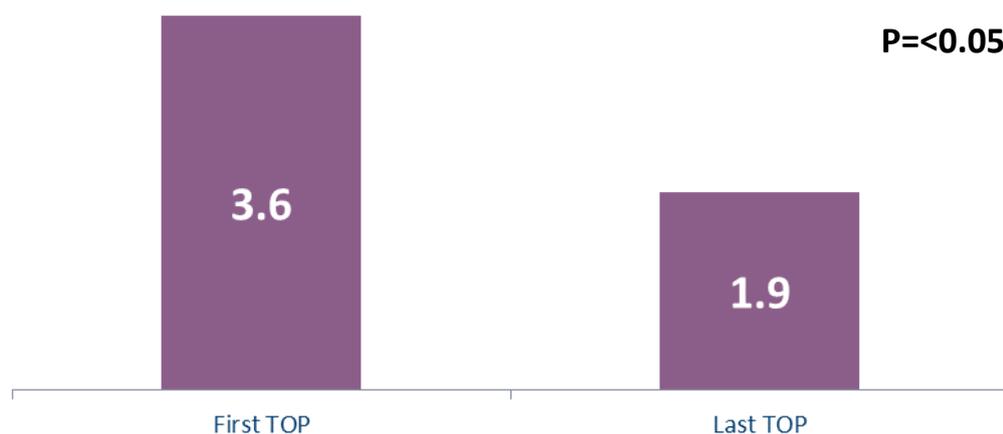


Figure 16. Proportion of clients committing a crime in the 28 days prior to first and last TOP

Table 16. Crime in the 28 days prior to first and last TOP by NDTMS mutually exclusive groups

Committed crime 28 days prior to TOP	First TOP		Last TOP		p
	n	%	n	%	
All clients	69	3.6	36	1.9	0.000
Opiates	42	5.8	25	3.4	0.028
Alcohol only	8	1.1	4	0.6	0.219
Non opiates only	2	1.9	1	1	1.000
Alcohol and non-opiates	16	5.8	5	1.8	0.007

HEALTH AND SOCIAL FUNCTIONING: QUALITY OF LIFE

Clients are asked to rate their overall quality of life on a scale of 0 to 20 (0 lowest, 20 highest). The distribution of quality of life scores for clients at first and last TOP is included in figure 17 below; the proportion of clients reporting a quality of life score of ten or more increased from 69.3% at first TOP to 81.3% at last TOP. There was a significant increase in clients' mean quality of life score from first to last TOP (11.2 vs 13, $p=0.000$).

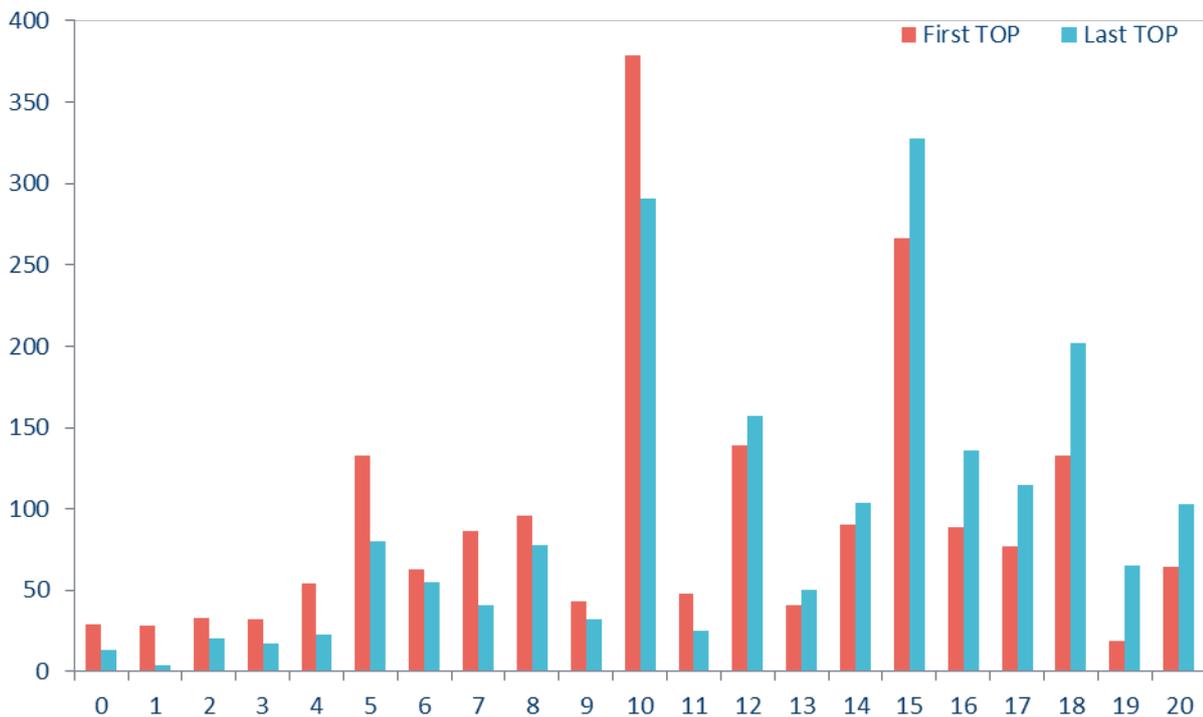


Figure 17. Self-reported quality of life scores at first and last TOP

Table 17 below, shows mean quality of life scores broken down by the four NDTMS mutually exclusive groups. There was a significant increase in self-reported quality of life from first to last TOP for opiate (11.2 vs 13, $p=0.000$), alcohol only (11.3 vs 12.2, $p=0.000$) and non-opiate and alcohol (10.6 vs 13.2, $p=0.000$) clients. There was no significant difference in the quality of life for non-opiate clients at first and last TOP (12.4 vs 13.2, $p=0.085$)

Table 17. Mean self-reported quality of life scores at first and last TOP by NDTMS mutually exclusive groups

	First TOP	Last TOP	p
All clients	11.2	13	<0.05
Opiates	11.3	12.2	<0.05
Alcohol only	10.7	13.4	<0.05
Non opiates only	12.4	13.3	ns
Non opiates and alcohol	10.6	13.2	<0.05

PHYSICAL HEALTH

Clients were asked to rate their physical health (including the extent of physical symptoms and how much they are bothered by illness) on a scale of 0 to 20 (0 highest, 20 lowest). There was a significant increase in mean physical health score between first and last TOP (11.9 vs 13.1, $p=0.000$). Table 18 below, shows mean physical health scores broken down by the four NDTMS mutually exclusive groups. There was a significant increase in self-reported physical health score across all four of the NDTMS groups.

Table 18. Mean self-reported physical health score at first and last TOP by NDTMS mutually exclusive groups

	First TOP	Last TOP	p
All clients	11.9	13.1	0.000
Opiates	11.5	12.1	0.000
Alcohol only	11.5	13.4	0.000
Non-opiates only	11.9	13.0	0.006
Non opiates and alcohol	11.9	13.1	0.000

PSYCHOLOGICAL HEALTH

Clients were also asked to rate their psychological health (including anxiety, depression, problem emotions and feelings) on a scale of 0 to 20. There was a significant increase in mean psychological score between first and last TOP (10.5 vs 12.4, $p=0.000$). Table 19 shows the mean psychological health score broken down by the four NDTMS mutually exclusive groups. There was a significant increase in self-reported physical health score for alcohol, opiate and non-opiate and alcohol clients. The mean psychological health score for non-opiate only clients increased from first to last TOP (11.3 vs 12.3) but this was not found to be statistically significant ($p=0.092$).

Table 19. Mean self-reported psychological health score at first and last TOP by NDTMS mutually exclusive groups

	First TOP	Last TOP	p
All clients	10.5	12.4	0.000
Opiates	10.9	11.7	0.000
Alcohol only	9.8	12.8	0.000
Non opiate only	11.3	12.3	0.092
Non opiate and alcohol	9.9	12.3	0.000

WORK AND EDUCATION

Clients are asked to quantify the number of days spent in paid work and the number of days spent attending college or school in the 28 days prior to each TOP. Just under three in ten clients (n=562, 29.5%) reported being in paid work at first TOP, and this increased slightly to 31.3% (n=600) at last TOP. There was a small but significant increase in the mean number of days spent in paid employment between first and last TOP (5.3 vs 5.7, p=0.004). Across the four mutually exclusive groups only opiate clients saw a significant increase in the mean number of days in paid work (4.96 vs 5.55, p=0.025, table 20).

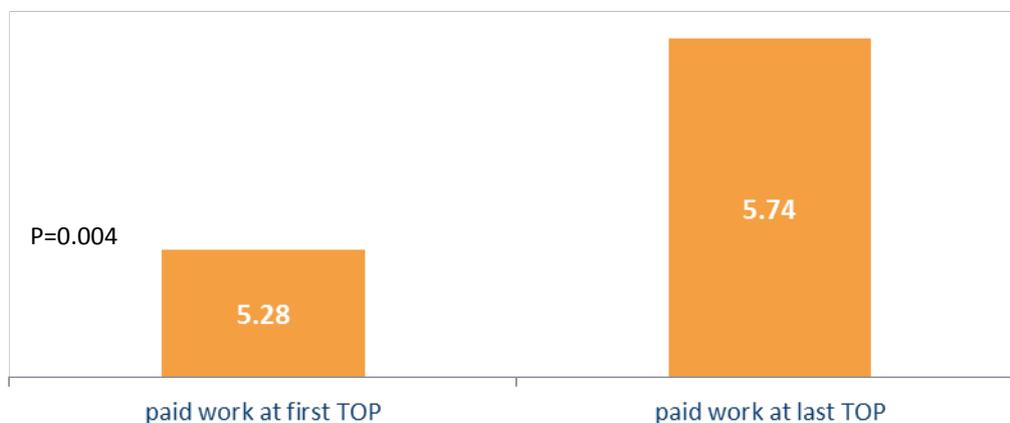


Figure 18. Mean number of days spent in employment in the 28 days prior to first and last TOP

Table 20. Mean number of days spent in employment in the 28 days prior to first and last TOP by NDTMS mutually exclusive groups

	First TOP	Last TOP	p
All clients	5.28	5.74	0.004
Opiates	4.96	5.55	0.025
Alcohol only	5.81	5.99	0.537
Non-opiates only	3.39	4.31	0.142
Non-opiates and alcohol	5.93	6.57	0.136

The mean number of days spent in education (for all clients) in the past 28 days was low at both first and last TOP (0.52 and 0.48 respectively) and there was no significant difference between first and last TOP (figure 19). Similarly there was no significant difference between first and last TOP when the clients were categorised into the NDTMS mutually exclusive groups (table 21).

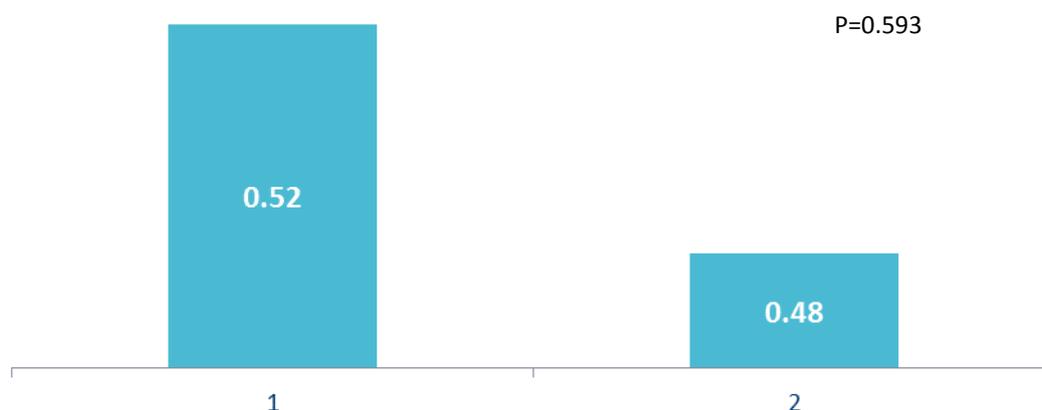


Figure 19. Mean number of days spent in education in the 28 days prior to first and last TOP

Table 21. Mean number of days spent in education in the 28 days prior to first and last TOP by NDTMS mutually exclusive groups

	First TOP	Last TOP	p
All clients	0.52	0.48	0.593
Opiates	0.51	0.33	0.179
Alcohol only	0.56	0.57	0.961
Non opiate only	0.49	0.27	0.326
Non opiate and alcohol	0.64	0.59	0.788

HOUSING

There was a significant decrease in the proportion of clients reporting a housing problem from first to last TOP (7.2% vs 5%, $p=0.003$). Across the four mutually exclusive groups, there was a significant decline in the proportion of opiate (8.5% vs 7.7%, $p=0.001$) and non-opiates only (5.8% vs 3.8%, $p=0.001$) reporting a housing problem from first to last TOP. The proportion of alcohol only and non-opiates and alcohol clients with a housing problem also declined from first to last TOP but this was not found to be statistically significant (table 22).

Table 22. Proportion of clients with a housing problem at first and last TOP by NDTMS mutually exclusive groups

Housing problem	First TOP	Last TOP	p
All clients	7.2	5	0.003
Opiates	8.5	7.7	0.001
Alcohol only	5.8	2.8	0.561
Non opiates only	5.8	3.8	0.001
Non opiates and alcohol	8.7	4.4	0.727

There was also a small but significant decrease from first to last TOP in the proportion of clients who were at risk of eviction (4.7% vs 3.1%, $p=0.017$). Across the four mutually exclusive groups, the proportion of opiate (6.2% vs 4.1%, $p=0.002$) and alcohol only (3.7 vs 2.4%, $p=0.068$) clients declined significantly between first and last TOP. The proportion of non-opiates only and non-opiates and alcohol clients who were at risk of eviction declined between first and last top but this decrease was not statistically significant.

OUTCOMES REPORTED AT THE R&M SERVICE

POSITIVE OUTCOMES – RECOVERY

During the evaluation period, the R&M service recorded 446 positive outcomes in total. This included 195 positive outcomes for clients engaged in education and 251 reported as having ‘no housing problem’.

Individually, this included between one and four outcomes (mean outcomes n=2) for 247 service users, with 188 (76.1%) engaged in education training or employment and 59 (23.9%) not having a housing problem. Outcomes at the R&M service were achieved for a higher proportion of females compared to the treatment service (n=102, 41.3%) and individuals had a mean age of 42 years.

SUNDIAL OUTCOMES

A total of 333 outcomes, for 272 individuals were reported through the Sundial Outcomes measurement for the clients accessing the R&M service. The assessment measures progress across six key outcomes including secure base, inclusion, supportive relationships, identity, coping strategies and goals. Scores ranged from zero to five (see below for scoring system). The Sundial Outcomes assessment was collected once for 272 individuals, twice for 50 individuals, six times for three and four times for three individuals.

0	I do not think that there is an issue to be addressed
1	I acknowledge an issue and would like to address it
2	I would like to look at ways in which to address this issue and seek help
3	I am taking positive action to address the issue
4	I am seeing improvement in the situation but still require support
5	I have achieved my objective and can confidently maintain the situation

To examine change over time, the scores were compared to the 50 individuals who completed the sundial outcomes measure on two occasions. For five of the six measures, the proportion increased for people who felt that they had achieved their objectives and felt that they could confidently maintain their situation.

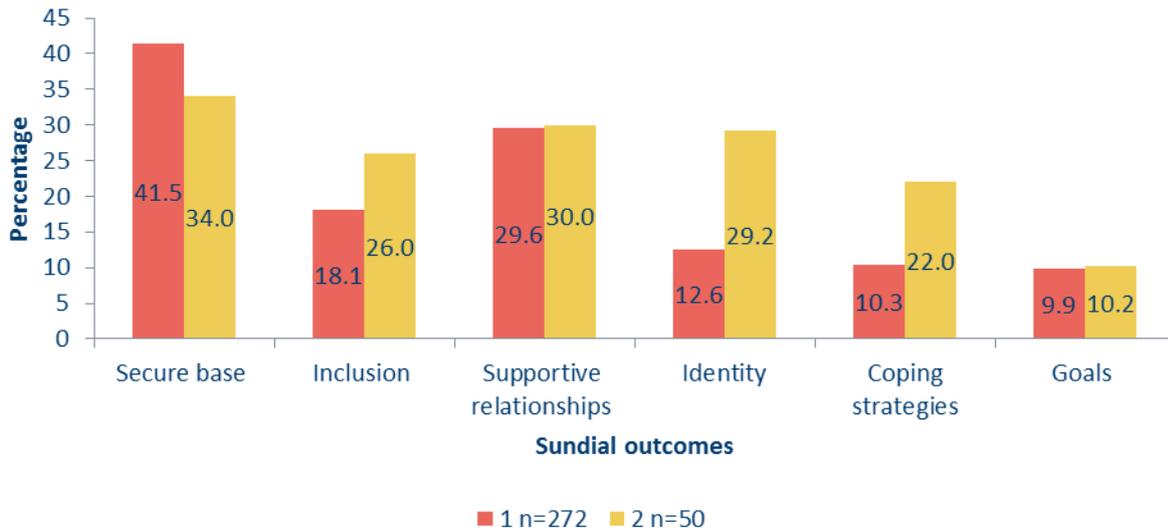


Figure 20. Sundial outcomes across two assessments

Mean scores for each of the sundial outcomes are presented in figure 21. Secure base, supportive relationships and identity all increased between the first and fourth assessment suggesting that service users had gone from seeking help to seeing an improvement. All measures saw an improvement at some point across the four assessments.

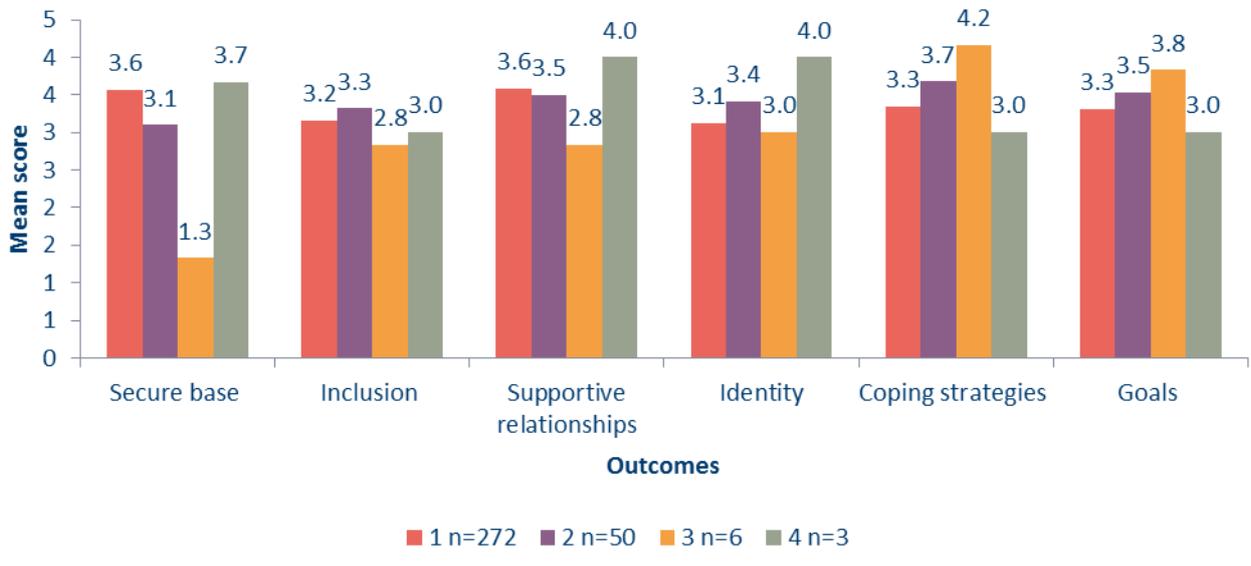


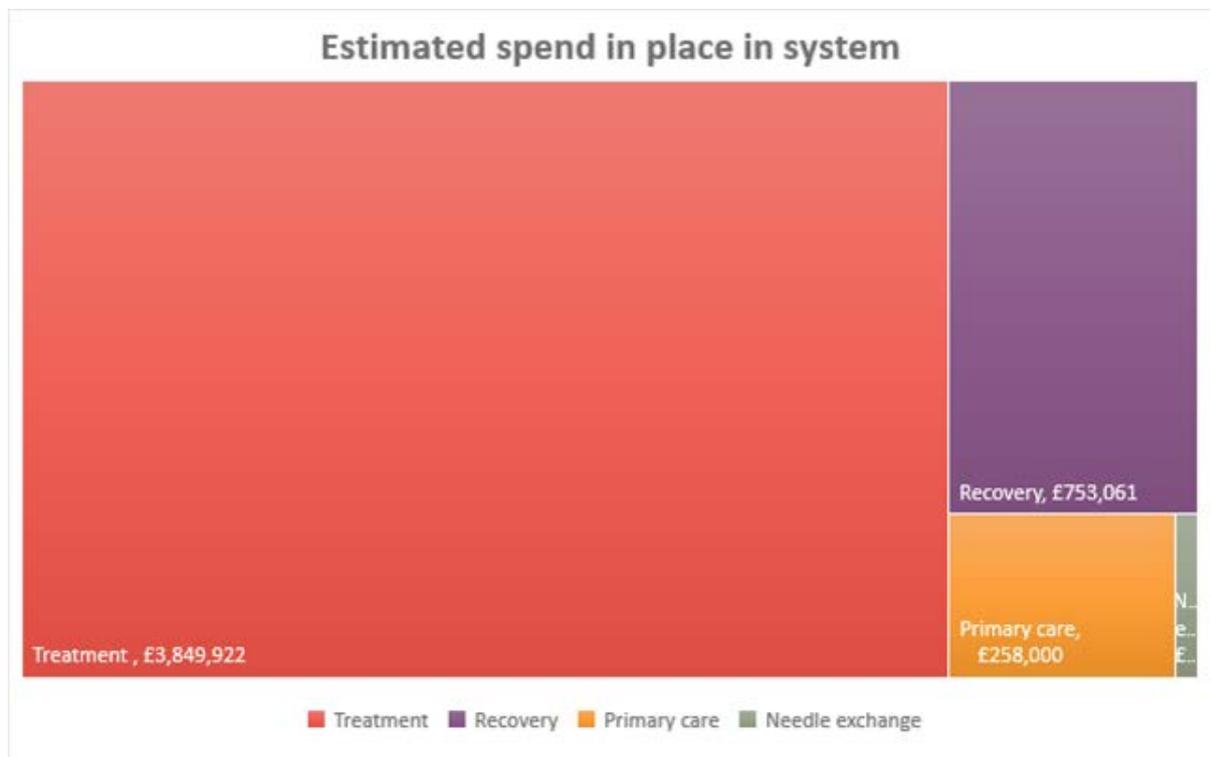
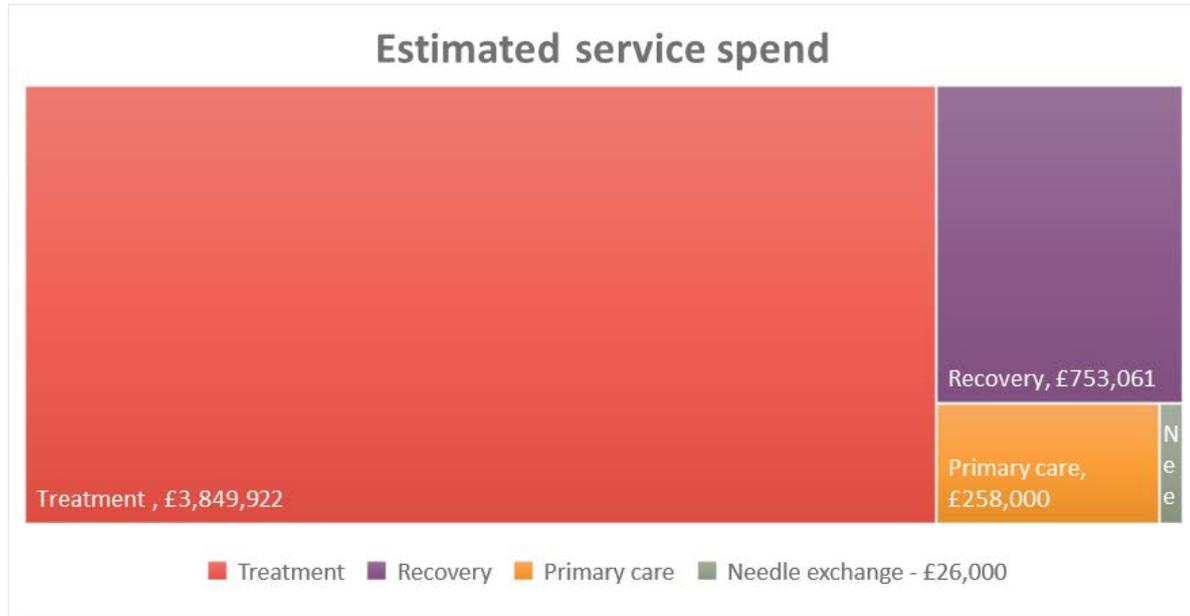
Figure 21. Mean sundial scores across four assessments

Total scores across the six measures gives a total score of 30 for maintaining goals across all measures (a score of 0 out of five for each measure indicates that the client does not believe that there is an issue to be addressed). The total mean score increased from 20.1 for assessment one to 20.3 at assessment two. For the six individuals who were assessed a third time the score decreased to 18.0, but did increase for the fourth assessment to 20.7 for three individuals.

3.2. Cost Effectiveness

An economic evaluation was conducted of the North Yorkshire Horizons Service. The intention of this economic modelling was to produce something that evaluated the current service but was not just driven by current performance which may fluctuate month to month, so the modelling results will have a "shelf life".

3.2.1. COST OF TREATMENT AND RECOVERY PER ANNUM



Estimated spend by substance group



The average cost per client for drug and alcohol treatment was estimated using a similar methodology to that used by PHE for their drug treatment value for money tools. This estimated a pro rata cost of treatment based on average of £9 per day in treatment. The average length of time spent in treatment also affects the cost in the model, as some people can spend several years in treatment.

The £456k prescription costs were allocated to opiates (91%) and alcohol (9%) plus £83k for supervised consumption. Primary care prescription costs of c.£50k alcohol and £100k drugs were added to primary care costs.

Needle exchange costs were included in the total but not allocated to any one group. This decision was made because a large proportion of needle exchange clients may be IPED users, or opiate users who are not in North Yorkshire Horizons Treatment Service, and furthermore, outcomes are not collected for needle exchange clients. Previous matching exercises have suggested that there was a large cohort of clients who were using needle exchange services who may not be in North Yorkshire Horizons Treatment Service. Recovery costs were assumed to be the same in each substance group.

