Choices

A Review of a Developmentally Informed Substance Misuse Treatment System for Young People (May 2011-Dec 2012)

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Executive Summary

In May 2011 a new young person's substance misuse service was commissioned for Torfaen and Monmouthshire. This report evaluates the outcomes of this highly innovative, developmentally informed substance misuse service.

The service specification was informed by Welsh Government policies for working with young people and state-of-the-art clinical research. These studies demonstrated that young people's drug and alcohol use was not homogenous but developed in accordance with the three distinct pathways.

The new treatment system has offered greater integration with the wider youth provision across the two counties. Furthermore, it developed a wider treatment range that had to account for three distinct populations of young problem drug and alcohol users. This included intensive support for early onset Externalised youth, structured interventions for mid-onset Internalised youth, and brief interventions for late onset Normative youth. Clinical outcomes would be linked to each trajectory in order to identify difference in treatment response.

The Choices service was able to increase referral rates. On average, there are 13 referrals per quarter in Torfaen and 8.5 in Monmouthshire.

Choices demonstrate an exceptionally high rate of completed assessments. On average 91.3% of Torfaen referrals and 87.6% of Monmouthshire referrals complete assessments.

Monmouthshire holds an average of 12 clients on case load per month (STD 5.4). The average case load for Torfaen was 16.7 (STD 7.3). So whilst Torfaen has demonstrated a higher case load, it has also exhibited greater fluctuation. Projections suggest caseloads will continue to rise.

In Monmouthshire, 62% of young people 'completed treatment' plus an additional 9.3% per cent 'completed treatment drug free.' In Torfaen, 44% completed treatment whilst a further 20% completed treatment drug free.

Both counties are significantly outperforming the English national average successful treatment completion. In England this figure is 31%, whilst Monmouthshire completion rates operate at 71.3% and Torfaen at 66%.

Reporting data on attendance in modalities is the weakest element within the Quarterly Reports. An alternative model to standardised reporting across three sub-trajectories is offered.

Substance use profiles differed between the counties although primarily characterised in a gateway sequence of Cannabis-Alcohol-Mephadrone. In Torfaen, Methaphrone is becoming the primary substance of use at presentation whilst all use is increasing in Monmouthshire in rank order.

The Complexity Index-Revised was able to discriminate between sub-trajectories. Externalised \ Internalised presented with an average 6.2 points. Externalised youth scored in a similar range to Internalised youth with an average score of 5.6 and 5.5 respectively. Normative youth scored the lowest average score at 3.7. These scores fell in the expected hierarchical progression.

Analysis of sub-trajectory by age was also highly in accordance with the sub-trajectory theory. Externalised use characterised the youngest age ranges, followed by Internalised in the mid-age ranges and Normative appearing predominantly in the later age ranges.

Age of onset and social functioning scores at intake were again arranged in hierarchical order. Correlation covariance demonstrated an inverse relationship between social functioning and complexity. The higher Complexity Scores correlated with lower social functioning in the hierarchical order.

Treatment outcomes for the total population of young people treated were extremely high. 74.6% achieved clinically signification gains, whilst 2.8% experienced reliable change due to the treatment that they had received. A further 18.3% of clients experienced no change whilst 4.2% experienced deterioration. As research demonstrates that 5-10 per cent of clients in any treatment population worsen, the 4.2 per cent deterioration rate is very low.

Significant variance in clinical outcomes did occur by sub-trajectory in the expected hierarchy. 85.7% of Normative youth achieved the highest outcomes, compared to 72.2% of Internalised, 65.2% of Externalised and 60% of Externalised / Internalised.

There was no correlation between treatment gains and age, suggesting that the Choices service is providing effective interventions across the age range.

Time in treatment was proportionate to sub-trajectory. The average treatment length for Normative youth was 180 minutes, for Internalised youth it was 278 minutes and for Externalised Youth it was 558 minutes. Externalised / Internalised youth remained in treatment for the shortest period of time, 100 minutes.