Table 23. Estimated spend per year on drug and alcohol services for North Yorkshire.

Service	Mutually exclusive group				Total
	opiates	alcohol only	alcohol non opiates	non opiates only	
Treatment	£3,144,654	£537,491	£63,147	£104,630	£3,849,922
Recovery	£601,984	£112,917	£14,363	£23,798	£753,061
Primary Care	£218,000	£40,000			£258,000
Needle Exchange					£26,000
Total	£3,964,638	£690,408	£77,509	£128,428	£4,860,983
N clients in treatment (2015/16)	1,634	972	139	342	3,087
Cost/client (Treatment)	£2,426	£710	£558	£376	£1,575
Estimated split of clients (recovery)	319	589	67	89	1,064
Cost/client (recovery)	£708	£708	£708	£708	£708

3.2.2. OUTCOMES

COSTS OF CRIME ASSOCIATED WITH DRUG AND ALCOHOL USE

Alcohol can be associated with antisocial behaviour including street drinking, and disorderly behaviour. Drug use can be associated with drug dealing and possession offences, acquisitive crime, prostitution and also with antisocial behaviour such as visible drug dealing in communities, inappropriate behaviour and noise (Wood, 2004).

Around two-thirds of people in custody are reported to be recent drug users with an estimated 40% of prisoners being injecting drug users (Stewart, 2009).

Local costs of crime associated with drug and alcohol use are not typically measured or recorded, so national estimates were required. The NTA/PHE have estimated the costs of crime in drug users in several of their reports and tools, and costs of crime have been estimated in other studies including the DTORS. The majority of drug-related acquisitive crime are heroin and crack users (Nutt et al., 2010), while for alcohol-related crime, a high proportion are binge drinkers (Richardson & Budd, 2003), who are not dependent and may not be likely to access treatment and recovery services. Alcohol is implicated in a lot of road traffic accidents which have a large criminal justice cost as well

as huge human capital cost, but once again these are skewed more towards binge drinkers than dependent drinkers.

The costs of crime in this study were largely derived from the DTORS which estimated the costs of crime in opiate and crack users.

The pattern of acquisitive crimes has changed over time due to developments like central locking cars, and changes in craved items. In the present time, craved items like satellite navigation systems, smart phones, tablets and laptop computers are relatively portable and easy to sell on.

As a proxy for criminogenic behaviour, the proportion of clients who are seen by the CJIT were used. This team typically see clients who have been referred from prison, or through a court order (alcohol treatment requirement or drug rehabilitation requirement), who have come through test on arrest schemes, or who have been in structured treatment and have committed two or more crimes. North Yorkshire had a slightly higher rate than the national average of non-opiate users, and a slightly lower rate than national of opiate users who were in contact with the CJIT (Table 24).

Table 24. Proportion of clients in contact with CJIT, 2015/16 financial year, from PHE DOMES report.

	Latest period		National average
	(%)	(n)	
Opiate	17.9%	184 / 1026	22.6%
Non-opiate	20.3%	44 / 217	18.7%
Alcohol	4.1%	41 / 998	6.5%
Alcohol and non-opiate	8.1%	12 / 149	13.7%

THE PROPORTION OF CRIME THAT IS DRUG RELATED

Goldstein (1985) made a distinction between three types of drug-induced crime.

“Economic-compulsive” crime arises from a need for additional income to fund the drug purchases made necessary by compulsive drug use. “Psychopharmacological” crime is behaviour generated by the action of drugs on the brain, resulting in weakened self-control or decision-making capacity, or violent responses to external provocation. “Systemic” violence is seen as a feature of the working of illicit markets, where legal enforcement of contracts is impossible. Note that economic-compulsive crime may relate to any form of strongly-desired consumption, not only illicit drugs – some people may commit crime to generate money to buy alcohol, tobacco, clothes, etc.

The paper “Drug related crime” (Bryan et al., 2013) built on Goldstein’s work to estimate the proportion of crime that was related to heroin and cannabis use in England and Wales. Bryan and colleagues estimate crime based on propensity score matching, to get the excess crimes that are

perpetrated by drug users, taking into account their age and other characteristics. This study found that criminal activity generates an income for heroin users estimated to be £4,000-£6,700 a year (£5,500-£8,000 for injectors). These costs are amplified if an allowance is made for the distress and tangible losses experienced by victims and for the costs of reactive policing and criminal justice procedures. This paper suggests that the annual social cost caused by an average heroin user is between £60,000-£100,000.

LOCAL CRIME DATA FOR NORTH YORKSHIRE

Crime data were supplied by North Yorkshire Police. The crime data included whether perpetrators were reported to have consumed alcohol. North Yorkshire Police reported that between 1st October 2014 and 12th January 2016, 585 referrals were made to North Yorkshire Horizons by North Yorkshire Police, of which 354 were taken up. These drug/alcohol arrest referrals were made in custody and the fact that a referral had been made is recorded by way of a police niche (unique identifier) document on the persons police record. Table 25 shows the average proportion of crimes that were recorded as being drug or alcohol related in the 21 months before, and 12 months after the North Yorkshire Horizons service began. The proportion of crimes where alcohol was consumed fell slightly, while the proportion of crimes where the perpetrator was drug or alcohol dependent increased slightly.

Table 25. Crime in North Yorkshire and proportion that was recorded as drug- and alcohol-related.

	Average per quarter, pre NORTH YORKSHIRE HORIZONS (Q1 2013 to Q3 2014)	Average per quarter, post NORTH YORKSHIRE HORIZONS (Q4 2014 to Q4 2015)
All crimes	2799	2782
Crimes where alcohol was consumed	977	917
% of crimes alcohol was consumed	34.9%	33.0%
Crimes where perpetrator was drug or alcohol dependent	392	419
% of crimes where perpetrator was drug or alcohol dependent	14.0%	15.1%

There were 1,280 arrests for drug offences in 2013/14 in North Yorkshire. Drug seizures per million population were similar to the national average in the North Yorkshire police region (which is larger than the North Yorkshire County Council area) at 2,735 compared to 2,765 nationally in 2014/15. For all crime and antisocial behaviour in North Yorkshire, around 12% of crimes mentioned alcohol,

3% mentioned drugs, and 0.3% mentioned both. Figure 22 shows the trend in crimes where the perpetrator was drug or alcohol dependent by quarter, while Figure 23 shows the trend for crimes where alcohol was a factor

Figure 22. Number of crimes where perpetrator was drug or alcohol dependent by quarter and by Local Authority area, North Yorkshire.

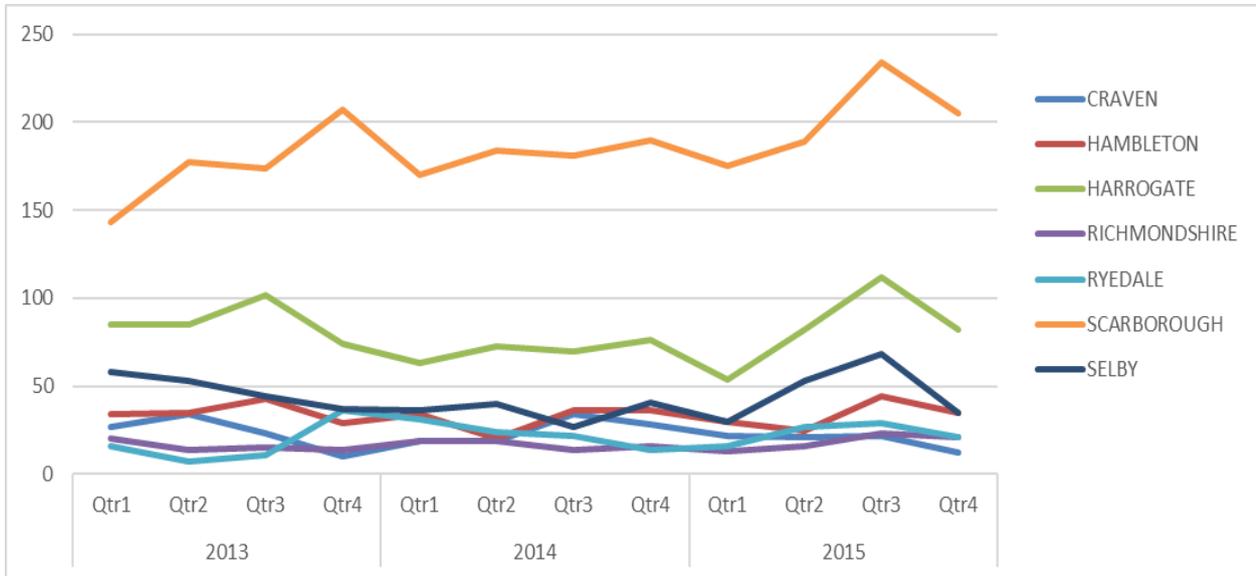
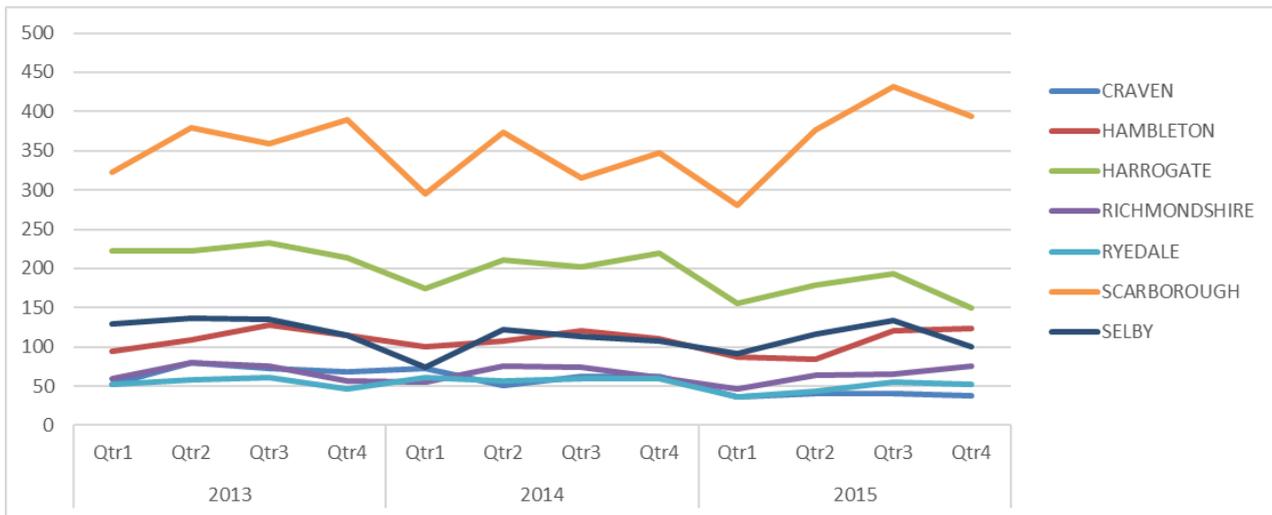


Figure 23. Number of crimes where perpetrator was recorded as having consumed alcohol by quarter and local government district, North Yorkshire.



COSTS OF CRIME IN NORTH YORKSHIRE

Costs of crime were estimated using data from the Integrated Offender Management Tool (2012), costs of crime 2000/01 from Annexes from “Alcohol misuse: How much does it cost?” (2003), and New Economy’s Unit Cost database (2015). These are shown in Table 26. Arrests which could not be matched to other categories assumed an average cost of £685 based on an academic case study of Sussex Police (Sheffield Hallam University, 2012). This gave estimates of the costs of crime where alcohol or drugs were mentioned. For alcohol, violent crime and sexual offences had the highest costs at £2.4million and £1.9million per year respectively between 2013 and 2015. Not surprisingly, drugs were mentioned in a majority of drug related crime (for instance, possession or supply) which cost an estimated £730,000 per year in North Yorkshire. It is worth stating that a high proportion of crime where alcohol is mentioned may be from binge drinkers who may not be likely to access alcohol treatment (as opposed to dependent drinkers). Also a proportion of drug-related crime may be concentrated in drug dealers who are not always drug users themselves.

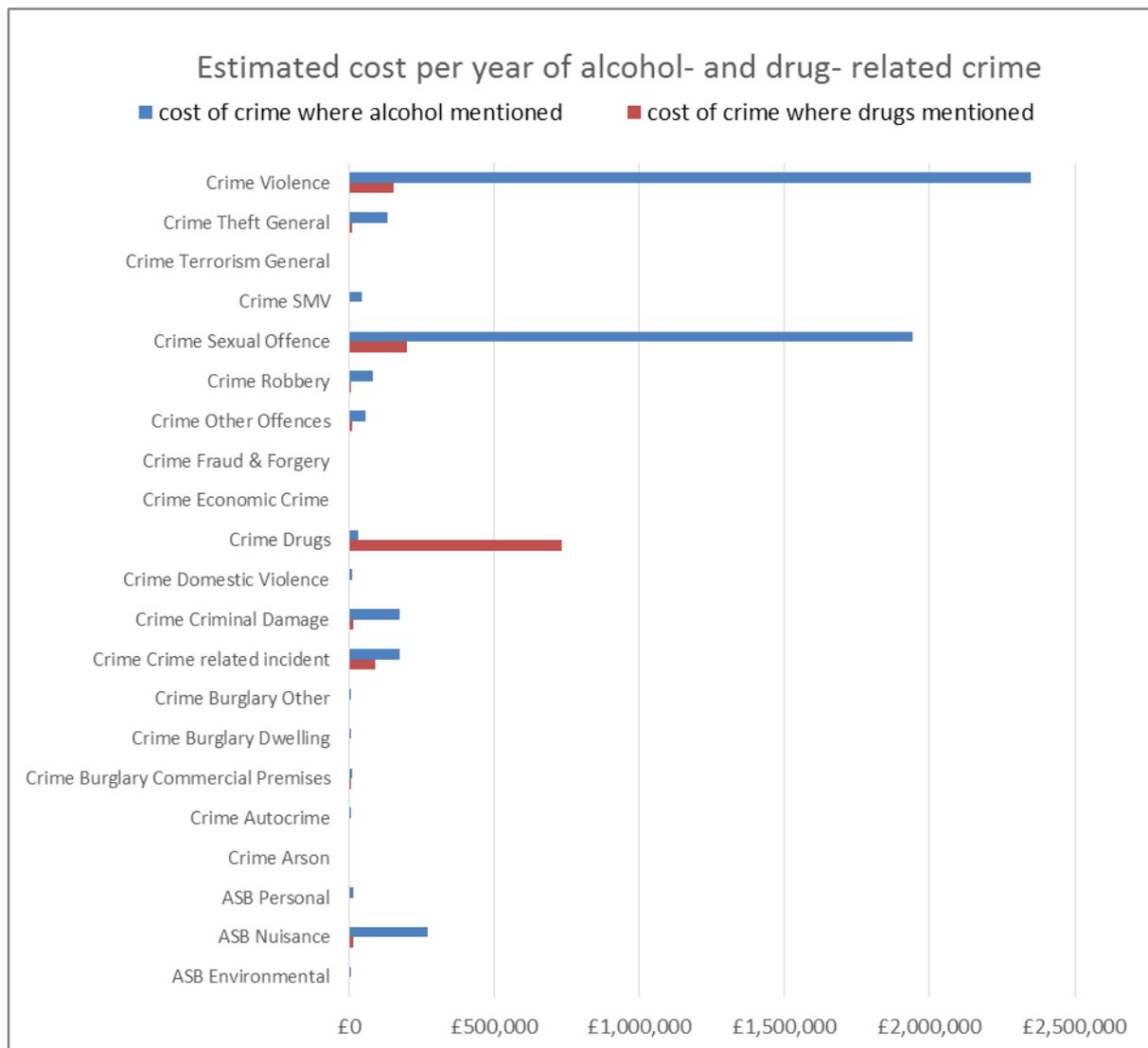
Table 26. Estimated costs of crime used.

Crime / ASB Category	Count of NICT Closure Class in North Yorkshire, 2013-15	Cost	Source of cost estimate	Notes
ASB Environmental	1,710	£80	Unit cost database 2015	based on no further action
ASB Nuisance	22,339	£80	Unit cost database 2015	based on no further action
ASB Personal	3,231	£80	Unit cost database 2015	based on no further action
Crime Arson	69	£685	cost of other crimes	
Crime Autocrime	65	£685	cost of other crimes	
Crime Burglary Commercial Premises	36	£2,680	Alcohol misuse 2003	
Crime Burglary Dwelling	107	£2,680	Alcohol misuse 2003	
Crime Burglary Other	38	£2,344	Alcohol misuse 2003	
Crime Crime related incident	2,956	£685	cost of other crimes	
Crime Criminal Damage	1,630	£890	Alcohol misuse 2003	
Crime Domestic Violence	22	£2,836	Unit cost database 2015	
Crime Drugs	3,257	£685	cost of other crimes	
Crime Economic Crime	3	£685	cost of other crimes	
Crime Fraud & Forgery	517	£685	cost of other crimes	
Crime Other Offences	602	£685	cost of other crimes	
Crime Robbery	82	£9,020	IOM Tool 2012	
Crime Sexual Offence	816	£37,831	IOM Tool 2012	
Crime SMV	47	£5,088	IOM Tool 2012	

Crime Terrorism General	2	£685	cost of other crimes	
Crime Theft General	1,355	£781	IOM Tool 2012	
Crime Violence	8,932	£1,792	IOM Tool 2012	other violence against person
Total	47,816			

Figure 24 shows the estimated cost per year of alcohol and drug related crime in North Yorkshire. The highest costs are around alcohol related violent crimes and sexual offences, and drug related drug offences.

Figure 24. Estimated costs of alcohol and drug related crime and antisocial behaviour per year in North Yorkshire, based on data from the PCC for 2013-2015.



ALCOHOL-SPECIFIC HOSPITAL ADMISSIONS

Alcohol-specific hospital admissions data was provided by PHE for 2006/07 financial year up to December 2015. PHE monitor alcohol-specific and alcohol-related admissions, and have a broad measure (where an alcohol-related diagnosis is mentioned anywhere in the hospital data, which can have several diagnosis codes) and a narrow measure (where the primary diagnosis code must be alcohol related, or one of the secondary codes is an external cause code with an alcohol-attributable fraction).

Alcohol-specific admissions were considered in this evaluation because they are more likely to be in individuals who were alcohol dependent who may be in treatment or may be eligible for treatment. So if the service was working well, it might be hoped that alcohol specific admissions may fall. However, a proportion of admissions may be binge drinkers who were not alcohol dependent and may not access specialist alcohol treatment. Overall the cost of alcohol-specific admissions increased slightly since the new service began. Admissions (and costs of admissions) were around 65% males, 35% females.

Alcohol-specific admissions increased during this evaluation/ implementation of North Yorkshire Horizons, particularly in older age groups, which suggests there is an older cohort of drinkers who have related health problems (figure 25). Alcohol-specific admissions have increased most markedly in Scarborough where they have more than doubled in less than 10 years; Alcohol-specific admissions also increased in Harrogate (figure 26). The costs of alcohol-specific admissions increased from 2013/14 to 2015/16 from around £4.1million to an estimated £4.9million (figure 27)

Figure 25. Trend in alcohol specific hospital admissions by age, North Yorkshire, 2006/07 to 2015/16 financial years.

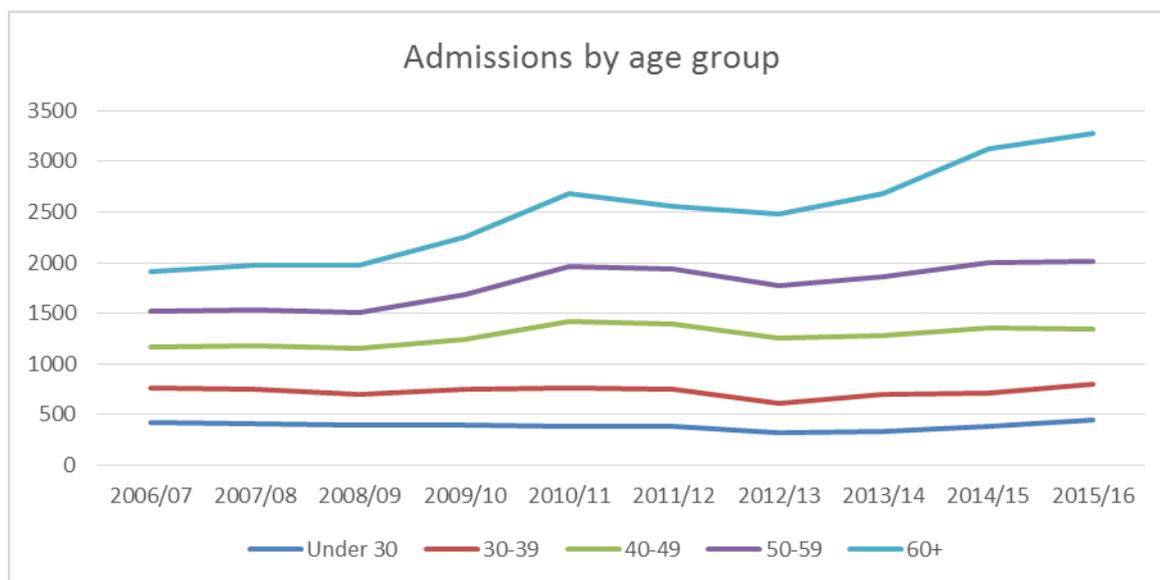


Figure 26. Trend in alcohol specific admissions by Local Authority district in North Yorkshire, 2006/07 to 2015/16 financial year.

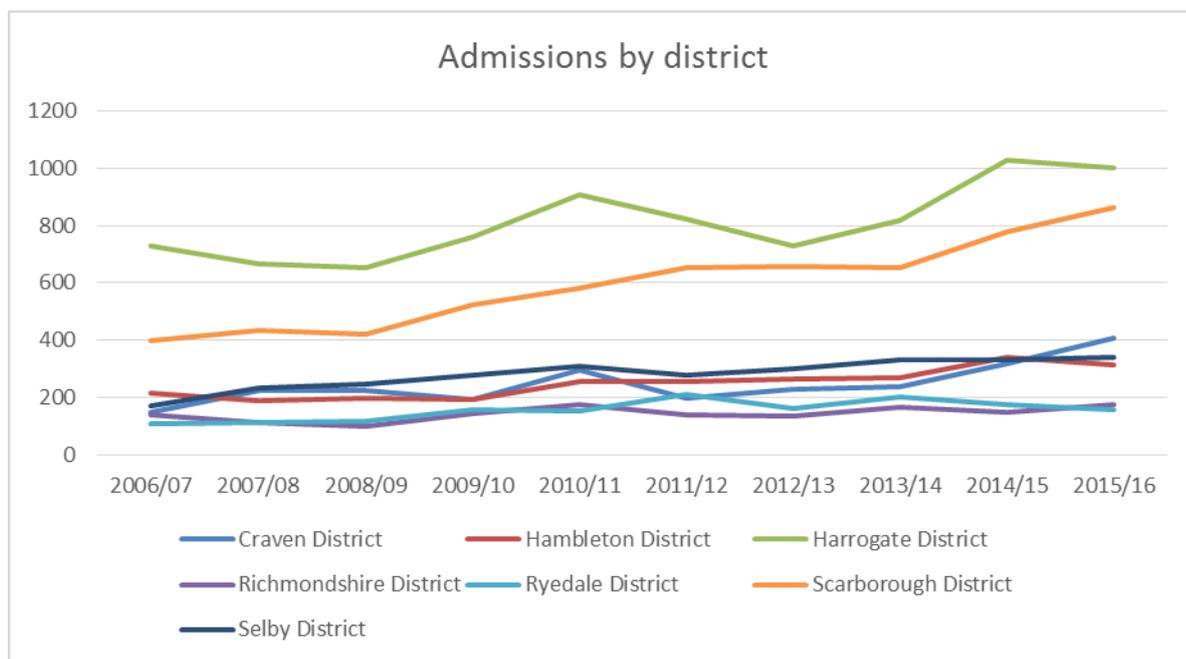
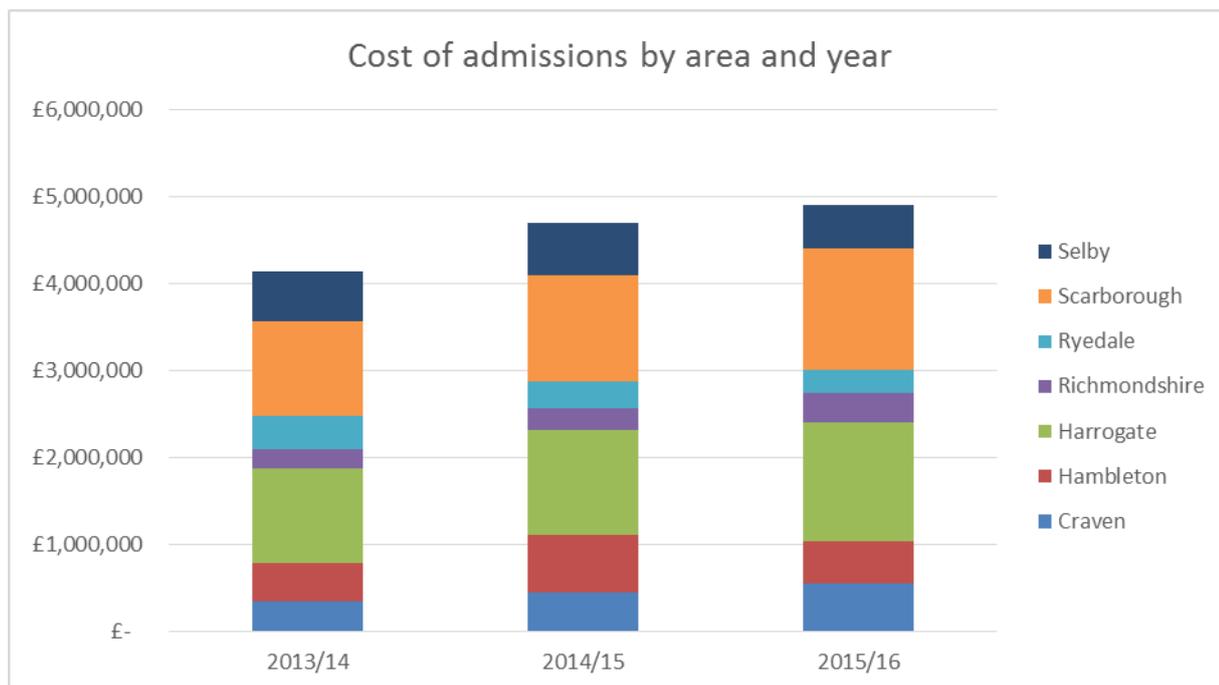


Figure 27. Trend in costs of alcohol related admissions by district and by year, 2013/14 to 2015/16 financial year. Costs are national Payment by Results (PbR) tariff costs.



QUALITY OF LIFE IN DRUG AND ALCOHOL TREATMENT

Quality of life, as well as physical and psychological health, is measured in structured treatment programmes via the TOPs, so this can be used as a source of individual quality of life data for people in drug and alcohol treatment. The gold standard tool recommended by NICE for measuring

health-related quality of life is the EQ-5D (Euroqol 5 dimension) questionnaire which has five questions on mobility, self-care, usual activities, pain/discomfort, and anxiety and depression. The answers to the five questions on the EQ-5D equate to 243 separate health states. Each health state has an index value or utility score which is a population-based preference score. These preferences were derived using the time trade-off method where people are asked about whether they would trade off having shorter survival but living in a better health state (Dolan et al., 1995). EQ-5D index values vary from -0.59 (worst possible health) +1.00 (best possible health). These population level utility scores are based on people being given vignettes of health scenarios and being asked how much time they would trade off to be in a better health state. For instance, if on average people would be equivocal between spending 10 years having pain some of the time with eight years of perfect health, then the health state of 'pain some of the time' would have a utility score of 8/10 or 0.8. One year spent in this health state would equate to experiencing 0.8 QALYs (quality adjusted life years). The EQ-5D also includes a visual analogue scale where people score their current health between zero (worst possible health) and 100 (best health). This gives a more personal, subjective health score than the utility score which is based on a population average.

In November 2013, the Alcohol Outcomes Record (AOR) was introduced to NDTMS. The AOR is a four-item condensed version of the TOP, which monitors change in the frequency and quantity of alcohol consumption, as well as physical health and psychological health. Substance Misuse Treatment providers can utilise either the TOP or the AOR to monitor alcohol only clients. The AOR does not include the quality of life question which would be useful for economic modelling. In North Yorkshire, the full TOP is used for alcohol clients.

Whereas most health economic modelling uses health-related quality of life (HRQoL), the TOP does not specify that the question is only health related, rather it is overall quality of life. This means that the question is less comparable but may be a holistic assessment of quality of life than the functional health-related assessment in tools such as the EQ-5D. However health decisions are made on the assumption that a HRQoL tool like the EQ-5D has been used.

The present evaluation uses change in TOPs as well as a sample of EQ-5D (Euroqol-5 dimension-3-level questionnaire) results to estimate the change in quality of life and QALYs in people in North Yorkshire Horizons. In the sample measured for this evaluation, average scores increased for the 68 people who were followed up twice, from 0.67 (standard deviation=0.32) at baseline to 0.77 when followed up (standard deviation=0.28), a 15% increase. The average follow-up time was 78 days. This increase in utility of 0.1 would equate to 0.1 QALYs per person if it was maintained for 1 year, which could be valued at £2,000 in terms of society's willingness to pay for this improvement in functional health (NICE generally value public health QALYs at up to £20,000). This means that clients see an average improvement in health that would be valued at £2000 per year. Minimally clinically important difference (MCID) is the smallest difference in an outcome measure that is perceived as beneficial. There is no MCID specific for drug and alcohol treatment. MCID for utility is generally stated to be 0.03 so the difference observed in these clients would be considered to be noticeable and beneficial. In a cancer study the MCID for QALYs was found to be 0.11; QALYs which

is a similar result to the increase seen in for the clients in this evaluation (Walters & Brazier, 2005). This means that individuals using North Yorkshire Horizons saw an increase in quality of life that would be considered to be clinically meaningful.

The visual analogue scale scores were very similar to the index values, increasing from 69 at baseline (standard deviation=25) to 77 at follow up (standard deviation=23), an 11% increase (figure 28). The main quality of life decrements in EQ-5D were driven by pain/discomfort and by anxiety/depression, and the main improvements were seen in reduced anxiety/depression and ability to perform usual activities, once individuals were in treatment or R&M Services (figure 29).

Figure 28. Boxplot showing distribution of EQ-5D index scores at baseline and follow up.

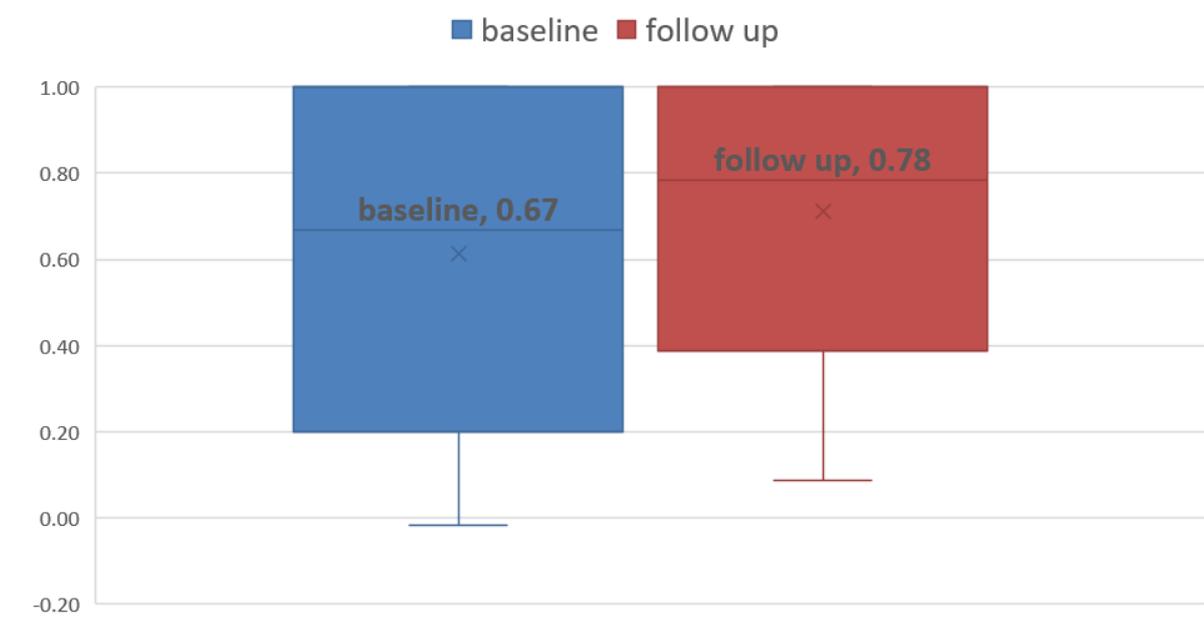
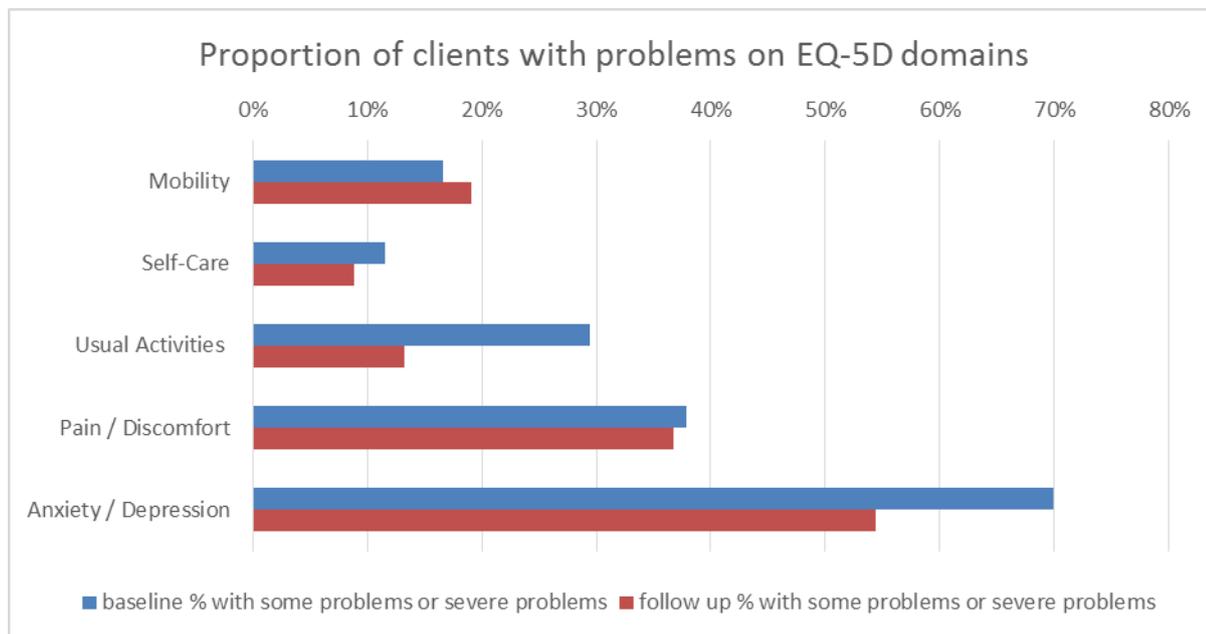


Figure 29. Proportion of clients with problems on EQ-5D domains at baseline and at follow-up, from a cross section of new clients using North Yorkshire Horizons.



Several studies have included health related quality of life measures like the EQ-5D in drug or alcohol users. A Canadian study comparing outcomes for injecting drug users given either injectable heroin or methadone collected a range of health related quality of life scales and found that the EQ-5D was the best generic scale (Nosyk et al., 2010). This study found that the average EQ-5D index score was 0.70 and the average VAS score was 58/100 and also found that scores on the EQ-5D increased as illegal drug use reduced.

A recent UK study (Goranitis et al., 2016) compared the EQ-5D-5L (EuroQol five-dimensional questionnaire (five-level) with the ICECAP-A (a capability scale for adults) and the Treatment Outcome Profile (TOP) for 83 opiate users in treatment. It also included the CORE-OM (Clinical Outcomes in Routine Evaluation-Outcome Measure); the ISEL (Interpersonal Support Evaluation List); the LDQ (Leeds Dependence Questionnaire; and the SSQ (Social Satisfaction Questionnaire). Goranitis and colleagues' study found that lower quality of life on the TOP (average score 0.58) was associated with lower EQ-5D-5L index scores (0.75), while higher quality of life score on the TOP (average 0.75) was associated with higher EQ-5D-5L utility scores (average 0.86). This means that a 29% increase in TOP scores corresponded to a 14% increase in utility score. The relationship was statistically significant, which is evidence that the TOP can potentially be used as a proxy for other utility scores.

MORTALITY

There is evidence that drug and alcohol treatment and recovery services extend life as well as increasing quality of life. Drug users can die early from acute overdose, as well as long term damage to organs such as the lungs, liver, heart or kidneys; drug users can also suffer brain damage, or be at higher risk of contracting infectious diseases like hepatitis C or HIV. Alcohol users can also die early from acute toxicity, violence or accidents including traffic accidents, liver damage, brain damage, other organ failure, or cancer (Karila et al, 2012; Warner-Smith et al., 2001). Many drug users also use alcohol and vice versa and many smoke which is another big cause of premature death which is why it is important to promote people becoming addiction free.

Deaths from drug misuse are defined by ONS as:

a) deaths where the underlying cause of death has been coded to the following categories of mental and behavioural disorders due to psychoactive substance use (excluding alcohol, tobacco and volatile solvents)

- (i) opioids (ICD-10 code F11)
- (ii) cannabinoids (F12)
- (iii) sedatives or hypnotics (F13)
- (iv) cocaine (F14)
- (v) other stimulants, including caffeine (F15)
- (vi) hallucinogens (F16) and
- (vii) multiple drug use and use of other psychoactive substances (F19)

b) deaths coded to the following categories and where a drug controlled under the Misuse of Drugs Act 1971 was mentioned on the death record:

- (i) Accidental poisoning by drugs, medicaments and biological substances (X40–X44)
- (ii) Intentional self-poisoning by drugs, medicaments and biological substances (X60–X64)
- (iii) Poisoning by drugs, medicaments and biological substances, undetermined intent (Y10–Y14)
- (iv) Assault by drugs, medicaments and biological substances (X85) and
- (v) Mental and behavioural disorders due to use of volatile solvents (F18)

Data on drug-related deaths (i.e. recorded as cause or associated cause) were available for the seven district councils that make up North Yorkshire County Council (Selby, Harrogate, Craven, Richmondshire, Hambleton, Ryedale, and Scarborough) but the most recent data are for deaths

registered in 2014 calendar year so it was not possible to see the impact after the North Yorkshire Horizons service began. There is also an average delay of 95-164 days in reporting cause of death in North Yorkshire districts. For the economic modelling, assumptions can be made about death rates in different groups which can be used to calculate the increases in life expectancy that can be attributed to the services.

Mortality for drug users in treatment is measured in NDTMS. Drug users have an increased risk of dying for most causes of death; in particular drug related poisoning, but also infectious and parasitic diseases, cancer, fibrosis and cirrhosis of the liver (Pierce et al., 2015). In the modelling, mortality for drug users who were outside of treatment was assumed to be 3% per annum, whereas in treatment, the mortality rate from the NDTMS was used. This cohort mortality rate roughly equates to the excess mortality found in a study of opiate users by Pierce et al (2015) which found that death rates were around five times the normal population death rate. The DORIS study in Scotland found that death rates were around 12 times higher in drug users.

ECONOMIC PRODUCTIVITY AND OUT OF WORK BENEFITS

The present economic evaluation did not explicitly include economic productivity and out of work benefits but tackling individual drug use would produce benefits in this sector, as at least 80% of people in drug treatment are estimated to be in receipt of out of work benefits (DWP, 2015). The Recovery & Mentoring service has successfully got some people through recovery into employment, which has a huge return on investment, as well as motivating other people in recovery to 'turn their life around' and find meaningful work.

SOCIAL CARE AND CONSEQUENCES FOR CHILDREN OF DRUG AND ALCOHOL USERS

It is likely that a proportion of social care need is around children and families of drug and alcohol users. Drug and alcohol use is related to other common risk factors such as poverty, unemployment, education, housing problems, mental health problems, crime, early childhood experiences and family breakdown. This means it is difficult to attribute a proportion of the social care needs directly to drug or alcohol use. There will be a proportion of social care in later life that is associated with health problems resulting from drug or alcohol use, for instance alcohol-related early onset dementia; these causal relationships can also be difficult to unpick without long term integrated information systems.

Children of drug and alcohol users may be born addicted to drugs or with foetal alcohol syndrome (Johnson et al., 2003; Sokol et al., 2003). Children may end up being carers for their parents and may suffer social or school disruption or being passed between family members or being taken into care. This is likely to affect children's educational attainment and their life chances but it is difficult

to measure this accurately. A report by Adfam (2014) examined cases of children who have died or come to harm from ingesting opioid substitution treatment (OST), primarily methadone. The report showed that even if the risk of children ingesting OST is low (the review found 20 serious case reviews between 2003 and 2013) and the number of children that can be exposed to OST is unknown, OST could present as a risk factor for children living in families with people receiving OST treatment.

3.2.3. OPIATE MODEL

SUMMARY



On average clients gained 3 years of quality adjusted life expectancy through services moving people into recovery, increasing their quality of life, and making them live longer.



Services produced £72k in cost savings over a client's lifetime, through reducing the risk of crime associated with drug use, which can add up to a considerable cost over an individual's drug taking career.

OPIATE MODEL ASSUMPTIONS

It was assumed that 80% of opiate users began in treatment. The costs of recovery services were £708 per client and these services reduced the probability of an individual becoming a drug user again through retaining them in recovery for a longer period of time. The costs of treatment services were £2,097 per year, and the excess costs of crime associated with being an opiate user who was not in contact with treatment or recovery services was £10,145 a year (based on the DTORS study). A proportion of opiate users also had problems with other drugs such as crack cocaine, cannabis and alcohol.

OPIATE MODEL RESULTS

The main results are shown in table 27. The discounted lifetime costs for individuals in treatment and recovery are much lower than if treatment and recovery services did not exist, at around £24,000 vs £96,000. The average number of discounted QALYs experienced are around three years greater with drug treatment than if drug treatment was not available.

Table 27. Results from cost effectiveness model for opiate users, based on a lifetime model including treatment, recovery and criminal justice costs. Shown with 95% confidence intervals.

	Treatment	No treatment
Lifetime cost per client (CI)	£24,393 (£1,214-£67,747)	£96,294 (£10,058-£201,863)
Lifetime QALYs	20.34 (2.1-43.39)	17.34 (1.34-40.21)
Cost per QALY	£1,199	£5,555
ICER (Incremental Cost Effectiveness Ratio)	Dominant – Cheaper and more effective than alternative	Dominated – more costly and less effective than alternative

PROBABILISTIC SENSITIVITY ANALYSIS – OPIATE USER MODEL

A probabilistic sensitivity analysis (PSA) was carried out to see how sensitive the model results were to parameter estimates that are subject to a degree of uncertainty. The results of the probabilistic sensitivity analysis are shown in figure 30. Each dot represents one iteration, i.e. one set of model results, when the model was run 10,000 times, drawing randomly from a set of numerical distributions for each input parameter like cost, quality of life, etc, where there may be some uncertainty around the true value of this parameter. The iterations are mainly in a region that would be considered to be cost effective at a willingness to pay threshold of £20,000 per QALY (to the right of the dashed line). In fact, most are in the bottom right (south east) quadrant, which means cheaper and more effective than the alternative. In the cost effectiveness acceptability curve, shown in figure 31, the intervention has a 92% probability of being cost effective at a willingness to pay of £20,000 per QALY. A set of one-way sensitivity analyses were also carried out. Figure 32 shows how sensitive the results are to these changes in assumptions about the input parameters. This shows that the net monetary value of interventions was most sensitive to changes in the utility (quality of life) associated with being in treatment and recovery, in costs of treatment, and in the cost of crime associated with drug use. The net monetary value is the sum of cost savings and the financial value of QALYs gained.

Figure 30. Opiate user model; iterations of incremental cost effectiveness, with ellipse showing 95% prediction intervals.

Incremental Cost-Effectiveness, drug treatment v. no treatment

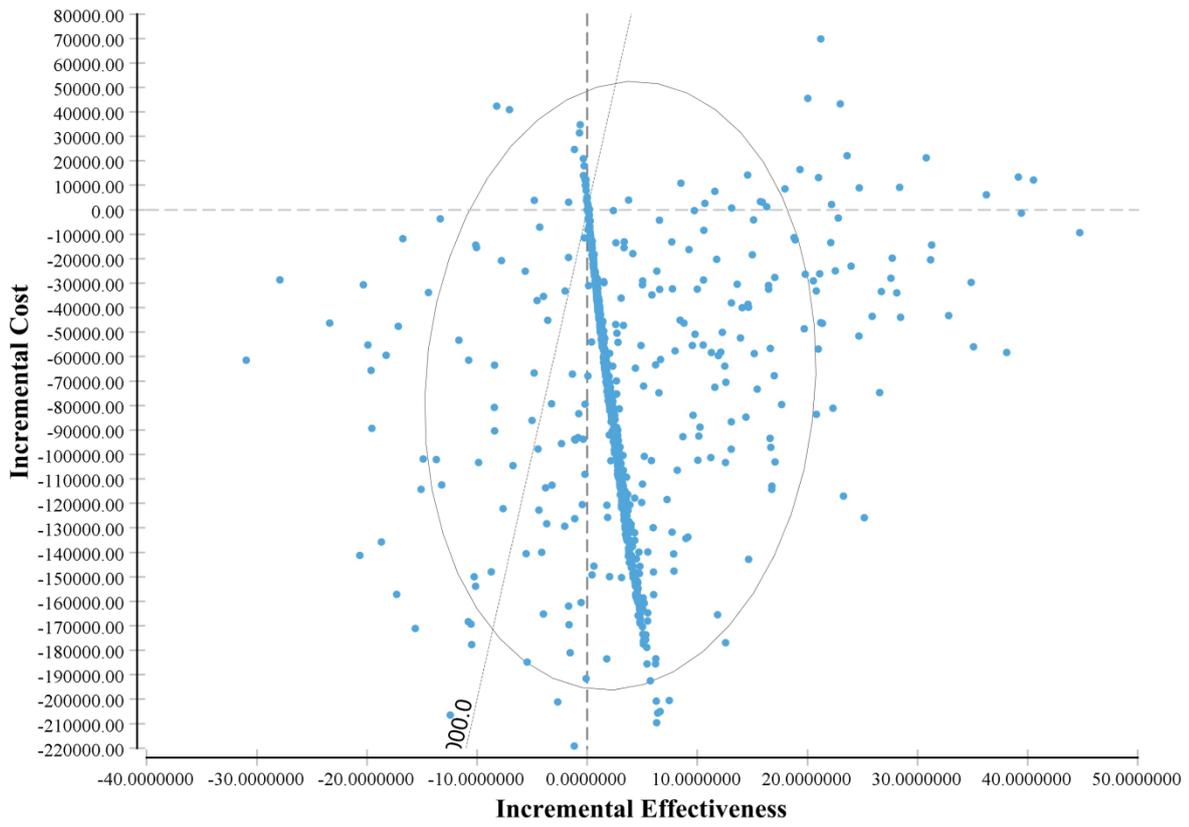


Figure 31. Cost effectiveness acceptability curve, opiate user model, showing probability of drug treatment being cost effective vs probability not cost effective at different values of willingness to pay for one QALY.

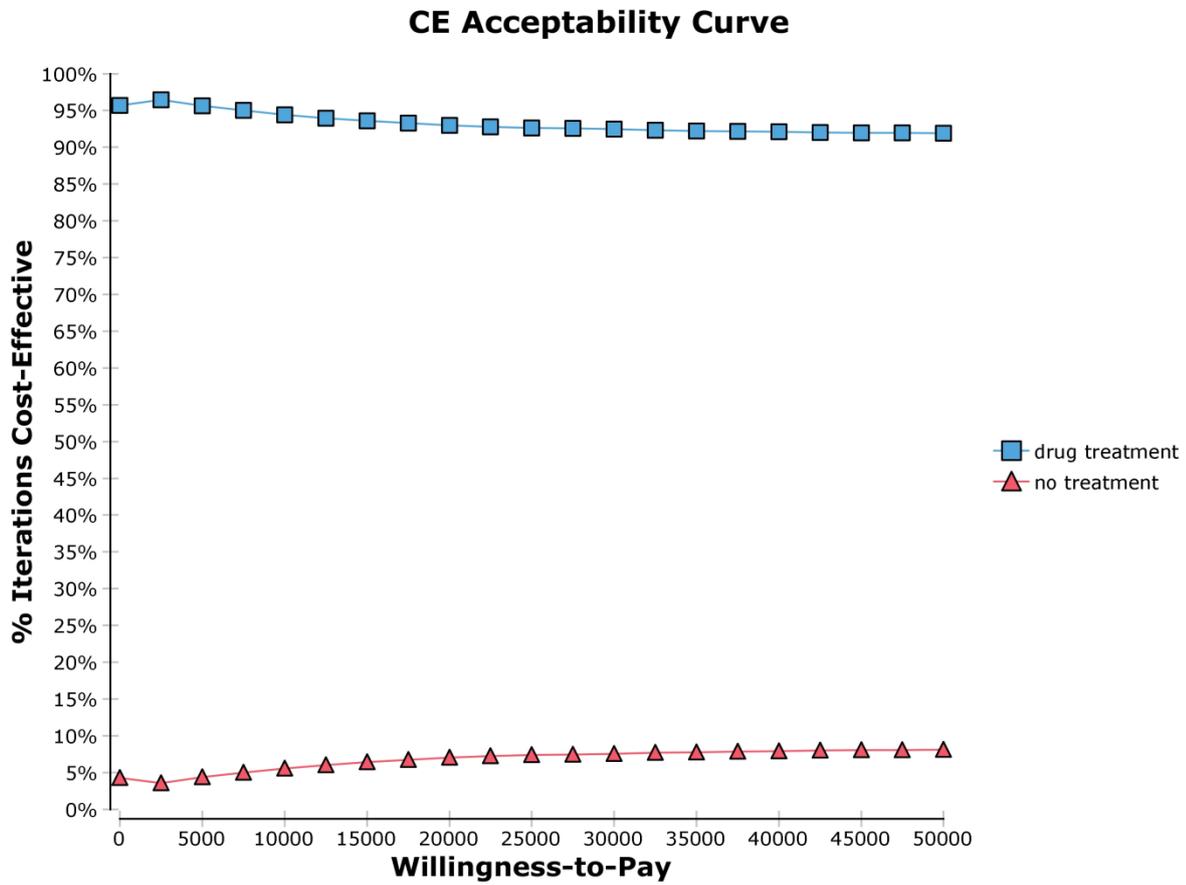
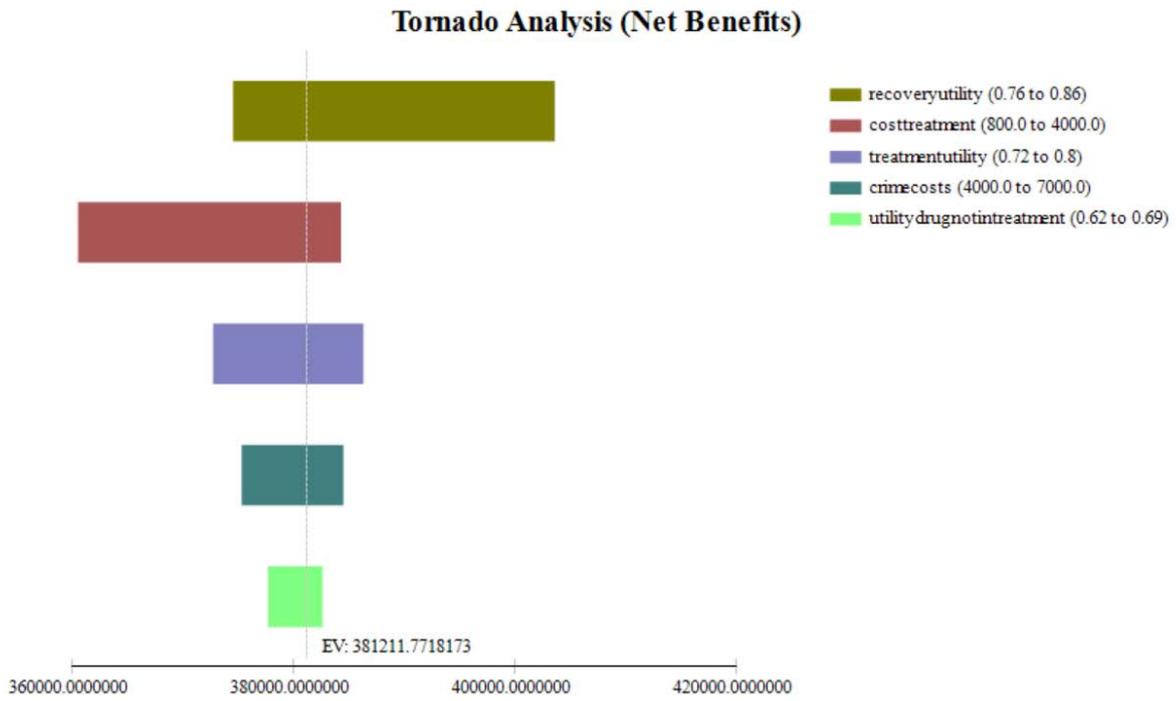


Figure 32. Opiate user model. Tornado diagram showing one way sensitivity analyses. EV= expected value of net monetary benefits.