In England the average length of treatment stay was 154 days. In comparison the mean average treatment length in the Choices services was 145.7 days- 5% below the English average. The Choices service is not only achieving over twice the treatment outcomes but does so in marginally less time.

Introduction

In May 2011 services were re-commissioned for young substance misusers across Torfaen and Monmouthshire. The newly commissioned service represented a radical departure from the existing service model. The existing provision for young people was a universal case management model. The new contract was an opportunity to implement a more developmentally informed system based on state-of-the-art research and clinical studies. This service model had to take account of several key policy and clinical demands. In terms of policy, the services had to operate within the Welsh Government recommendations on working with young people and young substance misusers, NICE Guidance and the data recording requirements inherent within the commissioning process. Policy requirements also demanded that the service operated within an integrated framework with other youth service providers, both universal and targeted. This required increasing the points of contact between providers and designating specific operational roles within each tier of service (see table 1).

Tier	Descriptor	Substance Misuse Service intervention
Tier 1	Universal youth services (schools, youth centres etc)	• Staff training in screening, youth substance misuse and referral • The provision of universal prevention approaches.
Tier 2	Dedicated non-specialist youth services (Social Service, YOS etc)	• Staff training in screening, assessment, brief interventions and referral • Provision of targeted substance misuse prevention • Consultancy
Tier 3	Substance Misuse Specific Service (Choices)	• Assessment • Allocation to treatment trajectory • Treatment • Referral to Tier 4 Services
Tier 4	Specialist high support youth services (CAHMS prescribing, respite care, residential treatment)	• Referral • Aftercare

Table 1: Levels of Integration of the New Youth Service

DrugAid subsequently won the contract to deliver this service which is called Choices. This report evaluates the impact of this service from May 2011 to December 2012. It is based on the submitted Quarterly Reports over this timeframe and is subsidised with additional data drawn from PalBase. This report will evaluate this data and clinical outcomes to inform future commissioning developments. It will also evaluate whether current reporting data is fit for purpose and examine the validity of the core assumptions that underpinned the youth service design.

Treatment Rational

It was essential that the development of a new treatment system across the two counties was developmentally informed by substance misuse as it occurred in the lives of young people. Whilst the field broadly recognises that young substance misusers are not adults, it has been unable to articulate these differences within

treatment provision. Even with British treatment policy there is a tendency to state where these young people are, (carer leavers, NEETs, etc) and not who they are. The new service would address this paucity in practice directly and advance a framework that accounted for the clinical research in adolescent development psychology and substance misuse pathways. Adolescent development is a much neglected research base within the treatment field. This was combined with long term longitudinal studies that had tracked young people and their use over extensive time periods (see Harris 2013). Firstly, age of initiation into smoking tobacco tended to be highly predictive of subsequent drug and alcohol involvement. Early and heavier tobacco use predicts the longer term using histories and the level of substance involvement. This substance involvement tends to occur within a gateway sequences from tobacco-alcohol-cannabis use, before moving into other substances (Kandall & Yamaguchi 2002). This sequence is changing with the advent of the internet which is giving young people access to a much wider range of substances. However, tobacco is liable to remain the first initiation substance.

Studies have also consistently identified that young people's liability towards use was predicted by the presence of risk and protection factors in their life. The more risk factors a young person is exposed to then the more probable their likelihood of experiencing substance misuse problems (Newcombe & Felix-Oritz 1992; Bry 1982). These risk factors tend to cluster in young people's lives, creating distinct pathways that share remarkably similar clinical profiles. This includes an early onset Externalised behavioural group characterised by poor impulse control, trans-generational poverty and low school engagement. The second onset group tended to be Internalised youth experiencing depression and anxiety disorders at the age of puberty. Whilst the late onset Normative group aged between 14-16 had experienced stable life situations and good educational achievement prior to substance involvement. Their use was located within peer groups that had escalated into problematic use.