3.2.4. ALCOHOL MODEL

SUMMARY



On average clients gained eight years of quality adjusted life expectancy through services moving people into recovery, increasing their quality of life, and making them live longer.



Services produced £60k in cost savings over a client's lifetime, through reducing the healthcare costs of alcohol use, and through a reduced risk of crime and antisocial behaviour associated with alcohol use.

ALCOHOL MODEL ASSUMPTIONS

The alcohol model was mainly driven by the cost of treatment, the healthcare costs of alcohol use, and the quality of life changes seen in treatment. For people in structured treatment, TOPs quality of life scores were 42% higher at treatment exit (14.97/20) than at baseline (10.93/20), while post-exit scores were similar to those at treatment exit (14.89). Alcohol treatment cost a proportion of the known alcohol-specific admissions and alcohol-related crime costs were attributed to alcohol dependent individuals, who may then access the service, and these costs are reduced as they tackle their alcohol dependence. These excess costs were estimated at £5,885 per annum in healthcare (based on 80% of the costs of alcohol specific hospital admissions only) and £2,000 in crime and antisocial behaviour costs (based on 20% of alcohol related crime costs).

ALCOHOL MODEL RESULTS

The model suggested that alcohol treatment was cost effective with a saving of around £60,000 over an individual's lifetime, and around 8.3 QALYs gained. This means that alcohol treatment is cost saving as well as improving outcomes. This is shown in Table 28. The model of alcohol clients came out the most cost effective out of all of the models. This is because there was good quality data on alcohol hospital activity which may be prevented by alcohol treatment. Also individuals who have an unsuccessful exit from alcohol treatment still have a potential to re-enter treatment

and benefit from it in the future so the cost effectiveness is not driven only by the current treatment episode.

Table 28. Results from cost effectiveness model for alcohol users, based on a lifetime model including treatment, recovery, healthcare and criminal justice costs. Shown with 95% confidence intervals.

	Treatment	No treatment
Lifetime cost per client (CI)	£14,506 (£355- £43,804)	£74,938 (7,818- £156,894)
Lifetime QALYs (CI)	25.70(3.04- 52.33)	17.38(1.34- 39.63)
Cost per QALY	£564	£4,311
ICER (Incremental Cost Effectiveness Ratio)	Dominant – Cheaper and more effective than alternative	Dominated – more costly and less effective than alternative

PROBABILISTIC SENSITIVITY ANALYSIS –ALCOHOL USER MODEL

A PSA was carried out to see how sensitive the model results were to parameter estimates that are subject to a degree of uncertainty. The results of the probabilistic sensitivity analysis are shown in figure 33. The iterations are mainly in a region that would be considered to be cost effective at a willingness to pay threshold of £20,000 per QALY (to the right of the dashed line). In the cost effectiveness acceptability curve, shown in figure 34, the intervention has around 100% probability of being cost effective at a willingness to pay of £20,000 per QALY. A set of one-way sensitivity analyses showed that the net monetary value of interventions was most sensitive to changes in the excess costs (crime and healthcare) associated with alcohol dependence (figure 35).

Figure 33. Alcohol user model; iterations of incremental cost effectiveness, with ellipse showing 95% prediction intervals.

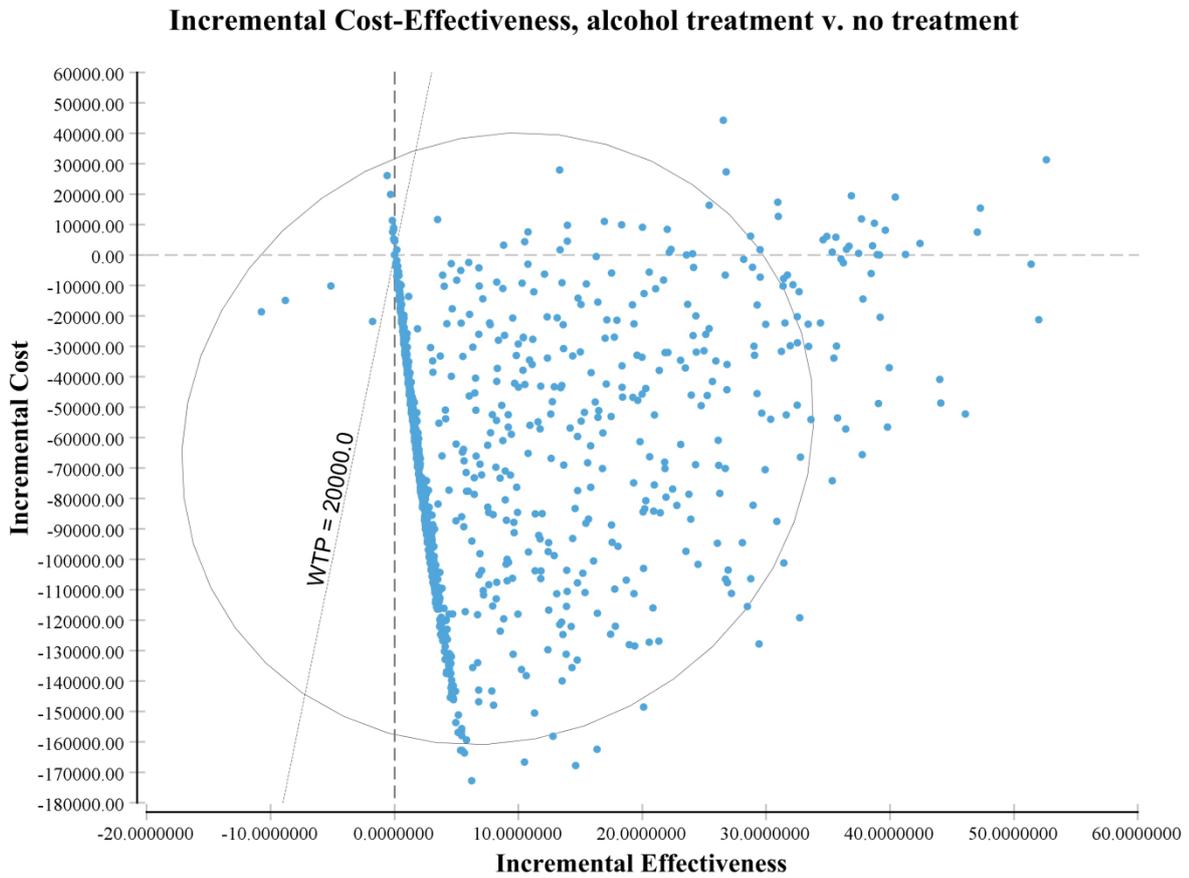


Figure 34. Cost effectiveness acceptability curve, alcohol user model, showing probability of alcohol treatment being cost effective vs probability not cost effective at different values of willingness to pay for one QALY.

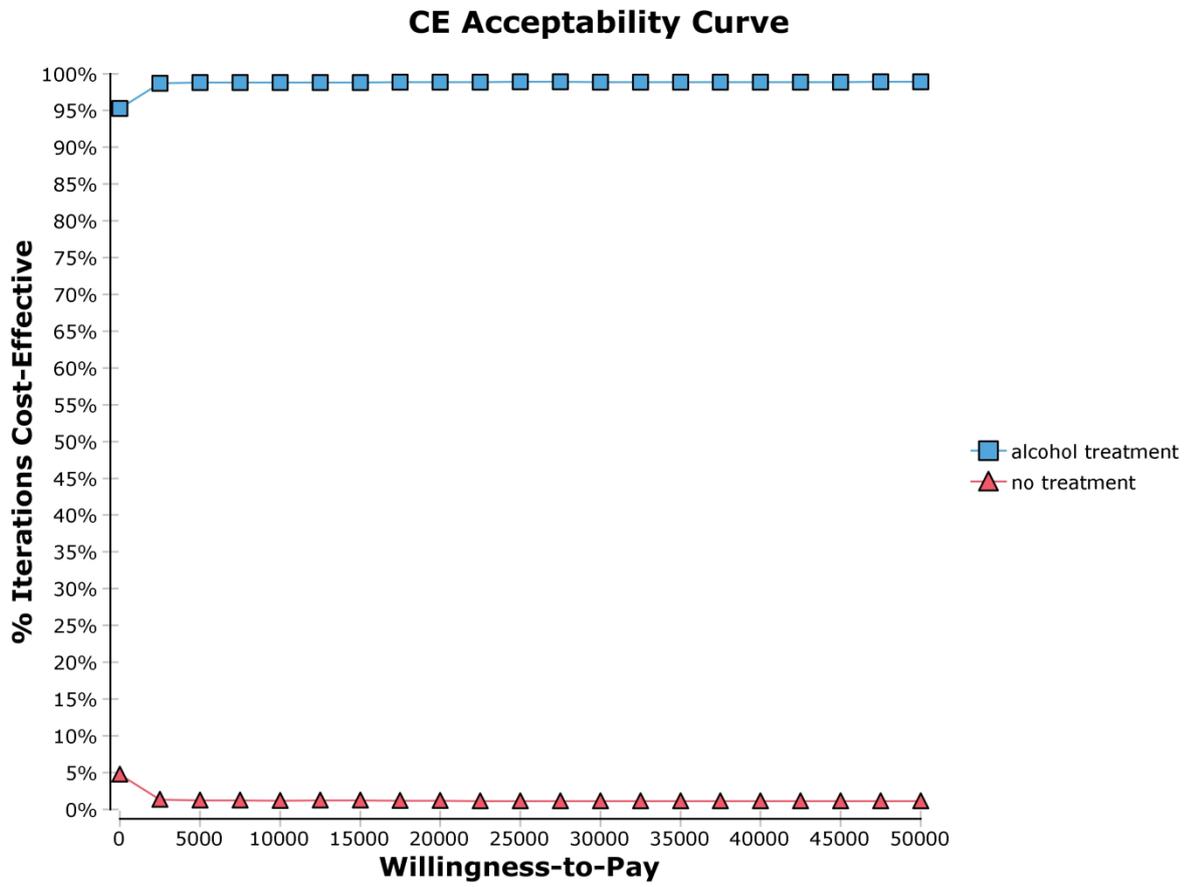
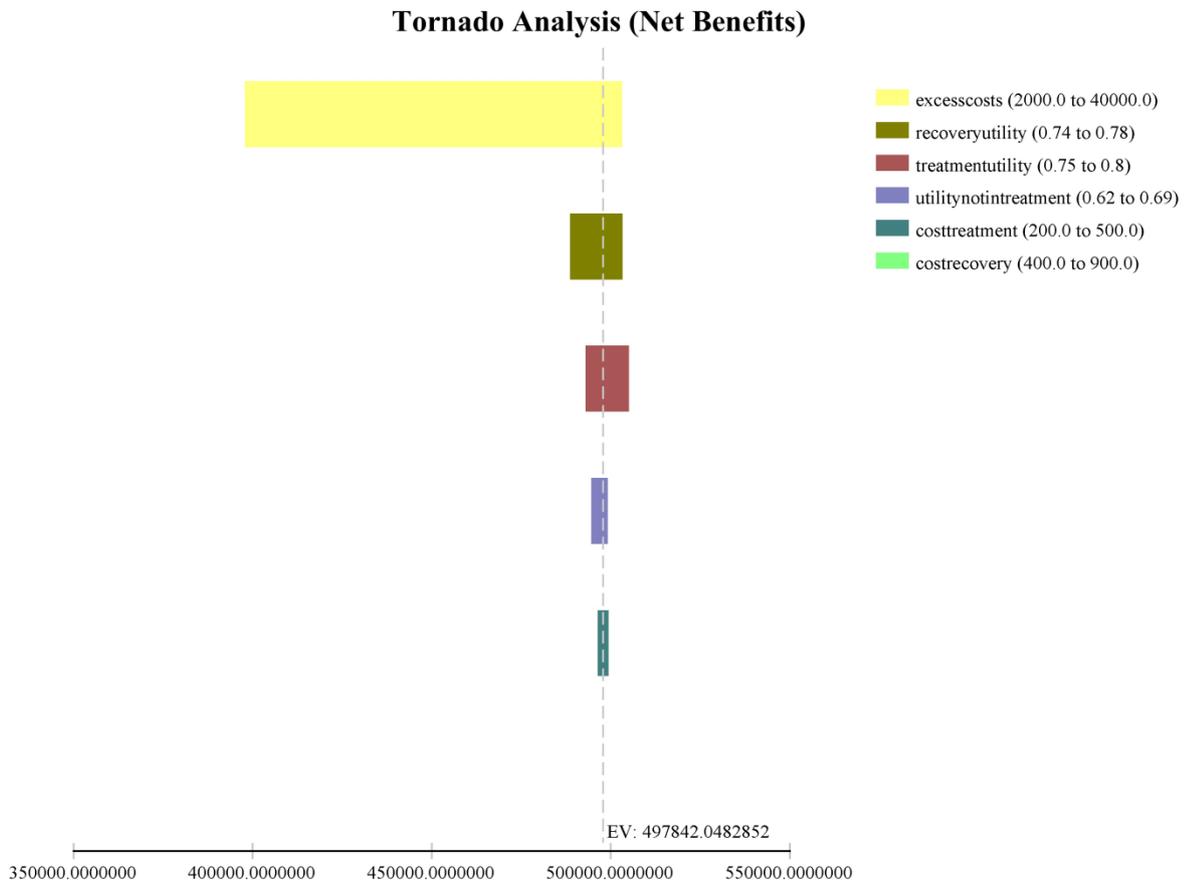


Figure 35. Alcohol user model. Tornado diagram showing one-way sensitivity analyses. EV= expected value of net monetary benefits.



3.2.5. NON-OPIATE USER MODEL

SUMMARY

3.6



Non-opiate users gained 3.6 QALYs more than if treatment was not available through improved quality of life while in treatment and recovery.

£64/QALY

Treatment for non-opiate users cost £64 per QALY gained which would be considered to be very cost effective, although not cost saving.

NON-OPIATE USER MODEL ASSUMPTIONS

The non-opiate user model was driven by the harms associated with cannabis use which was the main drug used by people who were categorised as non-opiate users. There is less evidence for the social harms associated with cannabis use than for other non-opiates like crack or powder cocaine. From previous work, the social cost of a cannabis user who is not in treatment is estimated to be around £100 (Collins et al., 2016) but this was in the general population, not in those individuals whose use has led them into treatment. For a cannabis user to end up in treatment it is likely that they are experiencing a greater degree of harm and dependence, but there is less evidence for this than for other drugs like alcohol or heroin. Having a large population of cannabis users in drug treatment is quite a recent phenomenon and may be driven by the increasing potency of cannabis which began in the 1990s but may have peaked (Monaghan et al., 2016). There is little evidence for crime associated with cannabis use apart from arrests for possession or supply. However 20 % of non-opiate clients in North Yorkshire were in contact with the CJIT. Cannabis is implicated in a proportion of road traffic accidents but there is debate over whether it can be said to be the cause of these accidents or whether it is something else like a willingness to behave recklessly (Laumon et al., 2005). There is some disputed evidence around the risk of psychosis in young people where it is difficult to untangle cause and effect; people who are predisposed to psychosis may be more likely to become regular cannabis users (Hall, 2015). Nevertheless most people accessing drug treatment

will be older so any psychosis caused by cannabis will have most likely already happened, as psychosis usually manifests itself in early adulthood, although continuing cannabis use may make symptoms of psychosis worse (Kosty et al., 2016). There is also 'gateway theory' that cannabis use causes other drug use, but this theory has mainly been refuted (Fergusson et al., 2006). As cannabis is often mixed with tobacco, one of the biggest harms is through reinforcing tobacco addiction. There are certainly social harms associated with cannabis use, for instance poor educational attainment (Macleo et al., 2004) and unemployment (Fergusson & Boden, 2008), but it can be difficult to quantify them. Total excess healthcare costs were estimated as £110 per cannabis user (£48 physical health and £62 mental health). This was based on a (leaked) report that was produced for the UK Treasury, on the impact of a legalised cannabis market.

In North Yorkshire, non-opiate users in treatment showed similar TOPs quality of life scores to opiate and alcohol users, with an average score of 10.29 at baseline, 15.51 at treatment exit, and 15.54 at post-treatment exit. This suggests that for these individuals, their drug use was associated with a significant quality of life decrement that significantly improved when they left treatment. The death rate for people in treatment was much lower for non-opiate users than other groups like alcohol or opiate users.

As a conservative estimate, if we assume that 20% of individuals will be arrested twice if they are a drug user not in treatment, and each cannabis-related arrest costs around £500, then this produces an average crime cost of £200 per user not in treatment. One key uncertainty with the non-opiate model is the spontaneous recovery rate for people who are not in drug treatment; for opiate and alcohol users this rate is quite low, but for non-opiate users, many may recover outside of drug treatment. The rate of successful completions in non-opiate users was 19% which was lower than alcohol (39%) or opiates (42%), even though it might be expected that non-opiate clients would require a shorter time in treatment.

NON OPIATE MODEL RESULTS

The model suggested that non-opiate treatment had a slightly higher lifetime cost (£242 higher) but produced around 3.6 QALYs gained. This means that treatment for non-opiate users would be considered to be very cost effective with an incremental cost effectiveness ratio (ICER) of £64 per QALY gained. The programme may not be cost saving because the main evidence used for costs was for harms associated with cannabis use, and it may be that the evidence base around this is less well developed as harmful cannabis use has only quite recently become more of a focus of specialist drug treatment. Because individuals in non-opiate treatment seem to spend a long time in contact with treatment in North Yorkshire Horizons, this accentuates the difference in QALYs between the treatment and no treatment scenario. The difference in the number of average QALYs experienced is driven by quality of life, not increased life expectancy.

Table 29. Results from cost effectiveness model for non-opiate users, based on a lifetime model including treatment, recovery and criminal justice costs. Shown with 95% confidence intervals.

	Treatment	No treatment
Lifetime cost per client (CI)	£2,902 (£340- £6,258)	£2,661 (£307- £5,560)
Lifetime QALYs (CI)	26.17 (4.59- 51.04)	22.42 (3.95-44.2)
Cost per QALY	£111	£119
ICER (Incremental Cost Effectiveness Ratio)	£64	

PROBABILISTIC SENSITIVITY ANALYSIS –NON-OPIATE USER MODEL

A PSA was carried out to see how sensitive the model results were to parameter estimates that are subject to a degree of uncertainty. The results of the probabilistic sensitivity analysis are shown in figure 36. The iterations are mainly in a region that would be considered to be cost effective at a willingness to pay threshold of £20,000 per QALY (to the right of the dashed line). In the cost effectiveness acceptability curve, shown in figure 37, the intervention has a 93% probability of being cost effective at a willingness to pay of £20,000 per QALY. A set of one-way sensitivity analyses showed that the net monetary value of interventions was most sensitive to changes in the utility (quality of life) associated with drug use and recovery (figure 38). Overall the modelling suggested that any benefits from non-opiate use were mainly through increased quality of life in individuals, with modest cost savings, and no evidence of reduced mortality rates.

Figure 36. Non opiate user model; iterations of incremental cost effectiveness, with ellipse showing 95% prediction intervals.

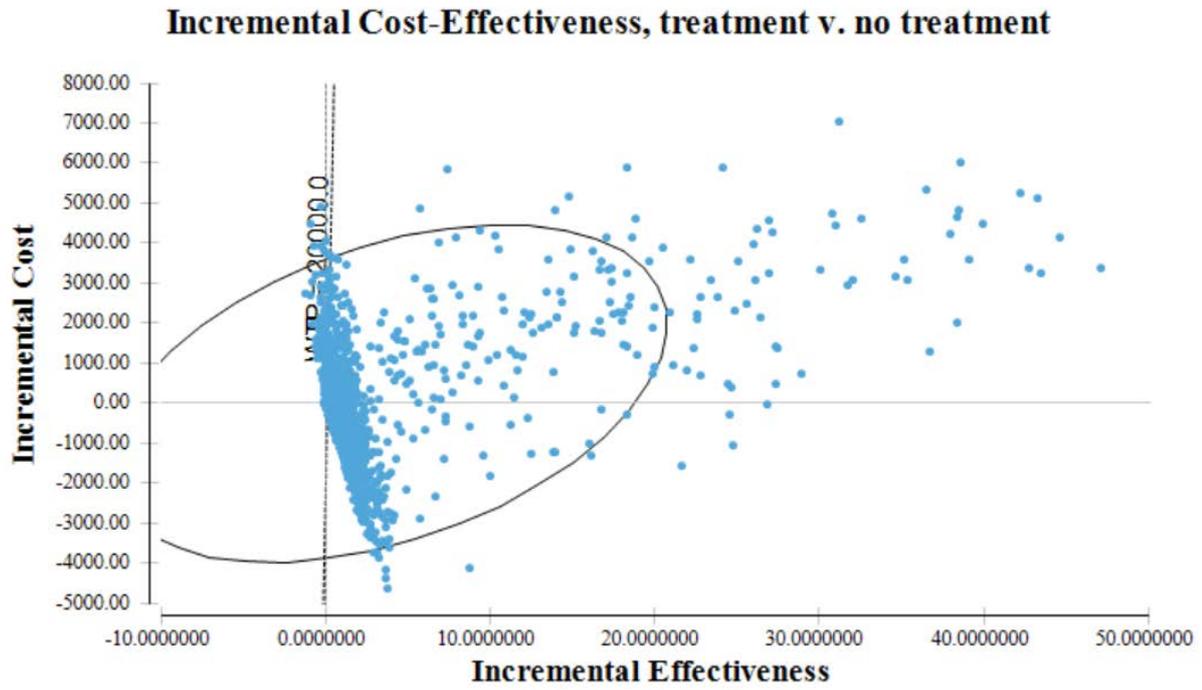


Figure 37. Cost effectiveness acceptability curve, non-opiate user model, showing probability of treatment being cost effective vs probability not cost effective at different values of willingness to pay for one QALY.

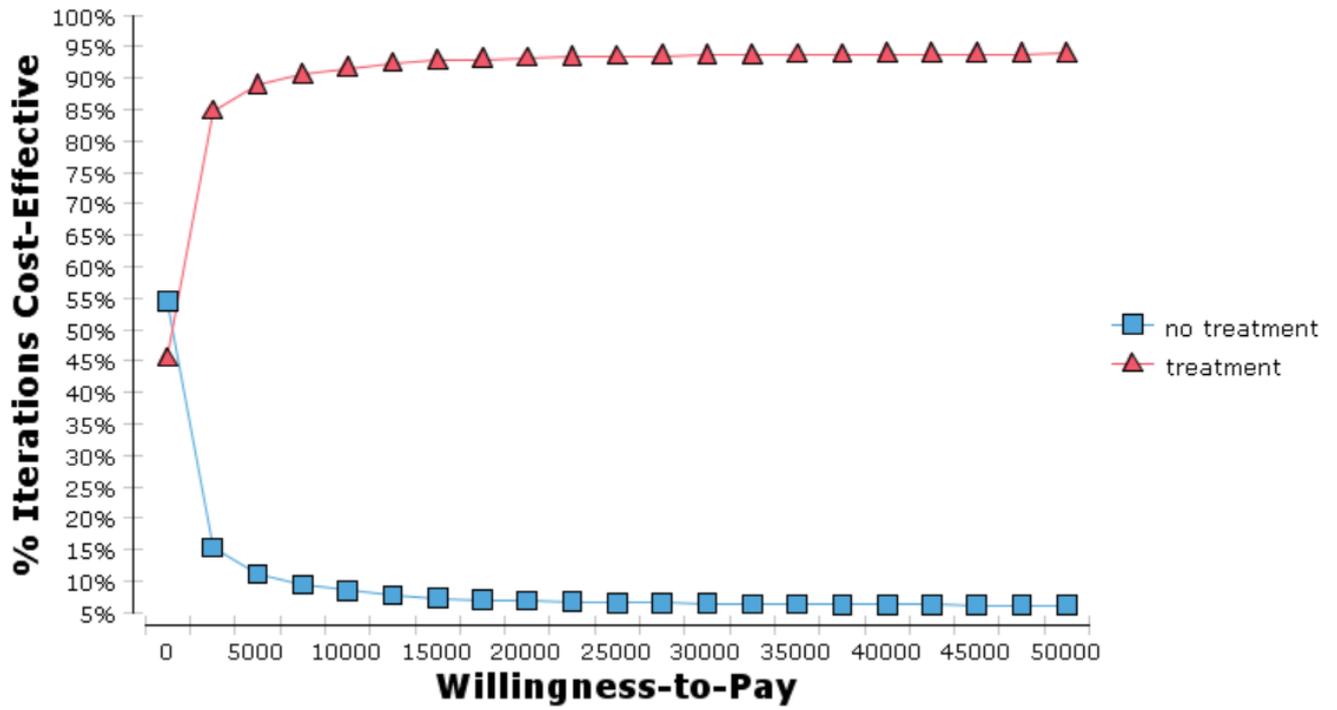
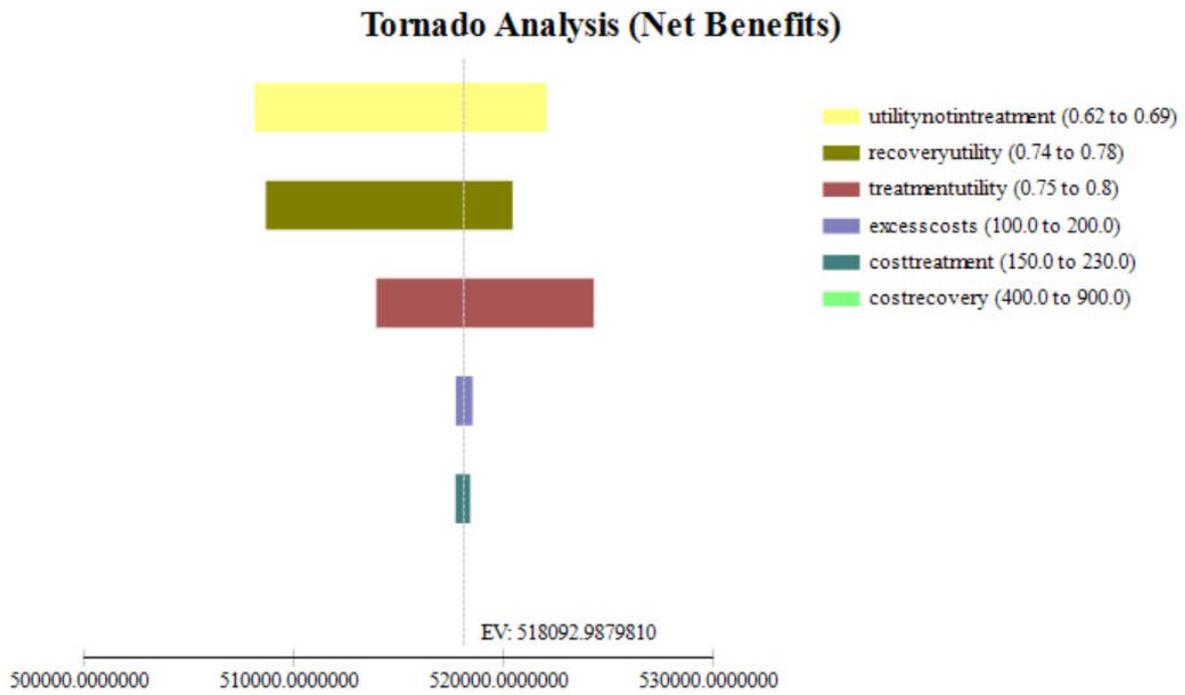
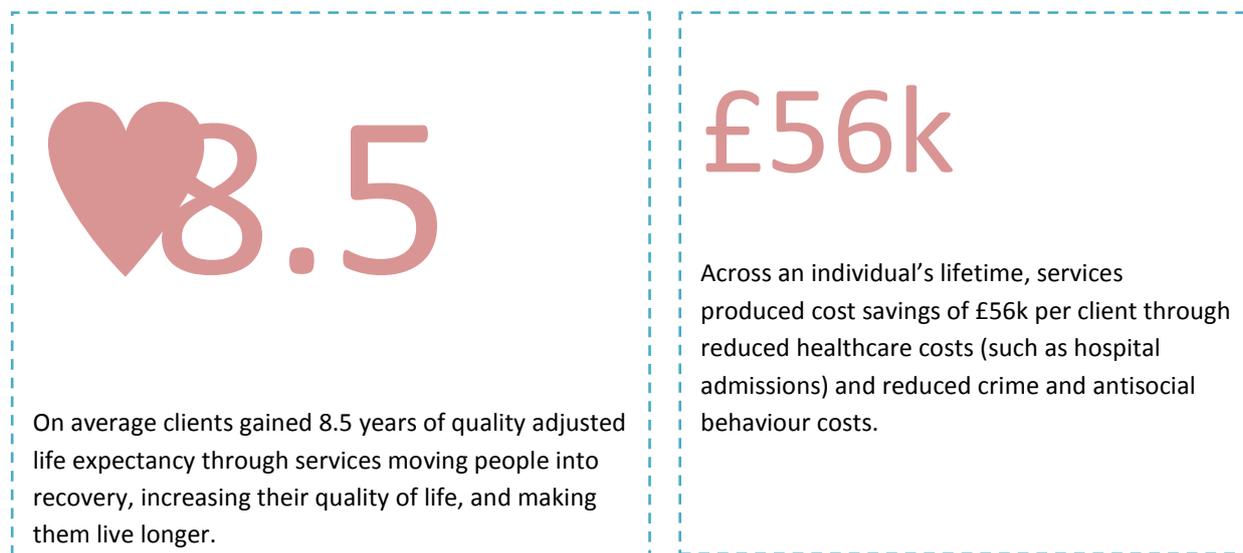


Figure 38. Non-opiate user model. Tornado diagram showing one way sensitivity analyses. EV= expected value of net monetary benefits.