Clinical research suggested that these sub-groups shared distinct trajectories of drug and alcohol involvement. They bring differing levels of complexity into treatment and also displayed divergent responses to treatment. Earlier onset Externalised youth have the poorest treatment outcomes compared to the more stable late onset group (Chung et al 2003). From a commissioning perspective it was essential to identify these sub-trajectories of use, less the collective reporting of all outcomes masked these divergent treatment outcomes. For example, an agency with a high proportion of late onset Normative users would demonstrate a high outcomes profile, but the most vulnerable Externalised youth may experience no benefit at all. Their poor response may be 'masked' by the higher outcome range of the Normative users. So greater transparency was required in order to identify and track outcomes across the three trajectories.

As the sub-trajectories of use shared remarkably similar profiles, it also suggested that a broader range of treatment interventions would be needed to account for this

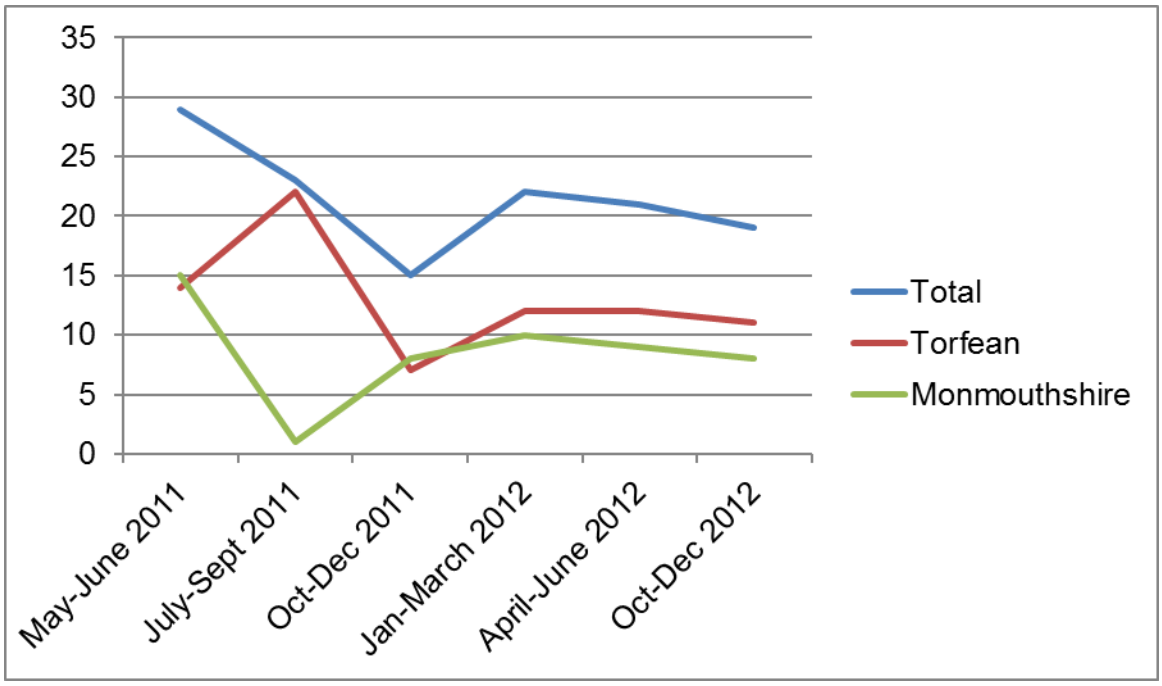
wider spread of needs. Typically youth services can report a 'youth centred' orientation that looks at the needs of each young person individually. However, this approach confuses identifying the aspirations of the young person with the therapeutic process of how these aspirations can be achieved. As such, youth centred models tend to actually provide the same intervention to every young person despite their divergent goals. This service specification required far greater discrimination of treatment methods appropriate to each sub-trajectory. Externalised youth required more expansive programmes to address higher levels of social exclusion, educational disadvantage combined with efforts to stabilise chaotic family structures. Internalised youth required support rates to expressive or cognitive-behavioural therapies in the management of anxiety and depressive mood disorders. Family involvement may include gradually reducing overtly high support for the young person to face greater challenges themselves. In the case of abuse family involvement can increase outcomes considerably. Whist the high social functioning Normative youth require briefer interventions and support in entering into more pro-social peer groups and relationships.