3.2.6. ALCOHOL AND NON-OPIATE USER MODEL

SUMMARY



ALCOHOL AND NON-OPIATE USER MODEL ASSUMPTIONS

This model was essentially built using the same evidence as the alcohol and non-opiate models, so included the estimated excess healthcare costs of alcohol and non-opiate use, and the estimated excess crime costs of alcohol and non-opiate use. The quality of life and costing data was based on the data for individual alcohol and non-opiate clients using North Yorkshire Horizons. Notably, this client group had a higher rate of unplanned discharges than successful completions.

ALCOHOL AND NON-OPIATE MODEL RESULTS

The model suggested that alcohol and non-opiate treatment was cost effective with a saving of around £56,000 over an individual's lifetime, and around 8.5 QALYs gained. This means that treatment for alcohol and non-opiate users should be cost saving to the public purse as well as improving outcomes.

Table 30. Results from cost effectiveness model for alcohol and non-opiate users, based on a lifetime model including treatment, recovery and criminal justice costs. Shown with 95% confidence intervals.

	Treatment	No treatment
Lifetime cost per client (CI)	£21,805 (£553- £58,174)	£78,003 (£8,125- £161,722)
Lifetime QALYs (CI)	25.97 (3.04- 54.09)	17.47 (1.34- 39.79)
Cost per QALY	£840	£4,465
ICER (Incremental Cost Effectiveness Ratio)	Dominant – Cheaper and more effective than alternative	Dominated – more costly and less effective than alternative

PROBABILISTIC SENSITIVITY ANALYSIS –ALCOHOL AND NON OPIATE USER MODEL

A PSA was carried out to see how sensitive the model results were to parameter estimates that are subject to a degree of uncertainty. The results of the probabilistic sensitivity analysis are shown in Figure 39. Nearly all iterations are in the dominant south east quadrant where treatment is cheaper and more effective than no treatment. In the cost effectiveness acceptability curve, shown in figure 40, the intervention has a 98% probability of being cost effective at a willingness to pay of £20,000 per QALY. A set of one way sensitivity analyses showed that the net monetary value of interventions was most sensitive to changes in the utility (quality of life) associated with drug use and recovery as well as the excess social costs associated with alcohol and non-opiate use (Figure 41). Although non opiate and alcohol treatment had a high unplanned discharge rate, it had a low average treatment cost, and the cost effectiveness was mainly driven by alcohol-related social cost savings, not drug-related savings.

Figure 39. Alcohol and non-opiate user model; iterations of incremental cost effectiveness, with ellipse showing 95% prediction intervals.

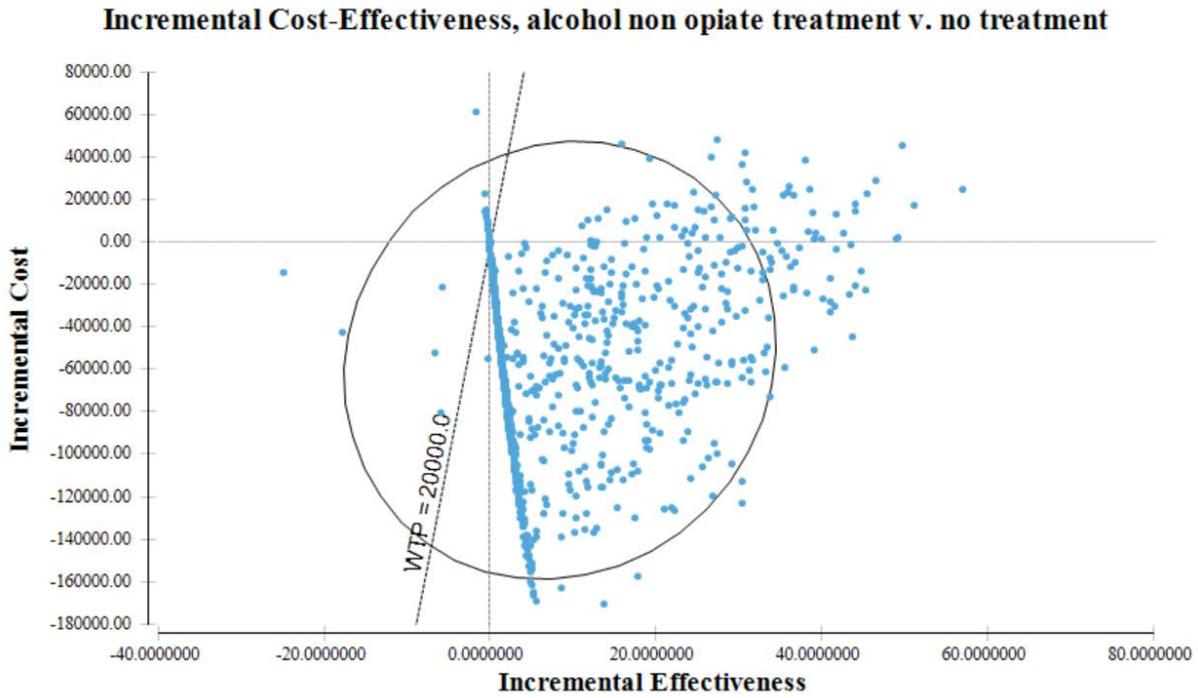


Figure 40. Cost effectiveness acceptability curve, alcohol and non-opiate user model, showing probability of treatment being cost effective vs probability not cost effective at different values of willingness to pay for one qaly.

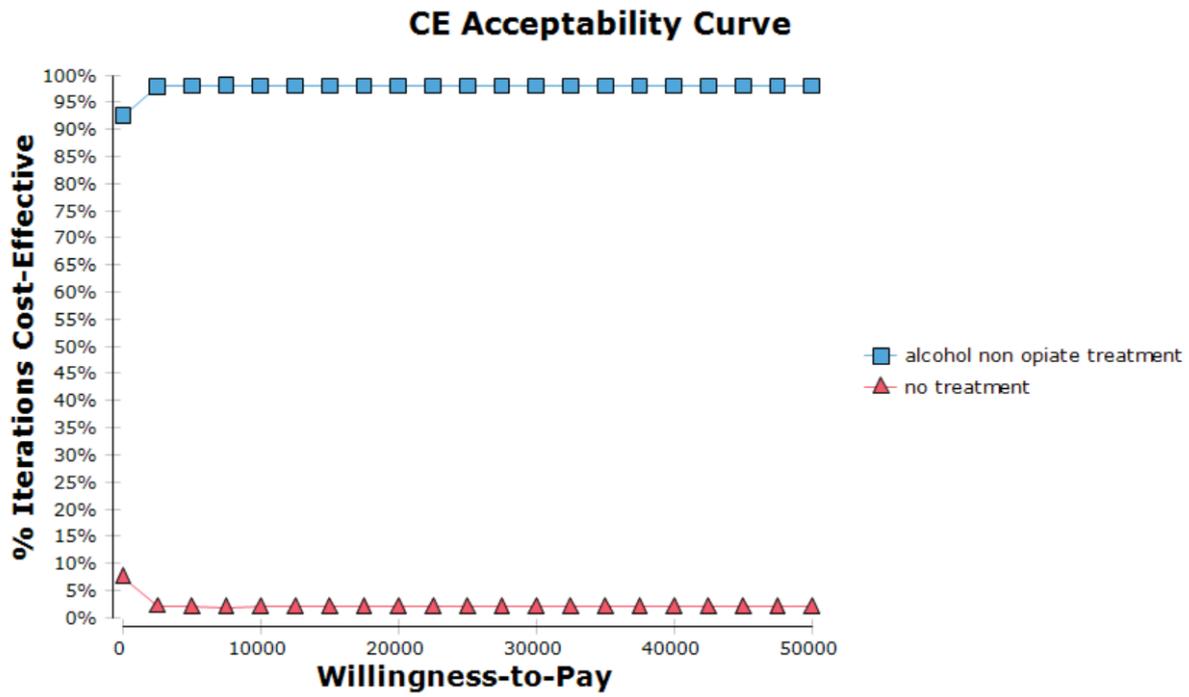
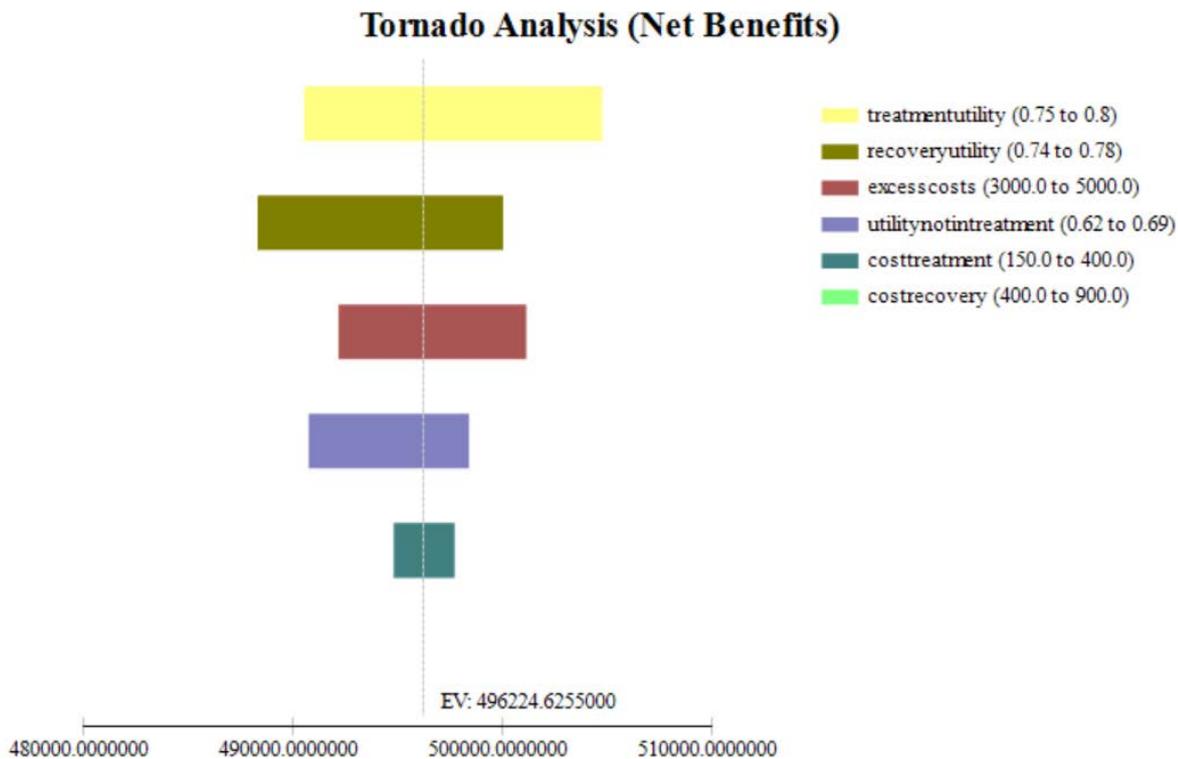
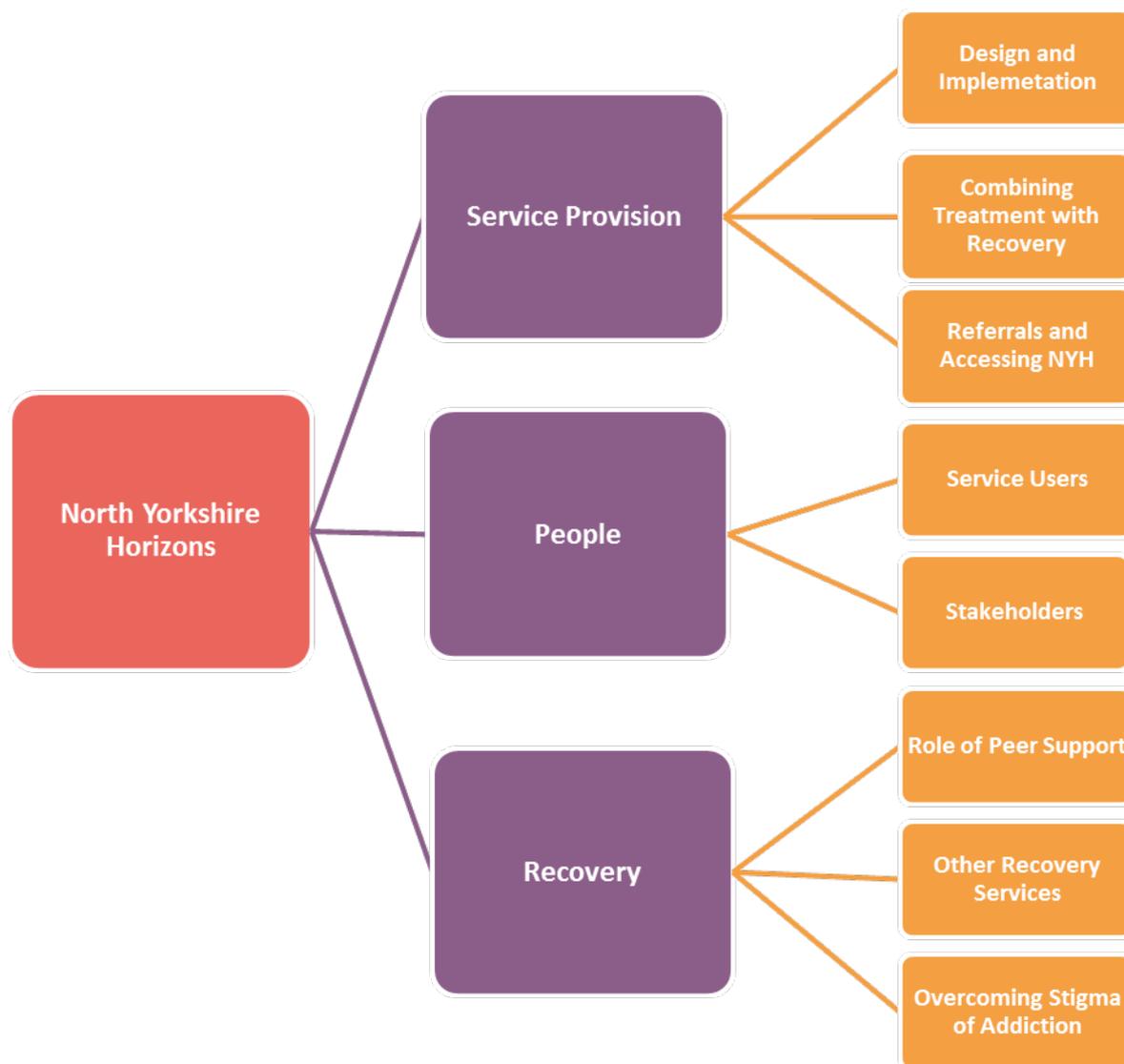


Figure 41. Alcohol and non-opiate user model. Tornado diagram showing one way sensitivity analyses. EV= expected value of net monetary benefits.



3.3. Qualitative Findings

Figure 42. The central and sub themes for the qualitative analysis



3.3.1. STAKEHOLDER INTERVIEWS

The stakeholders were able to provide different perspectives relating to the services provided by North Yorkshire Horizons as well as cognate issues such as the stigma of addiction. Common themes were recognised across the stakeholder interviews. These included discussion of how the service was designed and implemented, how service users could access and be referred, their opinion of peer mentoring and the combination of treatment and recovery services being under the same service and how North Yorkshire Horizons could help to overcome the stigma associated with addictions. It is important to note that because the stakeholders had varying levels of engagement with North Yorkshire Horizons, not all of them were able to comment on every aspect. Interviews

were carried out over an extended period; this enabled the timely collection of experiences and perceptions regarding service implementation, alongside how the service had progressed.

IMPLEMENTATION AND DESIGN OF NORTH YORKSHIRE HORIZONS

The stakeholders that had been involved in shaping the commissioning and mobilisation, were able to discuss their expectations of what the service should be providing and how it was developing. It was generally seen by the majority of the stakeholders as being advantageous that the substance misuse services in North Yorkshire were now being offered by the two lead service providers; this meant more consistent support was available to service users compared to previously when there were numerous providers.

An important part of the service delivered was their ability to provide a holistic service with service users being able to elect which parts of the service would best support them. This meant that North Yorkshire Horizons was able to provide support to service users who had problems with a wide range of substances from more traditional substances such as opiates and alcohol to novel psychoactive substances (NPS).

“The service is being commissioned to work with everything from alcohol to opiates, to cannabis, to your legal highs.” (Stakeholder 15)

“So the tender involved the provision of largely high intense delivery of alcohol treatment services, so people with significant to moderate dependency on alcohol are commissioned to that care pathway. But in relation to drugs it is much more holistic approach so anybody who is experiencing any kind of drug problem, we receive referrals for and we deliver harm reduction, education, awareness raising, right through to intensive drug treatment for people with serious complex poly drug misuse.” (Stakeholder 1).

It was recognised by all of the stakeholders that North Yorkshire covers different areas with diverse needs in terms of substance use treatment. They discussed how North Yorkshire consists of rural and urban areas that have varying levels of wealth and deprivation, meaning that the requirements of service users varied considerably. Through the adaptation of a community based model, North Yorkshire Horizons was seen as being able to offer a flexible service that could be adjusted to suit the needs of service users in different locations. This was seen as a challenge, but stakeholders hoped that flexibility would allow for more appropriate services to be delivered across these diverse areas.

“The community based kind of model is around the different needs, so in Scarborough there is a much higher end of opiate users, where if you kind of look at Northallerton, you’re probably more likely to see the alcohol users, so it’s about being able to ensure that we have equity of provision across the whole area, but again being able to focus on

the particular demands and make sure that we're marking the service right in the different areas. It is going to be a challenge." (Stakeholder 15).

One of the main elements of the service according to the stakeholders was the focus on recovery and this was seen as an important part of the re-configured substance misuse service in North Yorkshire. It was recognised that whilst other services across the country included a recovery element, North Yorkshire Horizons was seen as being unique with recovery being incorporated alongside but distinct to treatment, as well as providing the post-treatment offer.

"Whilst it is my understanding that certainly every new tender is very much reiterating that the expectation is a recovery orientated treatment system or service I'm not aware of any other model that looks quite the same as ours [North Yorkshire Horizons] where there are two distinct components that have been meshed as an integrated service." (Stakeholder 3)

North Yorkshire Horizons was seen as providing an all-round service to those who accessed it. As well as treatment and recovery services, North Yorkshire Horizons also offered help with housing and employment, for example, through the delivery of training provided within the service, arranging voluntary placements and through signposting and referrals. Stakeholders believed that this holistic approach to the service was positive, as it helped to make recovery more sustainable by addressing and potentially resolving issues that may lead to relapse.

"The service provides psychosocial support as well as clinical support. And it also looks at those people that have got other needs - you know, they might have some housing issues or whatever and there are some onward referrals that take place as a result of that." (Stakeholder 13)

The importance of making recovery sustainable emerged as a key focus for stakeholders who were involved in the commissioning and implementation of North Yorkshire Horizons. This involved addressing not only the service user's addiction, but also exploring how their addiction may have an impact on other aspects of their lives and how to best address this to avoid relapse. Additionally, those stakeholders who were not directly involved with the service, but who worked with North Yorkshire Horizons to help service users had hope and expectations that the new structure of the services would not only deal with the initial problems associated with substance use and addiction, but would also work towards maintaining long term recovery.

"I think what we are trying to achieve in the services is not just looking at an individual through the eyes or the lens of their drug/alcohol problems, it's understanding the impact of their behaviours on other parts of their health and well-being." (Stakeholder 1)

"I hope that this service is one that looks towards the longer picture so that, you know, they move forward, away from any kind of clinical treatment, to be able to cope without taking any substitutes." (Stakeholder 13)

REFERRALS AND ACCESSING THE SERVICE

The 'single point of contact' (SPOC) was considered by stakeholders involved in the commissioning and the initial set up as being a simplified way for service users, professionals and others in need of information to access North Yorkshire Horizons. One stakeholder described it as "streamlined".

"In effect it [SPOC] is direct access. It's none of this 'oh well you will have to come in in a few weeks', it's kind of we will see if you meet the threshold and we will find out what your immediate needs are on the phone here... from that we make a quick assessment and then we can get them directly in with the appropriate worker by giving them an appointment there and then." (Stakeholder 9)

However, it was also noted that North Yorkshire Horizons was flexible in how service users could access them.

"Alongside people being able to access through the SPOC, if someone was to turn up at one of the hubs, we would not turn them away." (Stakeholder 6)

Some stakeholders who had made referrals to North Yorkshire Horizons through the SPOC discussed how they had found the system accessible and were impressed by the expedited process. It was recognised that by using the SPOC system, different stakeholders could easily make referrals to North Yorkshire Horizons, as well as seek information, advice and guidance. It was noted that this process was an improvement on the previous systems, which some stakeholders perceived as only allowing referrals from GPs. The fact that non-medical stakeholders could make referrals to North Yorkshire Horizons was valued.

"In terms of making referrals to the service [North Yorkshire Horizons], if I've made a referral just by phoning up and passing on details and it has been picked up very quickly." (Stakeholder 8)

"Referrals could come from absolutely anywhere, the individual, it could be the family members, it could be GPs, it could be a hospital, it could be anyone, Police, Probation, would make a referral through a single point of contact that Lifeline were managing." (Stakeholder 15)

However, due to the nature of the SPOC; being the only way to contact staff within the service, the potential for confusion about the management of the service was discussed, with some stakeholders feeling unclear about whom they should be contacting. They found it difficult to speak to those managing the service, and felt that messages were not always delivered to the staff they were trying to contact as they were in a different location to where the SPOC was situated.

“I have been quite confused as to who’s in charge, sometimes, in terms of who actually runs the services...it’s quite hard sometimes for me – who to pick the phone up to, or email, to get a response sometimes.” (Stakeholder 8)

Additionally, one stakeholder who was directly involved in the delivery of North Yorkshire Horizons commented on the number of inappropriate referrals of people who did not meet the criteria for the service. The SPOC was considered to be the main reason for this happening because of the variety of different organisations/individuals, who may not have been aware of the criteria and were using it to make referrals.

The rural nature of some parts of North Yorkshire was acknowledged as a possible barrier for some service users in accessing their North Yorkshire Horizons hub.

“I suppose cost is a really difficult point because if you look at something like North Yorkshire, it’s so big and it’s so rural... it’s very expensive for them to come to their local hub.” (Stakeholder 15)

Stakeholders considered how it could be difficult and costly for service users living in rural areas to access the services. It was, however, noted that whilst the hubs were centrally located in the different areas of North Yorkshire, there were some recovery groups located in community settings within the more rural areas in an attempt to accommodate these service users.

The stakeholders who had some issues with communication and the referral process acknowledged that, at the time of the interviews, North Yorkshire Horizons was still in the early days of its implementation and this was a common problem with newly commissioned services and may improve with time. Additionally, those stakeholders who had considered the issues about access for those service users living in the rural parts of North Yorkshire recognised that as the service developed it would be easier to identify the demand in these areas and how best to locate services.