The identification of the young person's sub-trajectory was therefore vital in ensuring that the level of young people's needs were clearly identified and referred into the most appropriate treatment arm. This was done by using the Complexity Index-Revised (Harris 2010). This is a simple risk profile tool that is based on the critical markers of each sub-trajectory. This 15 item questionnaire is used to identify the risk profile of the young person and measure the complexity of their presenting need. It is weighted to reflect the varying support needs across the three sub-trajectories. Based on this screening tool, young people would be allocated to appropriate treatment. Furthermore, outcome measures can then be reported by trajectory. This would allow for greater transparency in treatment gains across the spectrum of young people needs. It would also highlight where treatment gains were lower to direct future developments. Finally, this link to trajectory and outcomes would offer evidence that the assumptions of this treatment model were valid.

Referrals

At the initiation of the contract, the Choices services inherited a very low caseload from the previous treatment provider who transferred only 7 clients. Some issues did present immediately in the change of practice for these young people who had to move from a generalised support model to a more active treatment model. Since the initiation of the contract, referrals have increased but remain lower than the adult service referrals. The initial phase of implementation saw a sudden increase in referral rates. This may be a mixture of 'banked' young people awaiting transfer into the new service along with the promotion of the new service increasing uptake. Since this time, referral rates have stabilised and are similar in each county. On average, there are 13 referrals per quarter in Torfaen and 8.5 in Monmouthshire. This difference is largely accounted for due to a peak in referrals in Torfaen during

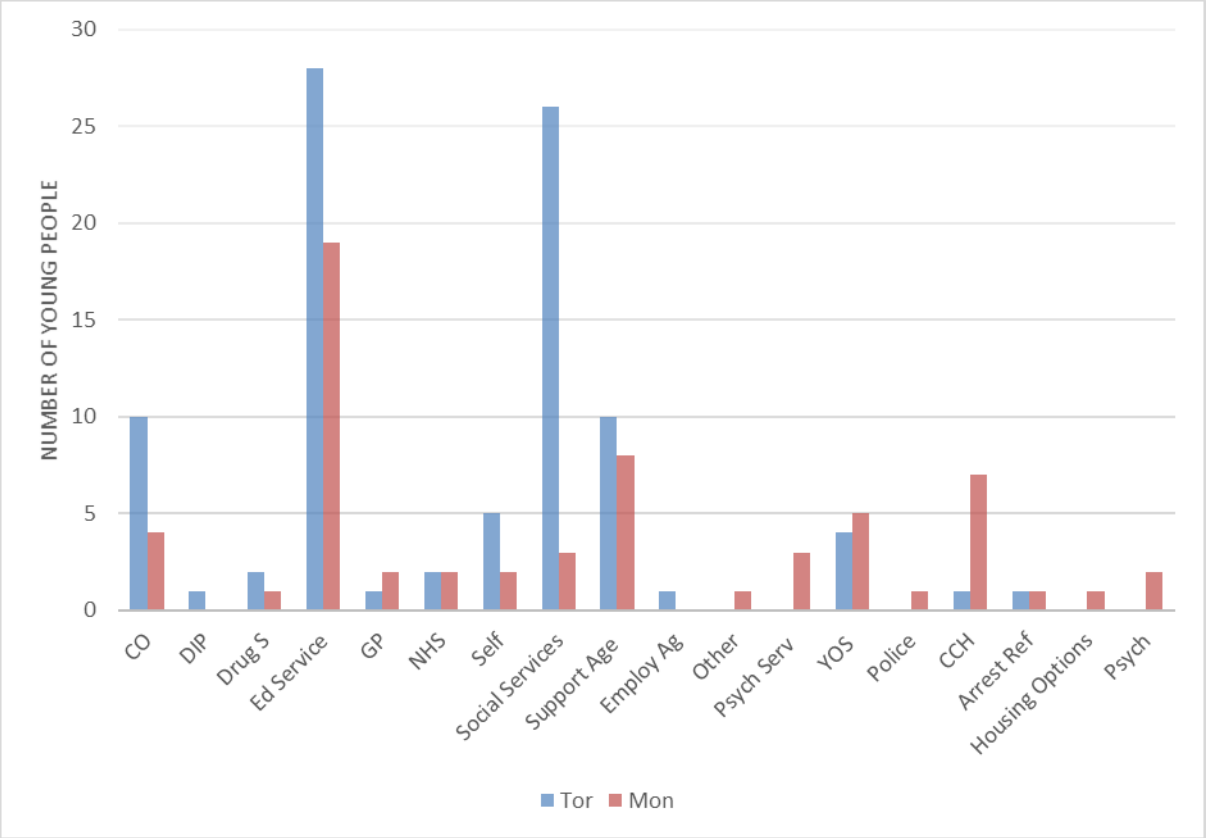
the July-Sept 2011 quarter and a drop in Monmouthshire referrals at this time (See graph 1).



Graph 1: Total Referrals from May 2011-Dec 2012

There are some minor conflicts in the referral data. This is due to the adoption of Drugaid's Palbase Open Access Episode as a case management system in September 2011. This method of data collection changed some referral source headings. This agreed transition also meant some data was not easily back filled. This leads to some differences between data presentation in the first quarterly report that then changes in subsequent reports. Despite these changes, referral rates show a high level of consistency.

The referral sources identified in the reports are broad. However, as the overall case load is low, analysing patterns in individual referral sources is not possible. Referral sources may contain 1-2 clients per quarter making any statistical analysis meaningless. Statistical analysis on small figures leads to disproportionate differences. For example, if one client was referred into service from a GP and attended, it equates with a 100 per cent attendance, but if that one person does not attend it means 0 per cent attendance. These exaggerated scores do not offer a great deal of insight. Instead, the total number of referrals between April 2011 and Dec 2012 offers greater insight than trends. Both counties share similarities and differences in referral sources (see graph 2).



Graph 2: Comparison of the number of referrals in Torfaen & Monmouthshire April 2011-Dec 2012 by agency.

In Torfaen, of the 92 referrals made during this period, the single largest source of referral was from Educational Services that accounted for 30.4 per cent of referrals. This is followed by Social Services who accounted for 28.2 per cent of referrals. This is a very positive finding because the youth treatment system was specifically designed to integrate more seamlessly with Tier 1 universal youth provision as well as Tier 2 youth specific provision. In Torfaen this appears to have been successfully achieved as demonstrated by the significant client flow from these services into specialist services. Self-referrals were low at 5.4 per cent in Torfaen and there were no referrals from the Police, Psychological services and few from wider support services. This may indicate that the Choices service in this county has established very positive links with statutory education and social services but might consider developing wider partnerships. It is important to note that low rates of self-referral are not uncommon in youth services, where young people are far more likely to enter into services due to formal or informal coercion. However, it may be apposite to explore why young people who do access services by self-referral had sought help directly themselves. This might identify if there are any possible blocks to self-presentation for young people.

Consideration: Action research with young people who self-present regarding their motivation to do so and any fears or blocks that may have impeded it.

In Monmouthshire, 62 referrals were made across the reporting period. Again, the significant tranche of referrals came from statutory services with a near identical 30.6 per cent of referrals coming from Educational Services. However, Social Services only accounted for 0.4 per cent of referrals. This is a marked difference from Torfaen. This may be due to a different demographic of young people presenting for support. Areas of deprivation increase the social pressure on young people and in turn increase the frequency of substance related problems in comparison to the wealthier counties. The difference in referral pattern may be solely determined by higher rates of substance misuse in Torfaen. However, it may also be influenced by operational issues. Poverty may also increase the visibility of drug and alcohol use in geographic regions which acquire a reputation for social deprivation. It would be important to explore this discrepancy more deeply to ensure that the Social Services in Monmouthshire are alerted to the support services available to ensure that vulnerable young people are intercepted. In contrast, wider 'support agencies' were the second highest referral in Monmouthshire, accounting for 12 per cent of new clients. So whilst the Choices service appears to have forged stronger links with statutory services in Torfaen they have created stronger partnerships with voluntary agencies in Monmouthshire.