COMBINING RECOVERY AND TREATMENT

In general, stakeholders were positive about the how the treatment and recovery were delivered by different providers who worked together to form the integrated service, North Yorkshire Horizons. It was clear from the interviews with stakeholders who were knowledgeable about the commissioning and implementation of North Yorkshire Horizons that both the Treatment and Recovery & Mentoring aspects of the Service had obvious roles; both worked together and complemented each other. Having the distinction between Treatment and Recovery & Mentoring enabled staff to focus on their specialist role, and work across both services to provide the right level of support.

“I think the treatment to the recovery side I think is really good, I really see the benefit of having two different services that when somebody is coming out of treatment with one

provider then being able to have really focused ongoing sustainable support for them and links to the community based work, education, employment...” (Stakeholder 15)

“A treatment worker is very much focused on the treatment they [service users] are receiving within the service. The peer mentoring team would be sort of more looking to coordinate what can go on out of the service, as they move along their journey.” (Stakeholder 7)

The Recovery & Mentoring aspect was seen as something that, in other services, was often explored once a service user had completed treatment. The majority of the stakeholders felt that by delivering recovery ambition, support and networks earlier on, and whilst the service user was still receiving treatment, helped to make the recovery more sustainable in the long term as well as contributing to more successful treatment outcomes.

“[The recovery and mentoring] isn’t solely for people at the end of treatment. I think the idea of the recovery mentoring service is to support people who are at the beginning, middle and end of their recovery journey to access those community initiatives and get involved in recovery and meeting with others who can help guide the way.” (Stakeholder 9)

One stakeholder was particularly critical of the focus on recovery within North Yorkshire Horizons. They suggested that a different approach was needed with service users who have a history of opiate abuse compared to those who use other substances, especially alcohol. They implied that there should be a distinction in the way different addictions are approached in treatment services and also questions if the approach adopted by North Yorkshire Horizons is always appropriate.

“I know everyone thinks it [recovery] is going to solve their long term opiate abusers issue but it won’t, but it will deal with a lot of alcohol it will pick up a huge amount of alcohol cases and move them through quite fast, so I think that’s where we will see the benefit and I think that’s really good.” (Stakeholder 15)

Another stakeholder was unsure about how the recovery and mentoring element of the service worked.

“I haven’t got into the nuts and bolts of what Horizons are actually offering in terms of the mentoring side of it.” (Stakeholder 12)

The majority of the stakeholders who had not been directly involved with the implementation of the service discussed how, for them, it was easier to understand the treatment side of the service because that still tended to reflect the traditional model for drug and alcohol treatment services. However, these stakeholders also discussed how they would have found more information and clarity about the recovery aspect of the service beneficial, which in turn would allow them to make more appropriate referrals.

PEER SUPPORT

Peer support was seen as an essential part of the recovery process by the majority of the stakeholders. Through the provision of peer support many of the stakeholders felt that North Yorkshire Horizons were creating opportunities for the development of recovery communities within North Yorkshire. North Yorkshire Horizons mainly facilitate this through provision of venue space for 'Self-Management and Recovery Training' (SMART) meetings, within hubs and/ or within other communities' venues that they have secured access to. They also support with staff to help facilitate and manage the groups.

"I think it [Recovery and Mentoring Service] helps them generate their own recovery sort of support and community, it, you know, we can, that the Recovery Mentoring Team can oversee it, they can take the lead on certain things - you know, paid members of staff will facilitate things, but it brings those people together and then it can sort of happen organically really, because they will gather their own momentum, and possibly the staff member can then take steps back and let them run with it, but they're always there if they need any more support." (Stakeholder 7)

Stakeholders who had experience of working directly with service users who had a drug or alcohol addiction also recognised the difference in the type of support that could be provided by those who had been through recovery themselves compared to members of staff. They discussed how staff, who may have expertise in treatment and recovery practise, did not always have personal experiences that service users could relate to.

"I think it's [peer support] really a great thing for people, having somebody else to share and ask questions with and go you know, 'Did you feel like this? Did this happen for you?', and recognise that whilst everybody's journey is different, people meeting with other people in a similar situation can really make people feel safe...That ability to kind of challenge in a way that's sometimes is more difficult to challenge as a staff member because you know recognising that there are power dynamics between staff and service users. When it's peer to peer there's a level of challenge that's offered that's taken quite well - for example you might get a service user that might say to a peer mentor 'oh well, that's not true, I don't feel like that' and then the peer mentor might say 'come on, you can't pull the wool over my eyes, you're kidding yourself there mate' and that level of peer chat which really helps pull people along the road of recovery." (Stakeholder 9)

Some of the stakeholders discussed potential issues with peer support. It was recognised that if those who were providing peer support were not in the right place themselves, this could potentially be detrimental to both the peer mentor and the service users. In order to be an effective peer mentor, the individual would have to be comfortable around service users who are potentially still consuming drugs or alcohol. Additionally, those who become peer mentors need to be able to offer helpful and appropriate advice to those who are at earlier stages in recovery.

“The worst thing would be if you have peer mentors who have issues or who, themselves, haven’t reached a point of awareness and recovery that they could be helpful to others, you see. And I think that’s where the service needs to do the vetting.” (Stakeholder 5)

“I am cautious about putting people that soon in their recovery journey in a role where they are meeting people who have got drugs in their pockets or who smell of drink.” (Stakeholder 15)

Furthermore, a stakeholder that worked with service users in a different context also discussed how they had reported to him that they were not always comfortable with peer support. This specifically related to engaging in group discussions. The stakeholder noted that, in general, engaging in discussion is often a personal preference with some service users preferring to avoid group discussions in many aspects of their everyday lives. In terms of the recovery process, this stakeholder also recognised that recovery is a very individual journey and peer support would only be useful if the individual service user saw value in it.

“It has come up a couple of times that people haven’t felt comfortable working with other people in recovery...quite a lot of the recovery and mentoring is around group work. A lot of people I work with really don’t like group work. They prefer the one to one treatment side of things more.” (Stakeholder 8)

On the whole, the majority of stakeholders were positive about the impact that peer support could have on a service user’s recovery journey. Whilst it was recognised that those providing peer support needed extensive training, and staff had to be sure the individual was ready to take on the role, there was a general consensus that peer support had the potential to be effective under the right circumstances.

In contrast, one stakeholder was critical of the use of peer support within substance misuse services. This stakeholder felt strongly that peer support was becoming relied upon because of the cuts in funding for services such as North Yorkshire Horizons.

“All this thing about mutual aid and empowering communities as a kind of smoke screen for pulling the financial rug from underneath vulnerable groups...I think that is why mutual aid has got such length alongside austerity.” (Stakeholder 15)

STIGMA OF ADDICTION

Increasing visibility within local communities was one of the main aims of North Yorkshire Horizons recognised by the stakeholders. This was viewed as having an important role in helping to challenge and overcome the stigma that is often associated with addiction. It was also noted that some people who are in treatment and recovery may not always want the process to be visible because of the stigma that is still associated with addiction.

“In terms of actually sort of being a bit more visible about it, it’s got to be a good thing. I mean for example when I was in Skipton the other week, the recovery team were manning a stall in the local supermarket and, you know, promoting awareness of the service and raising money for their service through that as well, which I thought was really positive.” (Stakeholder 8)

“Visible recovery and visible recovery communities will raise the profile of people who have stopped using... I think the recovery community has helped with the stigma if they are visible, I think they will need a bit of time before they want to be visible.” (Stakeholder 14)

One stakeholder recognised that within the paradigm of addiction, hierarchies between different groups of substance users can develop.

“Even alcohol users look down on drug users, you know they say ‘I’m not going to that programme I’m not going to that agency that’s full of smack heads’.” (Stakeholder 15)

This demonstrates how the issue of stigma associated with addiction can be complicated because of perceived differences between the users of different substances, as well as different substances being considered more socially acceptable (such as alcohol because it is legal). In particular, there were some discussions that differentiated between the stigma attached to those who were addicted to alcohol compared to those addicted to opiates. It was recognised that these distinctions made by service users were also reflected in the wider community, and that these differences needed to be considered when attempting to challenge and overcome stigma.

One stakeholder made comparisons between how recent attempts at overcoming the stigma attached to mental health issues have been successful.

“I think we are doing pretty well with mental health but I think people feel with the drug misusers that they’re negative, associated with crime, dirty behaviours, family breakdowns and I think that seen change of mental health you know that time to change has quite, you know we haven’t had the same impact with substance misuse and the political agenda is so vital here.” (Stakeholder 1)

This suggests that the way stigma attached to mental health issues has been challenged could be adapted and possibly applied to stigma attached to substance use and addiction.

3.3.2. SERVICE USER INTERVIEWS

The service users were able to discuss different aspects of North Yorkshire Horizons depending on which parts they had used and where they were up to in their recovery. Current services users and two peer mentors were interviewed. As with the stakeholder interviews these were carried out

over an extended period of time and therefore some of them focus on the earlier stages of the implementation of the service. Themes from the interviews intersect with those from the stakeholder interviews. These included how service users accessed the service; their understanding of North Yorkshire Horizons; recovery outcomes; experiences and thoughts about peer support; comparisons with other treatment and recovery services and the stigma associated with addiction.

REFERRALS AND ACCESSING NORTH YORKSHIRE HORIZONS

The service users who participated in the research had gained access through a number of different routes. Most had been involved in the services that were in place prior to North Yorkshire Horizons and had therefore been referred through. One participant had been in prison and on release had been referred to North Yorkshire Horizons and a small number had been referred by their GP. Other participants had seen North Yorkshire Horizons advertised or had researched treatment and recovery services and found information about North Yorkshire Horizons. The fact that there were a number of was praised by participants, especially by those who had accessed treatment services prior to North Yorkshire Horizons and had found the procedure restrictive because of the exact criteria and the time it took for a GP referral to be processed.

All of the participants that were interviewed were positive about how fast their referral to North Yorkshire Horizons had gone through. Some made comparisons to previous substance misuse services they had accessed in the past and discussed how this process was much quicker and easier.

“I was really pleased it was self-referral actually, that was a big thing for me, ‘cause it made it quicker for me ‘cause you don’t have to wait for a doctor or write a letter and wait for it to be sent and received...I got an assessment in a few days I think which was just fantastic.” (Service User 6, Recovery & Mentoring Service Harrogate)

“It was just one phone call and then they set up a triage meeting...I think it was within a week.” (Service User 21, Recovery & Mentoring Service Harrogate)

For many of the participants their first contact with North Yorkshire Horizons was through the SPOC. Participants also used the SPOC frequently to arrange/cancel appointments, as well as to discuss any difficulties they might be having which required an urgent response. There was a mixed response with regards to the SPOC. Some found it an easy way to get in touch with the service which gave them swift access to appointments.

“You can phone up at any time and there is support there straight away for you - it’s not a case of ‘oh I can’t fit you in till next week’, it’s a case of ‘well can you get down within the next half hour and we will have a chat’.” (Service User 12, Treatment and Recovery & Mentoring Service Scarborough).

A small number of participants discussed the centralised nature of the SPOC and would have preferred to directly access their local hub. One participant also reported a negative experience of using the SPOC; when she phoned she was unable to speak to her usual key worker and had found the person she was put through to unhelpful.

“The only thing I think could be improved is if we could get through to the direct office...You’ve got to phone up and you’ve got to phone Scarborough office up which I think is a bit off.” (Service User 13, Recovery & Mentoring Service Northallerton)

“I rung up in a state, I was crying and she wasn’t very helpful. I actually came off the phone feeling worse than I had when I’d phoned.” (Service User 16, Recovery & Mentoring Service Selby)

For many of the participants the local hubs were situated in places that were easy for them to access. However, due to the size of North Yorkshire this was not the case for all of the participants who were interviewed. Some found the locations to be inconvenient and expensive to reach on public transport.

“If I get the bus I’ve still got an awful long walk to where it is... And when you’ve got, you know, arthritis and other disabilities that’s another off-putting thing because you’re exhausted by the time you get there.” (Service User 14, Treatment and Recovery & Mentoring Service Harrogate)

“I had to travel like twenty miles to go [to North Yorkshire Horizons], the bus route was like an hour and a cost of ten pound which can be very off-putting for a lot of service users in the rural areas.” (Service User 25, Treatment and Recovery & Mentoring Service Scarborough)

There was some discussion from participants who did live in the more rural locations about the provision of services outside of the hubs, such as the ‘recovery cafes’. These were highly valued by all of these participants who appreciated being able to access support closer to their homes, but there were a small number who reported these meetings being cancelled because of disagreements with the venue or venues becoming unavailable. Issues with accessibility to the hubs were of particular concern to participants who lived in rural locations and were in treatment and recovery for alcohol related issues with a current ban from driving. This meant that they had to rely on public transport or family. Those who had engaged in a community medically assisted alcohol detox did discuss how nurses would visit their homes to check on them and this was considered to be a benefit of this service as it allowed them to detox in comfortable and familiar settings. However, those participants who did express difficulties in accessing the service were generally understanding about the complications in finding locations that would suit all the service users.

EXPERIENCE OF NORTH YORKSHIRE HORIZONS

The majority of participants highly valued North Yorkshire Horizons and the support that they had received in terms of both treatment and recovery. Many of the participants discussed how the atmosphere at the North Yorkshire Horizon hubs was friendly and supportive, which in turn facilitated a positive environment. Some also believed that North Yorkshire Horizons was an improvement on the services that were previously available because there were additional elements and it was more flexible.

“I think the whole Horizons team are fantastic - you know, it’s like a family, you go in, even the receptionists there they are fantastic....I was having a really bad time last week and I went in and someone said ‘hi, how are you?’ and they walked past me and I didn’t answer them, and they stopped and they turned around and went ‘how are you, are you alright?’ - it really meant a lot to me that they weren’t saying it as a passing thing” (Service User 6, Recovery & Mentoring Service Harrogate)

“I don’t think I couldn’t have done it all by myself , because it’s, it’s, it’s not easy, and you need someone to hold your hand, you know. And you shouldn’t feel ashamed of that. And if these people weren’t there, you probably would just give up on it.” (Service User 9, Treatment and Recovery & Mentoring Service Skipton)

“When they all merged into Horizons the difference was massive. There is more support there now. There are more activities to do, there is more group work... If somebody’s feeling down, they can just drop in whereas before if you’d have dropped in, they’d have been saying ‘you’ve not got an appointment.’” (Peer Mentor 2, Recovery & Mentoring Service Scarborough)

Participants were very positive about their relationship with their key worker. The one to one sessions that they had with their key workers were highly valued and seen as an important part of their recovery process.

“I can’t speak highly enough of [name of key worker] who I deal with. I have always dealt with him, he’s very good, he is very understanding, he’s certainly, one way or another, he certainly gets the information out of me. Not the information, he gets me to talk about how I feel which is the most important thing and he is, you know, just about at the end of every sort of meeting he says you know where I am whenever you want me, you know where I am so if between meetings” (Service User 23, Recovery & Mentoring Service Harrogate)

The informal nature of the meetings with the key workers was considered important by the majority of the participants as this helped them to adapt their sessions to suit their needs, which changed depending on their stage of recovery. One participant felt that their key worker did not have enough time for them as meetings were short and infrequent. A small number also found

there was a lack of organisation with their key workers as there had been occasions where key workers had missed appointments, rooms were not available for meetings and prescriptions had not been ready on time. A minority of participants discussed how they were keen to be involved in the peer mentoring aspect of the service but were struggling to get access to training and had to continuously prompt key workers to take action. The majority of these participants suggested that they had initially been encouraged to undertake the volunteer training but then struggled to access a place on the course.

“My script wasn’t actually ready today when I came in...so I’ve got to go home and then come back later on this afternoon to go and get it and I live quite a way away, so it’s quite a long walk.” (Service User 3, Treatment and Recovery & Mentoring Service Skipton)

“I have to basically push my way in to get my training. I’m having to fight for it” (Service User 2, Recovery & Mentoring Service Skipton)

Some participants who had used treatment and recovery services in North Yorkshire prior to the implementation of North Yorkshire Horizons discussed how their key workers would travel to meet them at their home or in locations that were more convenient such as local libraries. The majority of participants discussed how this was no longer possible under North Yorkshire Horizons and that they would find it beneficial if this was made available in the future. However, one service user did discuss having a visit from their key worker at home because they were concerned about the participant who did not feel well enough to visit their local North Yorkshire Horizon hub. Other service users discussed meeting key workers in local cafes, which they felt was beneficial as it helped to keep the sessions more informal. Therefore it would be constructive if there was a clear policy with regards to flexible visits with key workers implemented across the whole service. Service users did discuss how they would access SMART meetings and found this to be very beneficial, but also felt that it would be useful if they could have one to one appointments outside of the hubs too.

A small number of participants were unsure of the effectiveness of North Yorkshire Horizons. This was mainly because they had experienced the previous services and did not like the changes that the new tender had brought about. Issues discussed in relation to this included service users being assigned a different key worker and changes to some policies, for example having the cost of bus fares to attend appointments reimbursed or key workers travelling locations that were more convenient to service users as discussed above.

“I haven’t yet seen any proof of this [North Yorkshire Horizons] working... there is a lot of mixed feelings about the services about the new services started around here a lot of people feel they have been let down cos they are no longer with the same key workers than what they were before. They feel that there is not that personal touch there anymore, you know, of what we had before because everything was done underneath one roof.” (Participant 2, Recovery & Mentoring Service Skipton)

Participants were asked about any potential improvements that they could suggest for North Yorkshire Horizons. One participant who was using the service because of an alcohol addiction suggested that it could be better adapted to suit those who do have issues with alcohol, as they currently felt the service was geared to deal with illicit drug addiction.

“Sometimes feels like the people [staff] I’ve dealt with are not totally confident with alcohol conditions. They’re more attuned to drug abuse and things like that.” (Service User 10, Treatment and Recovery & Mentoring Service Harrogate)”

Other suggestions related to additional services currently outside of the remit for North Yorkshire Horizons that would be beneficial. The majority of participants did discuss the financial and emotional implications that their addiction had had on family members. Some participants highlighted that their partners, children, parents and other relatives who had been affected would benefit from dedicated advice and support. A small number of service users suggested that this provision would be valuable for their own recovery as their relative would have a better understanding of the underlying issues of addiction and how they can best support them through recovery. Several participants felt that support provision outside of the regular opening hours was needed. These participants recognised that many people who have an alcohol or drug addiction find night-time to be when they are most likely to have a relapse and it was important that support was available at this time.

“I think there should be a night time service...a lot of the time with the drink it’s at night when you need one but I know it’s very expensive to do that and keep the offices open” (Service User 21, Recovery & Mentoring Service Harrogate)

“Sometimes crisis occur outside of the times that you can contact somebody from within the service, and so some sort of out of our hours whether that is a peer to peer contact or whether it’s a volunteer or office contact that has out of hours availability” (Service User 8, Recovery & Mentoring Service Harrogate)

“The other thing that I think is missing and that is some family support some wider contact, so in my experience my wife is affected but has nowhere to go really in order to understand the subject and to get support herself” (Service User 8, Recovery & Mentoring Service Harrogate)

Additionally, one of the peer mentors suggested that more interaction was needed between service users and those who provide training courses. They felt that promoting the courses and activities through the group meetings instead of just having leaflets available in reception would encourage more service users to engage with the opportunities they provide.

“They have leaflets about courses and things that people can pick up, but I think it would be good if in like group work, if they can liaise with people that are running the courses instead of just offering the leaflets in the reception” (Peer Mentor 2, Recovery & Mentoring Service Scarborough)

RECOVERY OUTCOMES

All participants discussed a number of positive recovery outcomes they had experienced so far. Many highlighted improved relationships with family and friends. Some had lost custody of their children as a result of their alcohol or drug abuse but since being in recovery had increasing access to them.

*“I’ve got my granddaughter back. I see her all the time. The kids come to the flat now.”
(Service User 10, Treatment and Recovery & Mentoring Service Skipton)*

“I’ve got contact now [with their son]. The court cases have all finished. I am having contact now and it’s increased, the contact, and, you know, there’s no reason why if I keep abstinent that I can’t get more and more.” (Service User 25, Treatment and Recovery & Mentoring Service Scarborough)

It was also noted by a small number of participants that they had lost friendships because of their abstinence. Many recognised that these friendships had been based around substance use and did not feel they could be sustained now that they were in treatment and recovery. One participant discussed how attending the SMART recovery meetings had helped her realise this and she had now made friends through these meetings which she felt provided her with a more positive friendship. Many who had an alcohol addiction were finding it difficult to socialise with their friends now that they were in recovery because they would often arrange social events in pubs and bars.

Others described how their physical and mental health had improved as a result in being in recovery. Some discussed key workers contacting their GP and in a few cases attending appointments with them to assist in addressing health issues they had previously struggled to get help with. Many of the participants discussed issues with depression and anxiety, and how attending North Yorkshire Horizons had helped them overcome the stigma and self-doubt they had previously faced because of their addiction. It was also noted that in some cases where the service user had problems with their welfare benefits key workers would help them in their communications with the Job Centre.

“They gave me not only a reason to live but they also helped show me what the reason was and helped me to get to where I am now.” (Service User 1, Treatment Skipton)

Participants also discussed how North Yorkshire Horizons had helped to improve their mental health by encouraging them to get involved in different activities. Participants discussed a range of activities such as group sessions, acupuncture, gardening at an allotment, and training courses that helped to keep them motivated and make friends. This in turn helped to improve their mental health and increase their self-worth. Making new friends was especially important to a number of participants who had struggled to maintain old friendships that centred around drinking or substance use.

“My life has definitely improved cause I’m doing things, I’m not just sat at home wallowing in my own misery anymore, you know, I’m going out and meeting people” (Service User 6, Recovery & Mentoring Service Harrogate)

“I mean I have got good friends that are in recovery.” (Service User 16, Recovery & Mentoring Service Selby)

COMPARISONS WITH OTHER RECOVERY SERVICES

Some that attended North Yorkshire Horizons had also previously attended or were still attending Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) meetings. These participants made comparisons between their experiences of these services and North Yorkshire Horizons. There were conflicting views about the philosophy behind AA and NA and the different approach adopted by North Yorkshire Horizons. Some commented on the overall philosophy that is promoted through AA and NA and compared it to that of the SMART recovery groups that are run by North Yorkshire Horizons. SMART recovery moves away from the idea that once someone has had an addiction they will always be an ‘addict’. For some, the fact that North Yorkshire Horizons promotes a different philosophy was important because they felt it was more likely to facilitate a positive recovery outcome for them.

“I don’t think AA would work for me because I don’t want to stand up and say ‘I’m [name] and I’m an alcoholic’. I don’t want it defining me.” (Service User 16, Recovery & Mentoring Service Selby)

“I just found that the AA was a lot of people in the groups it was doom and gloom and it’s the end of my world and I can’t go out anymore and I can’t do anything. Whereas this [SMART recovery meetings] is more, it’s not judgemental it’s just how do you feel, what have you been up to, what’s your plans, things like that.” (Service User 23, Recovery & Mentoring Service Harrogate)

“I don’t want to decry AA, it just wasn’t for me, you know. It’s a much more relaxed and open feeling that you, you feel that you can open up more and trust more within this service [North Yorkshire Horizons].” (Service User 9, Treatment and Recovery & Mentoring Service Skipton)

A common theme throughout the interviews related to the stigma attached to labels associated with addiction and how they could make recovery difficult. In general, most participants (including those who had no previous experience of AA or NA) were positive about the way North Yorkshire Horizons avoided defining people as an ‘addict’ and felt that this philosophy had a positive influence on their recovery. However, in contrast, one participant stated that they preferred the philosophy of AA and NA, and did not find the SMART recovery groups useful because of the move away from this line of thinking.

“I tried that [SMART recovery meetings] but I didn’t like it because that was going down the avenue sort of like saying that you’re not an addict and you can recover, you know and I didn’t really like that because for me being an addict you know almost gives me a little bit of comfort” (Service User 19, Recovery & Mentoring Service Scarborough)

Those who did discuss the difference in philosophy between North Yorkshire Horizons and AA and NA recognised that other people may find the different approaches useful, and that if one was not suitable for them it did not mean that it would not be helpful for other people in recovery. One participant also discussed how they used the services in North Yorkshire Horizons and had also been referred to AA and therefore they found elements of both services useful. This demonstrates how recovery is a very personal experience, and that often an individual’s own outlook and philosophy that will determine what recovery means for them and how they wish to define it.

PEER SUPPORT

There were mixed responses with regards to peer support. The majority believed it was an important part of the recovery process and found peer support very valuable. In particular it was noted that one of the main benefits was having somebody to talk to who they could relate to in terms of addiction. Several participants discussed how peer support helped to keep them inspired and motivated to continue in treatment and recovery because talking to those who had been through it and were now volunteering gave them hope for their own future. The participants also discussed how the peer led group sessions gave them a space to make new friends, socialise, provide mutual support and also help them to be more open in discussing their addiction with friends and family.

“I’m very much a sort of champion for the whole peer mentoring thing and experience, and the kind of power of peer mentoring as part of an individual’s recovery journey.” (Peer Mentor 1, Recovery & Mentoring Service Selby)

“I am actually an ex-user myself, so it is really good now that I am able to help other people...I think my role [as a Peer Mentor] is quite important because I’ve been there, so I think I can relate to people more.” (Peer Mentor 2, Recovery & Mentoring Service Scarborough)

“The fact that they [peer mentors] have done it and they’ve got a normal life. You know, there’s no reason why you can’t do it if they’ve done it.” (Service User 3, Treatment and Recovery & Mentoring Service Skipton)

“It was great, it was really good. Especially the Monday cafes because they were just like really informal, you know, and it wasn’t, ‘right then, let’s have a check-in, let’s talk about whether you’ve blipped’ or anything like that. It was just people, you know,

sharing life experiences, and if they needed to chat then there were people there that they could chat to.” (Service User 16, Recovery & Mentoring Service Selby)

“Going to the groups makes you quite open because I have told a lot of friends who probably didn’t realise the drink problem that I had. It’s made me more open about my problem instead of hiding it.”(Service User 20, Treatment and Recovery & Mentoring Service Northallerton)

One participant noted that within the SMART groups some service users did not get along although these issues were often rectified.

“I mean in groups, I’ve clashed with another person who’s in group. But you normally sort that out. It’s a hard time when you can’t get clean, and tensions run high, but you always work it out and sort of realise it’s, you know, you’re just taking it out on them if you’ve clashed that morning.” (Service User 3, Treatment and Recovery & Mentoring Service Skipton)

Some participants, whilst they did not engage with or find the peer support element of the service helpful did recognise that it might benefit others who were in treatment and recovery. A small number stated that they did not attend any peer support sessions and were unlikely to in the future. This was because they were uncomfortable discussing their addiction in a group setting and were more comfortable having sessions with their key worker. Others had attended group sessions and believed that in their current format they were not beneficial for them, but if changes were made they may attend in the future. This applied to participants who had an alcohol addiction, with one finding the sessions difficult because not everyone was at the same stage in recovery and it was challenging to be around those in earlier stages who were still drinking. Another participant felt that there needed to be separate sessions for those who had an alcohol addiction.

“For me it feels awkward because the group is run for several different groups drug use, alcohol, lots of other addictions, and it feels to me like there should be a dedicated alcohol unit.” (Service User 11, Treatment and Recovery & Mentoring Service Harrogate)

“I started going to the alcoholic [SMART recovery meetings] ones but they didn’t do me any good because all they seemed to talk about was how much they drank” (Service User 13, Recovery & Mentoring Service Northallerton)

One of the peer mentors discussed how there can be some negative consequences of peer mentoring. Whilst they were very much in favour and recognised the many benefits it can have, they did highlight these consequences through one of their earlier experiences of being peer mentored.

“I’ve had one experience where I was being mentored by somebody in that sort of environment and with that sort of initially boundary relationship that is encouraged in the peer mentoring process, who I then went on to use with, because they relapsed and

whilst you know, I would never blame anybody else for my own relapses, you know, at that time it was much easier for me to relapse because somebody who I'd sort of held in quite high esteem as a good example of recovery then, because they relapsed, it made it a lot easier for me to sort of follow them down that path." (Peer Mentor 1, Recovery & Mentoring Service Selby)

This demonstrates the importance and responsibility that peer mentors have in terms of their role with the service users' recovery and how it is imperative that they are able to sustain their own recovery in order to avoid having a negative influence on others.

A small number of participants felt that North Yorkshire Horizons could provide more support to those who wished to volunteer. They expressed frustration that although they were willing to volunteer and recognised the benefit it would have in terms of helping their own recovery as well as other people's, the service's responsiveness was slow.

"I know eight of us were taken on as voluntary - seven or six of them have walked away. They felt that they had been let down, they didn't feel that there was anything there for them. People are hanging on to their own recovery, you know, wanting to get involved and nothing seems to be moving at the moment because the services can be quite slow if you know what I mean." (Service User 2, Recovery & Mentoring Service Skipton)

"I do things like reflexology and Indian head massage and aromatherapy. I've got lots of skills behind me. And it's just a shame that I've got so much to offer. And I'd love to use my skills at Horizons as a volunteer. I've brought it up to management. But they haven't sort of said yes and they haven't said no. They just said we'll have a meeting but I've not heard anything about the outcome so I just feel that I just need to sort of keep chasing them about." (Service User 25, Treatment and Recovery & Mentoring Service Scarborough)

Those who had been a peer mentor were very positive about their experiences of peer support within North Yorkshire Horizons. Similarly to participants who were at an earlier stage in their recovery journey they also felt that it was important to show how other people had successfully come through recovery and had significantly changed their lives. The peer mentors also discussed how important peer mentoring was in influencing people to start the recovery process; they felt it was important that this part of the service continues to be expanded.

"I think that's really important that you make somebody feel that they're no different to you, that they are just struggling and they need some help.... Just to show that, 'hey I'm a product, I was once there'. I mean I was homeless a lot of years ago, drugs really took a big part of my life and I'm just such a different person now. I want to be able to let people see that it is possible." (Peer Mentor 2, Recovery & Mentoring Service Scarborough)

STIGMA OF ADDICTION

Participants were asked about how they felt North Yorkshire Horizons could help overcome the stigma that is often associated with addiction. This stigma was seen by several participants as having been a barrier to them accessing support previously because they were worried about being judged. All of the participants felt that North Yorkshire Horizons provided a non-judgemental environment.

“I mean it [attending North Yorkshire Horizons] gave me self-worth because I went in there, and to the world I’m just a drug addict. Forget why I take it, we’re all the same and to the world we are just scum of the earth, forget why you do it or what you’ve been through - if you take drugs you are scum and nobody wants anything to do with you and immediately it was like no, no that’s not how it works with us, you are a human being, you deserve respect, you deserve treatment and you will get it and I have.” (Service User 1, Treatment Skipton)

Some discussed the presence North Yorkshire Horizons had in local communities as an important step in helping to overcome the stigma associated with addiction. The use of community buildings and the involvement of community groups in delivering activities (such as the allotment/gardening) and training (e.g. health and safety, first aid) were seen as being an important way of integrating into the local community. Also, participants discussed how attending group sessions helped some of them to overcome their own assumptions about people with different addictions.

“[Peer mentoring] does go to show – people say ‘once an addict, always an addict’, but I do believe that addicts can change.” (Peer Mentor 2, Recovery & Mentoring Service Scarborough)

“I think it helps me because I used to, my opinion on people ‘look at that smack head over there in the street’ that was my opinion. I thought I was alright because I only took coke, but I was taking it all weekend and I wasn’t getting up for work, but I thought I was alright. You know, and now me coming to these [SMART recovery] groups made me realise my problem was just as bad as the next persons problem who had a heroin addiction.” (Service User 5, Recovery & Mentoring Service Scarborough)

“Horizons are having meetings outside in the community now and I think that will help because people will see us coming in and how we’re getting on and things like that.”(Service User 6, Recovery & Mentoring Service Harrogate)

Some participants also discussed how the peer mentoring aspect of the service needs to continue to expand and move forward.

“The biggest bit is becoming more prominent now in the community so the stigma is going. That was always the big thing to get over was the stigma and that’s now reducing which is good.” (Service User 4, Recovery & Mentoring Service Scarborough)

“I think, you know, if peer mentoring became bigger than it already is, I think that would then potentially touch a lot more lives and it would draw in more people who currently aren’t accessing or partaking in recovery services and all the offshoots of recovery services that go on.” (Peer Mentor 1, Recovery & Mentoring Service Selby)

A minority of participants questioned the impact North Yorkshire Horizons would have on the stigma associated with addiction. These participants believed that the stigma has become so ingrained in society that it would be very difficult to overcome.

“I think there’ll always be a stigma, won’t there? A smackhead’s a smackhead, isn’t he? An alchky’s an alchky, from some people’s points of views.” (Service User 11, Treatment and Recovery & Mentoring Service Harrogate)

“I don’t think anything will do that [reduce stigma], quite honestly because people are so blinkered on that. They have their opinions about people, don’t they?” (Service User 14, Treatment and Recovery & Mentoring Service Harrogate)

4. DISCUSSION

The following section presents the overall findings from the quantitative, qualitative and cost-effectiveness data. Key themes that were highlighted across the three aspects of the evaluation include the way the service is delivered and the characteristics of those who use it, the role and effectiveness of peer mentoring and the outcomes for those that use the service. Based on these findings several recommendations have been made.

4.1. Characteristics of service use

In North Yorkshire, exploration of quantitative North Yorkshire Horizons data found that the characteristics of service use were representative of the national context of drug and alcohol service use (as described in HSCIC, 2014a, b). A larger proportion of service users were male (over two-thirds) and the majority of service users were White British, which is expected in North Yorkshire based on population estimates. The majority of clients were aged between 30 and 49 years. In line with national trends, opiate only drug use was most common amongst the 30-49 age group, the younger age groups (under 30 years of age) were more likely to be non-opiate users, and the older age groups (50 years and over) were more likely to be alcohol only users. A higher proportion of alcohol only users (41.6% vs 30.2%) and lower proportion of opiate only users (42.8% vs 51.8%) were engaged with structured treatment interventions delivered by North Yorkshire Horizons compared to the overall National Drug Treatment system. Criminal Justice clients were mainly non-opiate only users, 41.2%, which was significantly higher than national at 8.5%. Over half (n=589, 55.4%) of the clients accessed the R&M service for alcohol use only.

4.2. Experiences and perceptions of North Yorkshire Horizons

SERVICE DELIVERY

A small number of stakeholders who worked in services that made referrals to North Yorkshire Horizons discussed how they had experienced some uncertainty about the management structure and were sometimes unsure about who they needed to speak to with regards to service users. Service users described some issues relating to the organisation of the service such as key workers missing or double booking appointments and prescriptions being late. Interviews undertaken during the early phases of the research focused on experiences of new service implementation. These operational issues are integral to service user experiences and were detailed in the interim report, to ensure timely feedback.

SERVICE TRANSITION

Both stakeholders and service users praised the integrated 'whole' service approach provided by North Yorkshire Horizons. Qualitative findings demonstrated that the integrated service allowed for a holistic approach, and this was further supported by quantitative findings, which showed an increase in psychosocial interventions provided across the duration of the evaluation and a reduction in pharmacological prescribing which corresponded with the change in substance profiles of service users engaged. The implementation of North Yorkshire Horizons in October 2014 saw a change in client substance misuse profiles with a shift in the primary substance(s) that brought individuals into structured treatment, with the number of opiate only users reducing following the launch of the North Yorkshire Horizons (before 74.5% vs after 25.3%) and the number of alcohol only and non-opiate users increasing. The proportion of current and previous injecting drug users (24.7% vs after 10.0%/ 31.3% vs after 14.3% respectively) presenting to structured treatment interventions also appears to have reduced following the implementation of North Yorkshire Horizons. A higher number of alcohol only users accessed psychosocial interventions (n=708) than opiate only users (n=317) with a larger number of opiate users accessing pharmacological interventions (n=496, compared to n=240 alcohol users).

SINGLE POINT OF CONTACT

Stakeholders and service users found the referral process easy and were very positive about the speed with which referrals to North Yorkshire Horizons went through. The SPOC was partly accredited for this and it was described as simplified, consistent and accessible. Stakeholders praised the SPOC as an improvement in the referral process, allowing for non-medical services to make direct referrals. Self-referrals made up two thirds of all referrals (n=1,888, 40.1%). The majority of referrals for service users who required structured treatment interventions were made through other substance misuse services (n=693, 26.8%). The implementation of North Yorkshire Horizons has seen a shift in the way individuals are referred. Before North Yorkshire Horizons commenced, over half of individuals engaged with structured treatment interventions had entered treatment through referral by non-statutory drug services, before 55.3% vs after 9.3%). Proportions of GP referrals have remained consistent (before 20.7% vs after 17.3%). However proportions of self-referrals (before 15.1% vs after 48.3%) and criminal justice referrals (before 4.4% vs after 11.2%) have both increased since implementation of North Yorkshire Horizons.

Service users also described using the SPOC service to arrange and cancel appointments; they described it as easy and quick to use and appreciated the immediate response. Although a minority of service users had reported some issues with regards to the SPOC and some would have preferred to have contact with their local hub. Stakeholders also commented that there was some confusion with the management of the SPOC because it did not allow for direct contact details to be made available. There was also a concern that some referrers may make inappropriate referrals.

LOCATION AND ACCESSIBILITY

Stakeholders and service users recognised the issues faced by North Yorkshire Horizons in providing

a service across different areas and the added complications of providing treatment and recovery services to rural areas. Stakeholders recognised that it would be a challenge and the service users highlighted some of these challenges in terms of the distance and cost to attend the service. However, both did acknowledge the logistical challenge of providing these services and selecting the best areas to locate them. Both stakeholders and service users were positive about the way the services were more integrated into the local communities compared to the previous recovery and treatment services in North Yorkshire.

PEER MENTORING AND SOCIAL SUPPORT

The peer mentoring aspect of the service was a recurrent theme within the qualitative aspect of the evaluation. One of the stakeholders drew attention to the fact that peer support was not always suitable, especially with some service users who did not engage with group work. This was further emphasised by some service users who discussed how they did not feel peer support would be beneficial for them and that they found one to one sessions with their key worker more helpful. Other stakeholders had some reservations about peer support because of the potential for service users and peer mentors to influence each other's substance use. Best et al (2010) have noted how there can be problems in the provision of mutual aid because of the different philosophies around the classification of recovery. Again, this was then highlighted through the responses from service users, one of whom had relapsed and used drugs with their peer mentor and another finding the peer-led groups difficult because of the discussions around how much people were drinking or taking drugs. However, other stakeholders were more positive about peer support and many service users identified it as an important part of their recovery. It was clear from both the stakeholders and service user interviews that peer support has to be closely monitored and managed to ensure that it is effective and does not become detrimental to the peer mentor or service users' recovery. Literature has demonstrated how peer support can help service users develop new social networks which promote activities that are not associated with alcohol or drug use (Laudet et al 2004) and can also help engage those service users who may struggle with service providers that do not have lived experiences of addiction (Tolan 2008).

4.3 Contribution of North Yorkshire Horizons to the recovery process

Stakeholders believed that providing service users with a sense of recovery, ambition, support, and establishing networks early on in treatment made recovery more sustainable and contributed to more successful treatment outcomes. The stakeholders all agreed that the recovery element of the North Yorkshire Horizons service model was an integral part of supporting people to maintain long-term recovery and to lead a meaningful and fulfilled life. Many felt that recovery communities in particular were important and that this could have a positive impact on reducing the stigma associated with substance misuse.

Users of the R&M Service described how taking responsibility for their actions was an important element of their recovery journey. This was a key theme which ran through all interviews. Service users described a process of realisation that they needed help before seeking support. There was no common experience that service users described as helping them to recognise or identify that they required help, but they spoke of getting to a stage where they realised they needed help. For users of the R&M Service, the importance of reflecting upon the process of becoming addicted to substances was integral; dealing with the cause of the addiction was an important part of the recovery process, and a key aspect of the service support they received. This is an important finding, and one which services should recognise as an integral part of the recovery journey.

POSITIVE OUTCOMES

Qualitative findings demonstrated an improvement in family relationships, social networks and physical and mental health. People described positive social impacts brought about from accessing the Recovery & Mentoring Service. Examples were provided of improved family relationships, the development of social networks and strategies to support positive impacts on the wider community. This is further supported by academic literature which demonstrates how a successful recovery is more likely to be maintained if the individual is able to develop and maintain aspects such as employment and education opportunities, relationships, hobbies, etc. (Laudet et al 2008; Best et al 2010; Timpson et al 2016). However, it is important to note the disparity between what different stakeholders and service users may class as a successful recovery (Best et al 2010).

The improvements noted in the qualitative data are further supported by the quantitative measures collected by the treatment and R&M service. A total of 3,379 positive treatment outcomes were recorded for 890 individuals. Almost one fifth of all reported outcomes evidenced an improvement in coping skills (n=660, 19.5%) whilst accessing treatment. Other key improvements included family relationships (n=431, 12.8%), life skills (n=413, 12.2%), physical health (n=355, 10.5%) and mental health (n=353, 10.4%). The Sundial Outcomes Measurement utilised at the R&M service also evidenced improvements in secure base, inclusion, supportive relationships, identity, coping strategies and goals.

SUBSTANCE USE

Analysis of the NDTMS TOP evidenced a reduction in substance use for NDTMS clients. The proportion of clients reporting use of any substance (excluding tobacco) in the 28 days prior to their TOP decreased significantly from first TOP to last TOP (85.8% vs 71.3%, $p < 0.000$). At each TOP, clients are asked to recall the number of using days for each substance in the past 28 days (4 weeks). Between first and last TOP there was a significant decline in the mean number of using days for alcohol (10.98 vs 7.69, $p = 0.00$) opiates (4.29 vs 2.92, $p = 0.00$), cocaine (0.39 vs 0.19, $p = 0.00$), cannabis (3.26 vs 2.66, $p = 0.01$) and other substances (1.11 vs 0.51, $p = 0.00$). There was no significant difference in the mean number of using days for crack (0.44 vs 0.28, $p = 0.09$) and amphetamines (0.4 vs 0.29, $p = 0.052$).

Alcohol was the substance with the highest mean number of using days at both first and last TOP followed by opiates. Alcohol was the substance with the largest decline in mean using days from first to last TOP. The mean number of days for crack, cocaine and amphetamines were low (less than one day per four weeks) at both first and last TOP.

There was a significant decline in the proportion of clients injecting between first TOP and last TOP (11.3% vs 9.2%, $p = 0.03$). Clients are asked to indicate the number of days they injected a non-prescribed drug in the 28 days prior to each TOP. There was a small but significant decrease in the mean number of injecting days from first TOP to last TOP (1.75 vs 1.28, $p = 0.001$). The number of individuals who reported sharing either by injecting with a needle or syringe used by somebody else or by using a spoon water or filter used by someone else was low and there was no significant difference in the proportion at first and last TOP (0.9% vs 0.5%, $p = 0.23$).

These quantitative findings were echoed in the interviews with users of the R&M Service, who provided further context and narrative regarding the contribution of North Yorkshire Horizons to recovery outcomes. Users of the R&M Service described the positive benefits of the service model. Many people gave examples of how the service had supported positive behaviour change and how this had impacted upon their health and wellbeing. People gave examples of how long they had been abstinent, how they felt happier and how they used the R&M Service to help them to maintain abstinence, particularly during weekends or when they needed to call someone or drop into a group session for timely support.

EDUCATION, TRAINING AND EMPLOYMENT

During the qualitative interviews, service users also discussed receiving support with education, employment and training, support with their welfare benefits and housing, and help to attend the job centre. Data recorded for the R&M Service show improvements in recovery and training outcomes and housing, with 195 positive outcomes for clients engaged in education and 251 reported as having 'no housing problem'.

NDTMS clients are asked to quantify the number of days spent in paid work and the number of days spent attending college or school in the 28 days prior to each TOP. Just under three in ten clients (n=562, 29.5%) reported being in paid work at first TOP, and this increased slightly to 31.3% (n=600) at last TOP. There was a small but significant increase in the mean number of days spent in paid employment between first and last TOP (5.3 vs 5.7, p=0.004). There was also a significant decrease in the proportion of clients reporting a housing problem from first to last TOP (7.2% vs 5%, p=0.003).

From a recovery perspective, evidence from the literature highlights the importance of substance misuse services in tackling the socio-economic aspects of recovery, and the need to focus on personal strengths and quality of life (White, 2009; White et al., 2002). Accepted definitions of recovery emphasise the need for people to develop healthy, productive and meaningful lives (UK Drug Policy Commission, 2012; White, 2007). These characteristics were reflected within the interviews with users of the R&M Service, who described recovery as a process which involved more than just working towards and maintaining abstinence. This reflects evidence in the wider literature around recovery capital and the importance of developing new skills and social capital in order to increase their wellbeing and resilience (Laudet et al 2008; Huber et al 2011; Timpson et al 2016).

HEALTH AND WELLBEING

Analysis of TOP data showed an improvement in overall quality of life on a scale of 0 to 20 (0 lowest, 20 highest). The proportion of clients reporting a quality of life score of ten or more increased from 69.3% at first TOP to 81.3% at last TOP. There was a significant increase in clients' mean quality of life score from first to last TOP (11.2 vs 13, p=0.000). Clients are asked to rate their physical health (including the extent of physical symptoms and how much they are bothered by illness) on a scale of 0 to 20 (0 highest, 20 lowest). There was a significant increase in mean physical health score between first and last TOP (11.9 vs 13.1, p=0.000). Clients are also asked to rate their psychological health (including anxiety, depression, problem emotions and feelings) on a scale of 0 to 20. There was a significant increase in mean psychological score between first and last TOP (10.5 vs 12.4, p=0.000).

Wider literature advocates for services to be connected to organisations that support the development of recovery capital and which take a person-centred and strengths-based approach (Laudet & White, 2008). Users of the R&M Service who participated in this evaluation described how mental health was a key factor for successful recovery, and this was echoed across all interviews. Although the importance of mental wellbeing is acknowledged as an integral part of recovery within the wider literature, the findings from this evaluation demonstrate the relationship between addiction, acceptance and recovery. Service users described how depression was often a key characteristic which related to the cause of the substance misuse. Working with North Yorkshire Horizons to learn to cope with the addiction and develop resilience was viewed as an important first step, describing how they felt this foundation had to be in place before they could go on to rebuild their lives and develop recovery capital in terms of the socio-economic support

provided by North Yorkshire Horizons. Having strategies in place to develop and maintain resilience was also viewed by service users as an important part of recovery and one which was supported within the activities provided by North Yorkshire Horizons.

One service user described their experience of mental health problems and reflected on their service experience. This person felt that the pathways between mental health and substance misuse services had improved for people, where previously there was little support available from mental health services.

COST EFFECTIVENESS

The data from the PHE Spend and Outcomes tool suggests that spend on substance use services per head of population is low in North Yorkshire compared to similar areas.

The alcohol hospital admissions data and the crime data for North Yorkshire suggests that drug and alcohol use is associated with a significant social cost in the area. This is only a snapshot of one part of the social cost of drug and alcohol use which is considerable and felt across many different sectors of the economy.

This economic modelling suggests that the social benefits from the investments in drug treatment in North Yorkshire generally outweigh the costs by a high ratio. The benefits mainly fall to individual drug users by increasing their life expectancy and quality of life; as well as benefits to the healthcare system and the criminal justice system through reduced demand for services, and reduced crime and antisocial behaviour.

Being cost effective is not the same as being maximally efficient however; and the analysis has suggested that there is a high rate of unplanned discharges for alcohol and non-opiate users, and that the successful completion rate for non-opiate users seems to be lower than may be expected given that many people may be expected to be able to complete treatment within six months.

In North Yorkshire there has been a high number of deaths for alcohol users in treatment. The reason alcohol treatment results in a greater QALY gain than opiate treatment is that generally opiate users are more likely to die younger so alcohol users have a bigger opportunity to extend their lives and have a high quality of life through treatment.

Economic modelling involves making assumptions and there are uncertainties around what would happen if treatment services were harder to access or did not exist. It may be that other clinical and mental health services would end up seeing an increase in people with substance abuse problems. Due to the fact that substance abuse is associated with crime and antisocial behaviour at a community level, and health and quality of life decrements at an individual level, commissioning services to treat harmful substance use is likely to remain cost effective.

THE ROLE OF THE RECOVERY & MENTORING SERVICE IN REDUCING STIGMA

Experiencing stigma can create setbacks in recovery pathways and the creation of recovery communities are seen to be one way in overcoming stigma (Best et al 2010). Reducing stigma around those who have a drug or alcohol addiction was one of the aims of North Yorkshire Horizons. Both stakeholders and service users gave mixed responses with regards to how effective they thought North Yorkshire Horizons could be in helping to overcome the stigma of addiction within the local community. The community setting of the different hubs and the community groups that helped to provide activities and training were seen as a positive way for the service to become more integrated with the surrounding community. It was hoped that this would help to increase the local communities understanding and perceptions of substance misuse and addiction and help to overcome the associated stigma. Some stakeholders and service users, however, felt that the stigma and negative stereotypes associated with alcohol misuse and addiction was so integrated into society that it would be very difficult to overcome.

The difference between the treatment and recovery needs of those who have an alcohol addiction and those who are addicted to other substances was raised by both stakeholders and service users. One stakeholder made the point that the recovery focus of North Yorkshire may be more appropriate for those who are accessing the services for alcohol addiction as opposed to opiate addiction. Service users who had an alcohol addiction also highlighted disparities between their needs and the perceived needs of those who used other substances suggesting that they would have benefited from services that were solely focused on alcohol treatment and recovery.

4.4. Conclusion

A number of outcomes were reported through the qualitative and quantitative analysis including improved relationships with family, making new friends who were supportive of recovery, gaining new skills that could help with future employment, improved mental and physical health and making the transition to being in recovery. This supports the positive impact of the service with improvements in health and wellbeing and a reduction in substance use during the first 18 months of service operation and in general suggested that the services provided by North Yorkshire Horizons were cost effective. However, more effective and consistent data collection is needed in order to gain more accurate monitoring of outcomes.

Overall, North Yorkshire Horizons was seen to facilitate a friendly and supportive atmosphere which helped to promote recovery and challenge the stigma that is often associated with addiction. The holistic and flexible nature of the service allowed service users to access tailored recovery and treatment services which helped to promote and facilitate their recovery.

5. RECOMMENDATIONS

Based on the findings of the evaluation, the following recommendations have been made:

SERVICE DELIVERY

- **North Yorkshire Horizons should continue to encourage service users to volunteer to become peer mentors and ensure that all those who are suitable and wish to volunteer receive appropriate support and training.** A minority of service users did discuss delays in receiving training and did not always feel supported in their progression to peer mentoring. Therefore, by ensuring that service users who are ready to progress to being peer mentors are supported and trained North Yorkshire Horizons will contribute to positive recovery outcomes for these service users who in turn will potentially provide meaningful support to other service users. Peer mentoring is highly valued by many of the service users and stakeholders.
- **North Yorkshire Horizons should carefully manage and monitor peer mentors.** Whilst the majority of service users reported positive experiences of peer mentoring, there were some negative experiences reported. This was in addition to trepidation about peer mentoring from a small number of stakeholders. It is important that the peer mentoring is managed and monitored appropriately by experienced North Yorkshire Horizons staff to ensure that there are no detrimental effects for service users or peer mentors.
- **North Yorkshire Horizons should continue to provide different activities for service users and work towards establishing new relationships with relevant services.** The service users enjoyed the different vocational activities and training that was provided and many of them also discussed how North Yorkshire Horizons had helped them to access additional support in terms of housing and employment, which was supported by the outcomes measured during treatment and recovery. Any new potential collaborations should be explored to help widen the opportunities available for service users to help provide better recovery outcomes for service users.
- **The use of community settings for SMART meetings should continue, and North Yorkshire Horizons should continue to expand the number of locations for these meetings.** The majority of the service users, peer mentors and stakeholders believed that the use of community settings for SMART meetings was important in overcoming the stigma associated with drug and alcohol addiction. Also, due to the nature of the North Yorkshire area in terms of the combination of rural and urban locations, the use of community buildings was seen by service users and stakeholders as an important way of providing services in the more rural locations.

- **North Yorkshire Horizons should continue to provide a flexible Treatment and Recovery & Mentoring Service.** The majority of the service users praised the flexibility of the service, including the numerous referral pathways and the combination of meetings with key workers and health professionals, holistic therapies, training and activities in addition to the SMART meetings. However, a small number of service users did not wish to engage with group activities. Also, a minority of stakeholders and service users also felt that there should be some distinctions made between the provision for those who were being treated for an alcohol addiction as opposed to other substances because of a perceived difference in need. It is important that North Yorkshire Horizons continues to be flexible in the support available and that they work with service users to determine which aspects of the service will help them to achieve a sustainable recovery.
- **Additional provision should be considered for out of hours support and support sessions for relatives of service users if costs and feasibility allow.** A small number of service users discussed how relapses often occurred during the night. Also, it was recognised that addiction often impacted on relatives who required emotional support as well as education in understanding addiction so that they could help their family member through treatment and recovery. As these issues were only discussed by a minority of service users but could potentially benefit many service users it is recommended that, if costs and feasibility allow, these services are piloted and subsequently evaluated to determine if they are cost-effective.
- **The possibility of providing SMART meetings for specific groups should be explored.** Some stakeholders and service users thought that there may be differences in the needs of those who have an alcohol addiction compared to an addiction to other substances. Also, there were some concerns about people who were still using drugs and alcohol being in meetings with those who are now abstinent but vulnerable to relapse. Therefore, the provision of some meetings that were aimed at specific groups should be considered to try to ensure the needs of all service users are being met.