Consideration: Assess Social Service referrals and promote the service to statutory agencies in Monmouthshire.

One striking feature is that the Youth Services in Torfaen and Monmouthshire only made 1 referral during this time. This may be because a more pro-socially involved youth are attracted to generic youth support but could also be related to a need to develop greater awareness within Youth Services of young people in need. This may offer guidance in targeting specific youth service with further training and support.

Consideration: Assess Youth Service referrals and promote the service and referrals

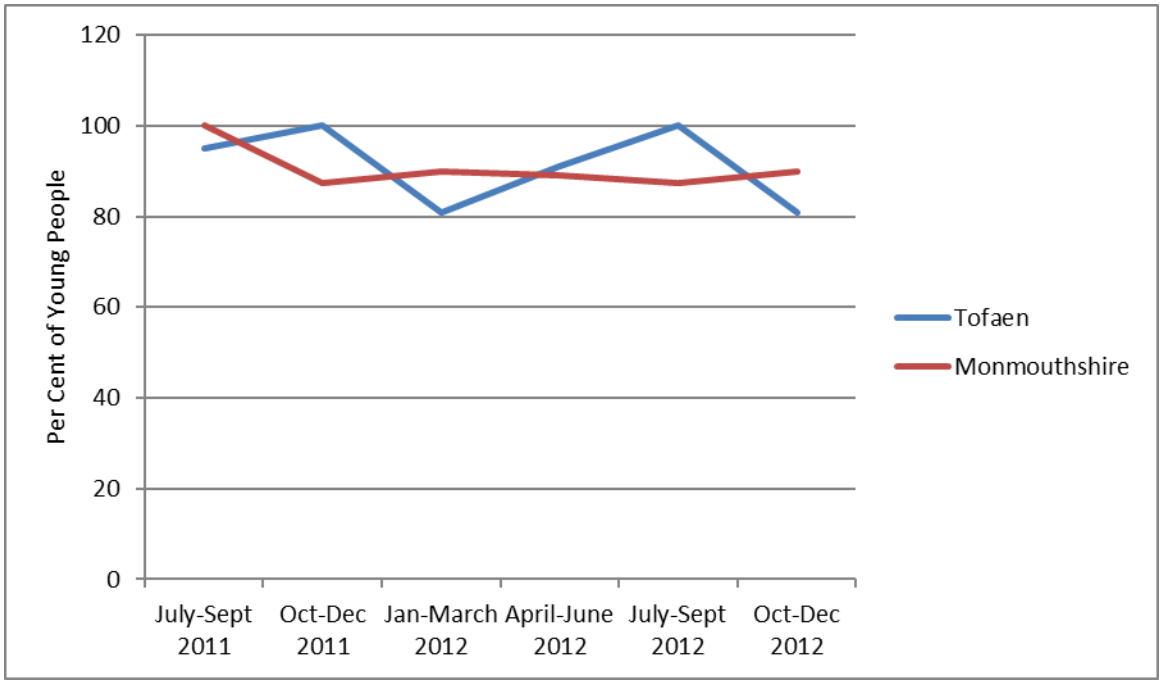
Data on referral patterns is further limited in that the reports of Tier 1 training do not always provide the names of the agencies being trained. So it is difficult to identify any post-training increases in referral. Whilst the Reports do reveal positive scores and responses from workers, it cannot be determined who found the training helpful or what training increased subsequent referral rates to identify how effective the training was. Higher rates of referral since the induction of the new Choices service suggests that training has been effective increasing referral rates. But the variance in referral rates also suggests that its impact has been more effective with some sectors than others. Differences between the Educational sectors high referral rate may offer a model of good practice that might be adapted to other sectors. However,

it must also be stressed that these referral rates could be determined by a lower rate of need in young people in contact with these services.