RESEARCH, MONITORING AND COST EFFECTIVENESS

- **North Yorkshire Horizons should continue to focus on robust data collection and monitoring.** The treatment service collects a vast amount of data which was readily available for this evaluation. The service also strives to improve data collection at a regional and national level and improve the quality of data reported. North Yorkshire Horizons should continue with their internal data processes which will help them effectively monitor their clients' progress, identify gaps in treatment and evidence the effectiveness of the service. The Recovery & Mentoring Service would benefit from a wider data collection (to further demonstrate the journey) and

could consider using treatment reporting templates as best practice, where appropriate to do so.

- **North Yorkshire Horizons should continue to further implement the use of outcome measures.** The treatment and Recovery & Mentoring service have both implemented a number of outcome measures to evidence effectiveness. However, the assessments need to be conducted on a more routine and consistent basis to allow for further data analysis of outcomes. The services should also aim to complete assessments for all clients and ensure follow up assessments are completed where possible. The routine monitoring of outcomes will allow the service to further show improvements from clients.
- **North Yorkshire Horizons should consider more ways to keep service users engaged with treatment and encourage more service users in treatment to move into the Recovery & Mentoring services.** The economic evaluation suggested that overall the drug treatment provided by North Yorkshire Horizons is cost effective. However, it also demonstrated that some substance groups have high rates of unplanned discharge where people do not complete treatment and that the number of people moving from structured treatment into Recovery & Mentoring services could be increased. Addressing these issues would help to further improve the cost effectiveness of North Yorkshire Horizons.

APPENDICES

APPENDIX 1. MODEL PARAMETER TABLES

PARAMETERS FOR OPIATE MODEL

Parameter	N	Standard Deviation for PSA	Distribution for PSA	units	Source 1	Geography	6 months rate
Mortality rate post treatment, per year	0.01000	0.00100	normal	person per year	NTA VfM tool	National	0.004987521
Mortality rate in treatment	0.01897	0.00100	normal	person per year	Treatment data		0.009440159
Mortality rate outside of treatment	0.03000	0.00100	normal	person per year	Assumption		0.01488806
Representation rate for drug treatment over 4 years	0.56000			person	NTA VfM tool		0.06760618
Representation rate for drug treatment over 4 years with recovery	0.42000						0.051145679
Representation rate for drug treatment over 10 years	0.69000			person	NTA VfM tool		0.03391166
Relapse from opiates cut off - time after which no more clients represent	10.00000			years	NTA VfM tool		
Unsuccessful discharge rate	0.30967			person years	Local data from NYH		0.143443502
Successful discharge rate	0.41670			person years	Local data from NYH		0.188077186
Utility (not in treatment)	0.67	0.32	beta	QoL scale	local EQ5D data		
Utility (in treatment)	0.77	0.28	beta	QoL scale	local EQ5D data		
Utility (in recovery)	0.782936	0.28	beta	QoL scale	Assumption based on post discharge TOPS *EQ5D		
mortality increase per 6 months	0.001			persons/6 mths	assm (equates to 0.1% increase every six months)		
increase in disutility per year	0.001419			QoL scale	Based on national EQ5D data		0.000709083
Crime costs (in treatment) (£)	39,967	4000	gamma	£ per year	DTORS		19983.5
Crime costs (not in treatment) (£)	50,585	5050	gamma	£ per year	DTORS		25292.5
Difference in crime costs (£)	10,145	30,678.00	gamma	£ per year	DTORS		5072.5
Treatment costs	2,097	120	gamma	£ per year	Local finance data		1048.5
Recovery costs (First year only)	708	35	gamma	£ per year	Local finance data		354

PARAMETERS FOR ALCOHOL MODEL

Parameter	N	Standard Deviation for PSA	Distribution for PSA	units	Source 1	Geography	6 months rate
Mortality rate post treatment, per year	0.01000	0.00100	normal	person per year	NTA VfM tool	National	0.004987521
Mortality rate in treatment	0.009259	0.00100	normal	person per year	Treatment data		0.004618929
Mortality rate outside of treatment	0.01852	0.00100	normal	person per year	Assumed to be double the mortality rate in treatment		0.009216524
Unsuccessful discharge rate	0.19300			person years			0.091990102
Successful discharge rate	0.38800			person years			0.176342096
Utility (alcohol dependent not in treatment)	0.67	0.32	beta	QoL scale	local EQ5D data		
Utility (in treatment)	0.77	0.28	beta	QoL scale	local EQ5D data		
Utility (in recovery)	0.765	0.28	beta	QoL scale	Assumption based on post discharge TOPS *EQ5D		
mortality increase per 6 months	0.001			persons/6 mths	assm (equates to 0.1% increase every six months)		
increase in disutility per year	0.001419			QoL scale	Based on national EQ5D data		0.000709083
Recovery rate non PDUs	0.40000				NTA VfM tool		0.181269247
alcohol admission costs (not in treatment (£))	7,356	3000	gamma	£ per year	Data for NY 2015/16		3678
alcohol admission costs (in treatment (£))	1,471	700	gamma	£ per year	Data for NY 2015/16		735.5
Crime and ASB costs (not in treatment (£))	2,000	300	gamma	£ per year	Data for NY 2015/16		1000
Difference in admission costs (£)	5,885	2,000.00	gamma	£ per year	Data for NY 2015/16		2942.5
Total excess public sector costs (alcohol not in treatment)	7,885	900.00	gamma	£ per year	Data for NY 2015/16		3942.5
Treatment costs	710	120	gamma	£ per year	Local finance data		355
Recovery costs (First year only)	708	35	gamma	£ per year	Local finance data		354

PARAMETERS FOR NON-OPIATE MODEL

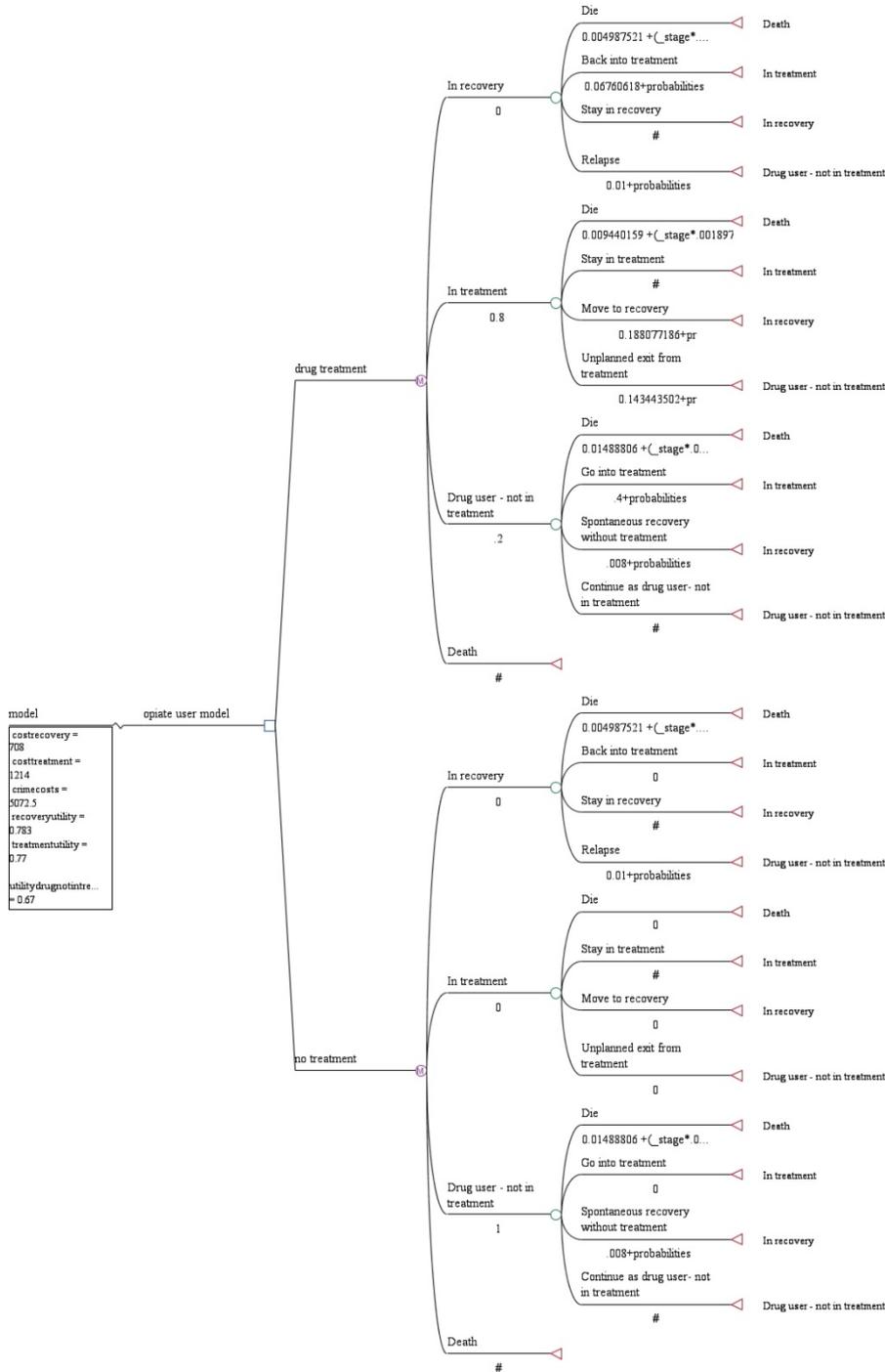
Parameter	N	Standard Deviation for PSA	Distribution for PSA	units	Source 1	6 months rate
Mortality rate post treatment, per year	0.0100 0	0.00100	normal	person per year	NTA VFM tool	0.0049875 21
Mortality rate in treatment	0.0058 48	0.00100	normal	person per year	Assumption	0.0029197 06
Mortality rate outside of treatment	0.0058 5	0.00100	normal	person per year	Assumption	0.0029197 06
Unsuccessful discharge rate	0.1783 6			person years	From NYH data	0.0853202 61
Successful discharge rate	0.1929 8			person years	From NYH data	0.0919821 37
Spontaneous recovery rate outside of treatment	0.1000 0			person years	Assumption	0.0487705 75
Utility (not in treatment)	0.67	0.32	beta	QoL scale	local EQ5D data	
Utility (in treatment)	0.77	0.28	beta	QoL scale	local EQ5D data	
Utility (in recovery)	0.7715 4	0.28	beta	QoL scale	Assumption based on post discharge TOPS *EQ5D	
mortality increase per 6 months	0.001			persons/6 mths	assm (equates to 0.1% increase every six months)	
increase in disutility per year	0.0014 19			QoL scale	Based on national EQ5D data	0.0007090 83
Total excess public sector costs (not in treatment)	310	40.00	gamma	£ per year	Data for NY 2015/16	155
Treatment costs	376	120	gamma	£ per year	Local finance data	188
Recovery costs (First year only)	708	80	gamma	£ per year	Local finance data	354

PARAMETERS FOR ALCOHOL AND NON-OPIATE MODEL

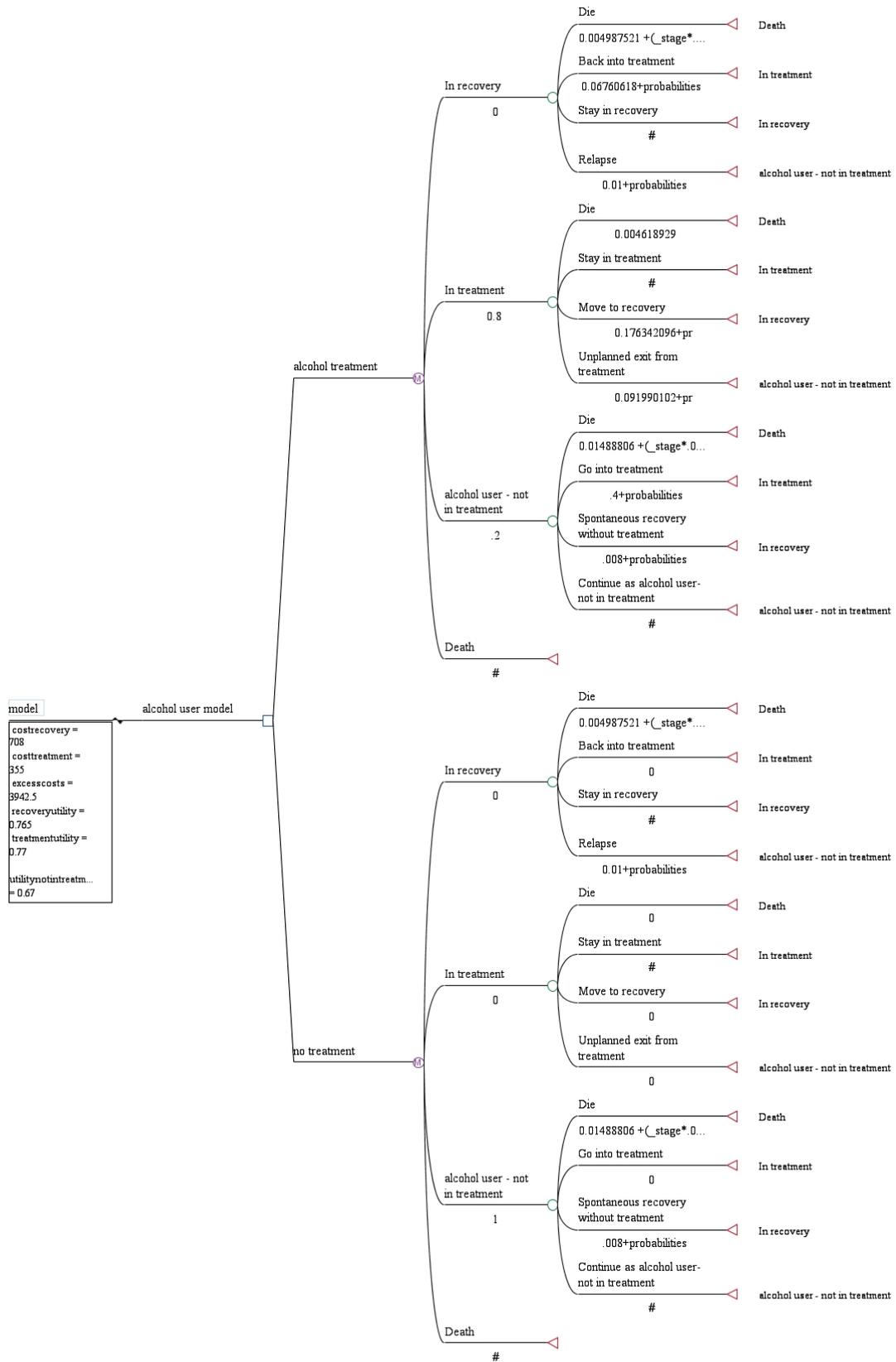
Parameter	N	Standard Deviation for PSA	Distribution for PSA	units	Source 1	6 months rate
Mortality rate post treatment, per year	0.01000	0.00100	normal	person per year	NTA Vfm tool	0.00499
Mortality rate in treatment	0.009259	0.00100	normal	person per year	Treatment data	0.00462
Mortality rate outside of treatment	0.01852	0.00100	normal	person per year	Assumed to be double the mortality rate in treatment	0.00922
Unsuccessful discharge rate	0.32374			person years		0.14945
Successful discharge rate	0.25180			person years		0.11830
Utility (alcohol dependent not in treatment)	0.67	0.32	beta	QoL scale	local EQ5D data	
Utility (in treatment)	0.77	0.28	beta	QoL scale	local EQ5D data	
Utility (in recovery)	0.767	0.28	beta	QoL scale	Assumption based on post discharge TOPS *EQ5D	
mortality increase per 6 months	0.001			persons/6 mths	assm (equates to 0.1% increase every six months)	
increase in disutility per year	0.001419			QoL scale	Based on national EQ5D data	0.00071
Total excess public sector costs (alcohol not in treatment)	8,195	900.00	gamma	£ per year	Data for NY 2015/16	4097.5
Treatment costs	558	120	gamma	£ per year	Local finance data	279
Recovery costs (First year only)	708	80	gamma	£ per year	Local finance data	354

APPENDIX 2. MODEL STRUCTURE DIAGRAMS

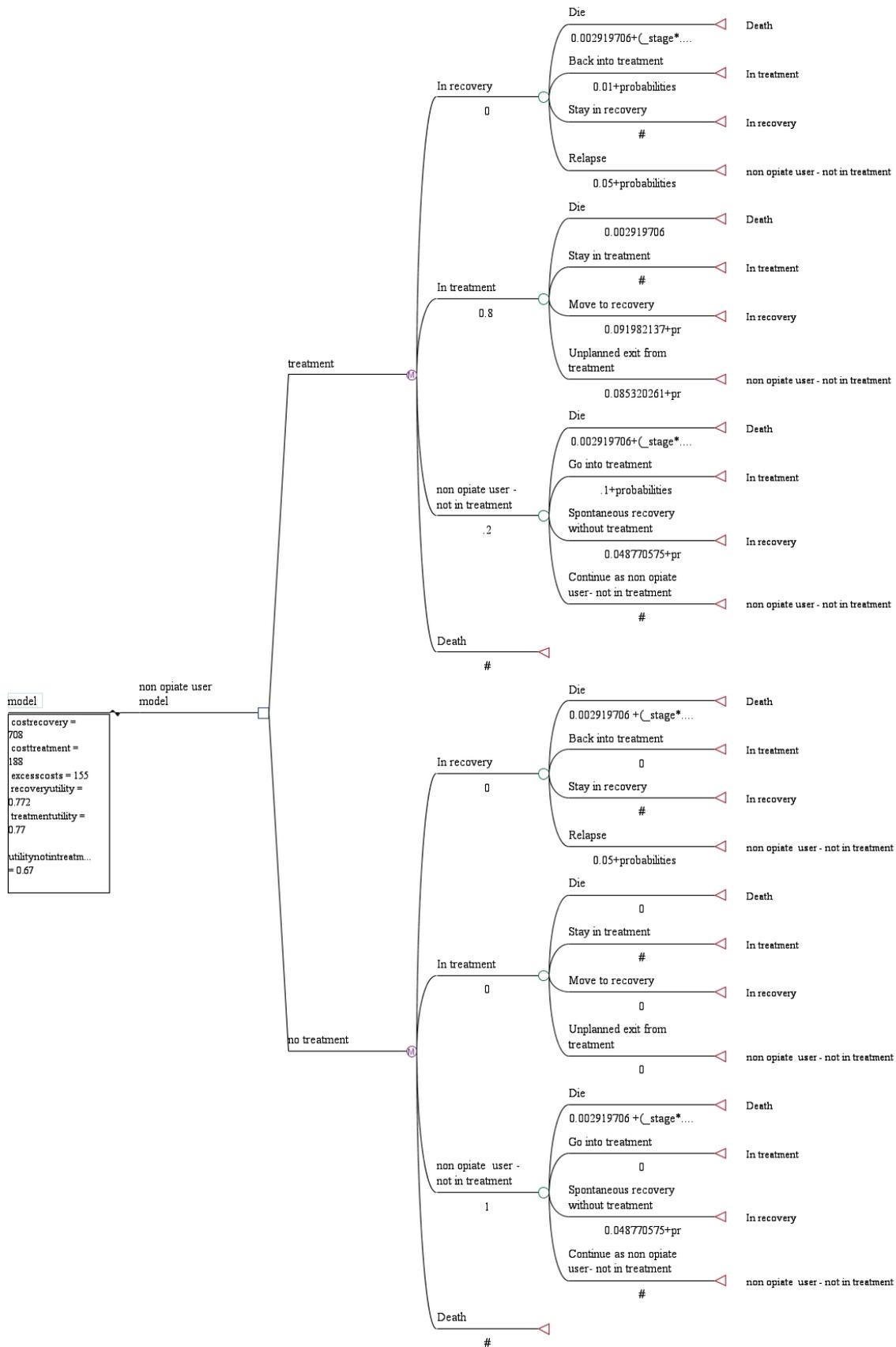
OPIATE USER MODEL



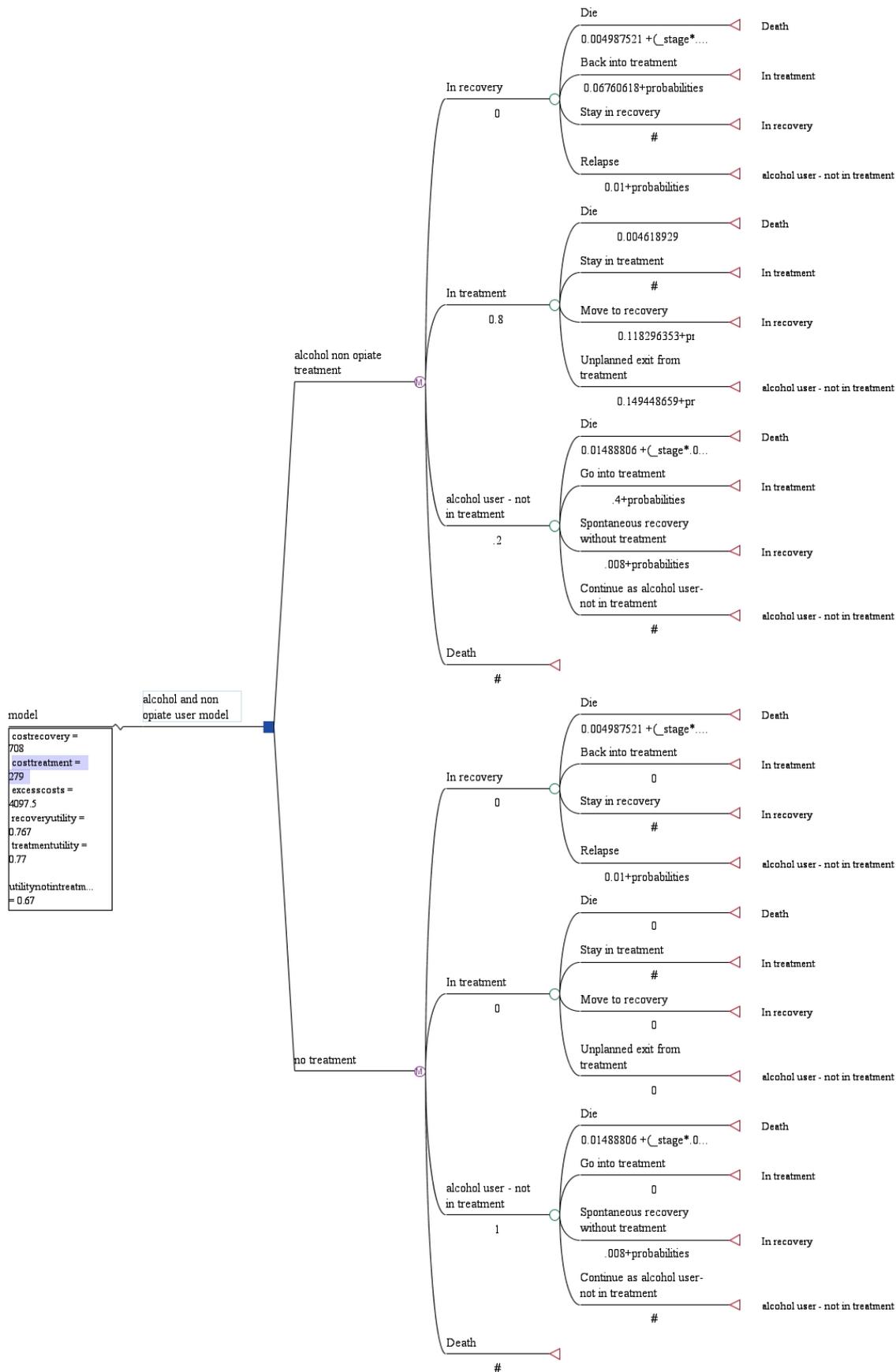
ALCOHOL USER MODEL



NON OPIATE USER MODEL



ALCOHOL AND NON-OPIATE USER MODEL



APPENDIX 3. ABOUT THE EQ-5D (EUROQOL 5 DIMENSION) QUESTIONNAIRE

The EQ-5D-3L is a validated, widely used self-reported general health survey with 5 questions on mobility, self-care, usual activities, pain/discomfort, and anxiety/depression with 3 potential level of answers to each question. In total this can produce 243 possible combinations of answers which can be matched to population health index scores which are generally between -0.594 (worst health) and 1 (perfect health). These index scores were calculated based on asking a sample of the UK population how many years they would trade off in a given health state to spend a shorter amount of time in perfect health. These index or utility scores are the gold standard (recommended by NICE) for calculating quality adjusted life years (QALYs) which are a summary measure of length and quality of life, where 1 QALY equals one year lived in perfect health.

EQ-5D is also included in the Health Survey for England. EQ-5D does produce some ceiling effects when used in relatively healthy populations (where many people have an index score of 1); there is also a 5 level version which should be more sensitive to subtle changes in health status than the three level version.

The EQ-5D also has a visual analogue scale (VAS) where individuals mark off between zero and 100 how they consider their own health state that day with 100 being best possible health, and zero being worst.

There is a child version of the EQ-5D, the EQ-5D-Y, which is validated for 7-12 year olds.

EQ-5D Health Questionnaire

Client ID New User Existing User

By placing a tick in one box in each group below, please indicate which statements best describe your own health state today.

Mobility

- I have no problems in walking about
- I have some problems in walking about
- I am confined to bed

Self-Care

- I have no problems with self-care
- I have some problems with washing or dressing myself
- I am unable to wash or dress myself

Usual Activities *(e.g. work, study, housework, family or leisure activities)*

- I have no problems with performing my usual activities
- I have some problems with performing my usual activities
- I am unable to perform my usual activities

Pain / Discomfort

- I have no pain or discomfort
- I have moderate pain or discomfort
- I have extreme pain or discomfort

Anxiety / Depression

- I am not anxious or depressed
- I am moderately anxious or depressed
- I am extremely anxious or depressed

Visual Analogue Scale

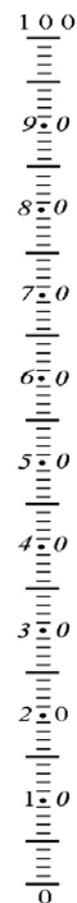
Please indicate on this scale how good or bad your own health state is today.

The best health state you can imagine is marked 100 and the worst health state you can imagine is marked 0.

Please draw a line from the box to the point on the scale that indicates how good or bad your health state is today.

**Your
own
health
state
today**

Best imaginable
health state



Worst imaginable
health state

Now, please write the number you marked on the scale in the box below.

YOUR HEALTH TODAY =

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