Assessment

Accepting there are limits to analysis of smaller figures, the referral and assessment rate as a total does reveal a consistent pattern. There is a high correlation between the numbers of young people referred and those that are actually assessed. Young people are particularly difficult to engage in substance misuse services, with some research suggesting that 50 per cent of them are pre-contemplative regarding the need to change their drug use (Conner's et al 2001). This is because at this point in their involvement with substances they have not experienced conspicuous difficulties. Furthermore, many young people do not always make an association between their drug and alcohol consumption and wider social complications in their lives (Botvin & Torfu 1998).

However, Choices demonstrates an exemplary high rate of assessment completion. Whilst the first quarterly report data is incomplete, subsequent reporting shows that on average 91.3 per cent of Torfaen referrals are assessed and 87.6 per cent of young people referred are assessed in Monmouthshire (see graph 3). Out of the 46 young people referred to the service in Monmouthshire, 41 young people engaged in the service. Whilst out of the 77 referrals in Torfaen a further 73 young people engaged in the service. This is an exceptionally high engagement rate for a client population that is typically very treatment resistant.



Graph 3: Percentage of Referral Who Are Assessed by Choices

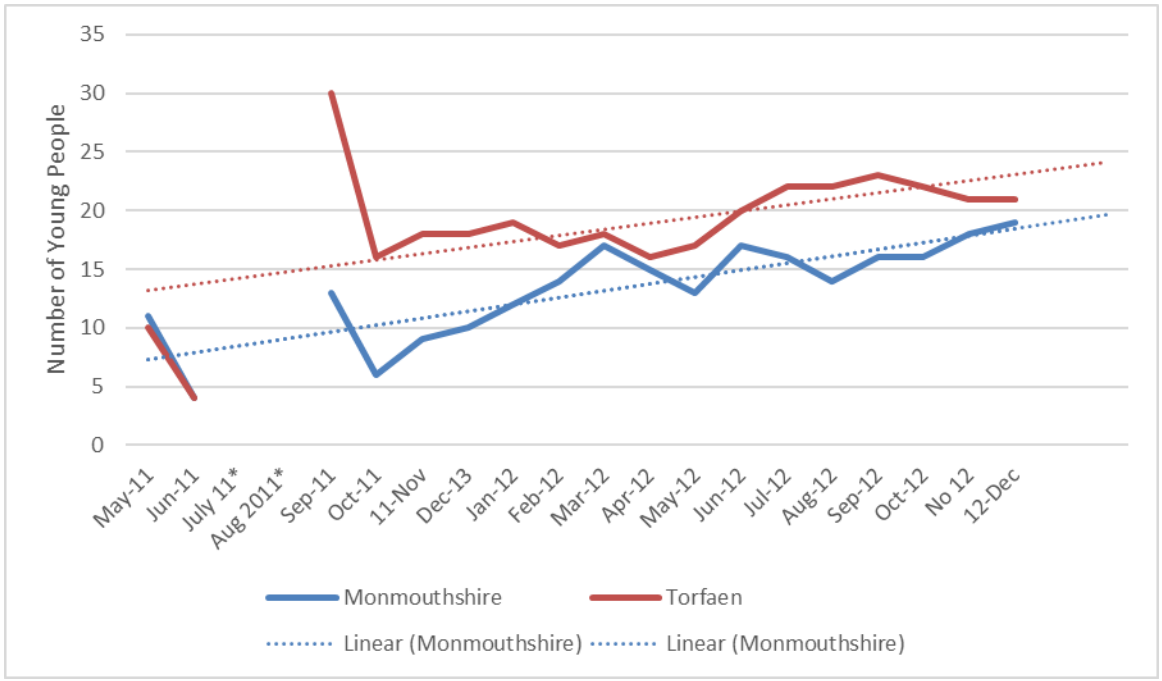
The very small numbers of young people referred to the service when broken down per quarter and then referral source does not make itself amenable to statistical

analysis. Non-attenders at assessment tend to be those referred by wider support agencies and then social services and Youth Offending. These services are for mandated clients who can be expected to show the lowest levels of pre-treatment motivation. However, these numbers are too low to be predicative of any trend. There can be basic inconsistency in some of the assessment take-up tables in the Quarterly Reports. Occasionally monthly figures are missing but the overall quarterly average attendance is reported. In general, these high rates of attendance at assessment, combined with the agency's continued achievement of KPI outputs, indicates a highly responsive organisation that is very quick to meet the needs of young people. Maximising high levels of engagement is the central issue in youth treatment and the agency appears to have performed very well in this domain.

Young people hold overtly positive expectations of use, experience less immediate substance related problems or simply do not connect social complications with their consumption. Choices began to develop their assessment processes to account for this lack of insight at treatment outset. These developments were based on clinical research that had showed that young people could be highly responsive to Baseline Assessment Reactivity at assessment. This means that young people could achieve 50 per cent of their clinical gains from the assessment process itself. The key drivers of this response appeared to be baseline motivation, recognition of difficulties and the young person's belief in their capacity to implement change. The comprehensive assessment procedure for young people was amended to encompass these critical factors. However, the amendments to the assessment occur within the first three sessions. No outcome data is supplied within this time frame making it difficult to assess the impact of these assessments changes. Further investigation would need to be conducted in order to establish the impact of these developments. If the new assessment processes were effective in increasing clinical outcomes, it should be reflected in differences in outcome prior to and post the implementation of the new assessment process. This data is not available within these data sets, but could offer greater insight into the effect of the new assessment process.

Consideration: Choices piloted innovation in assessment. This is beyond the scope of this report, but further investigations should be made regarding the impact of this novel approach to assessing young people.

Choices have been successful in increasing their case load throughout the duration of the contract. The case loads in Monmouthshire and Torfaen were very low at the outset of the contract and have begun to increase progressively over the following two years. With caseload fluctuating across the contract, comparing two moments in time is not particularly helpful as differences are dependent on the points of time that are selected. Linear analysis demonstrates a more accurate trend in case load across the time period. This reveals that both Torfaen and Monmouthshire caseloads are not only increasing but also predicts continued growth (see graph 4).

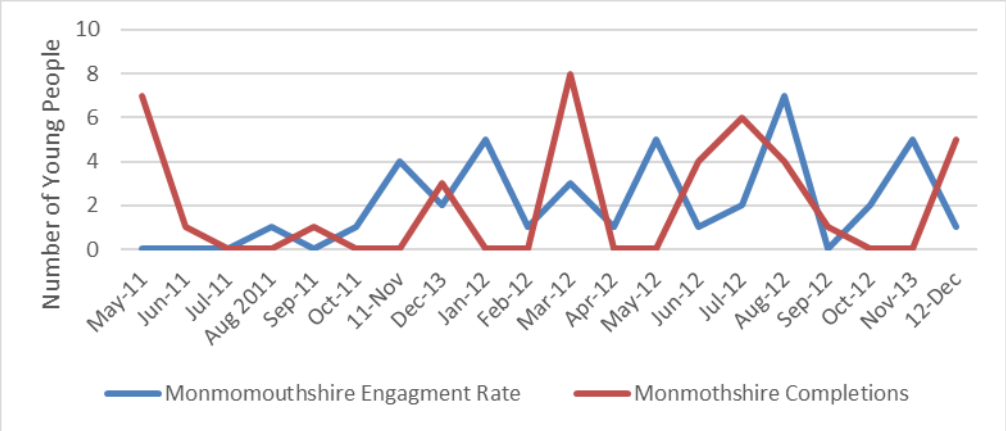


Graph 4: Caseloads for Torfaen and Monmouthshire from May 2011-Dec 2012 with Linear Forecast Analysis

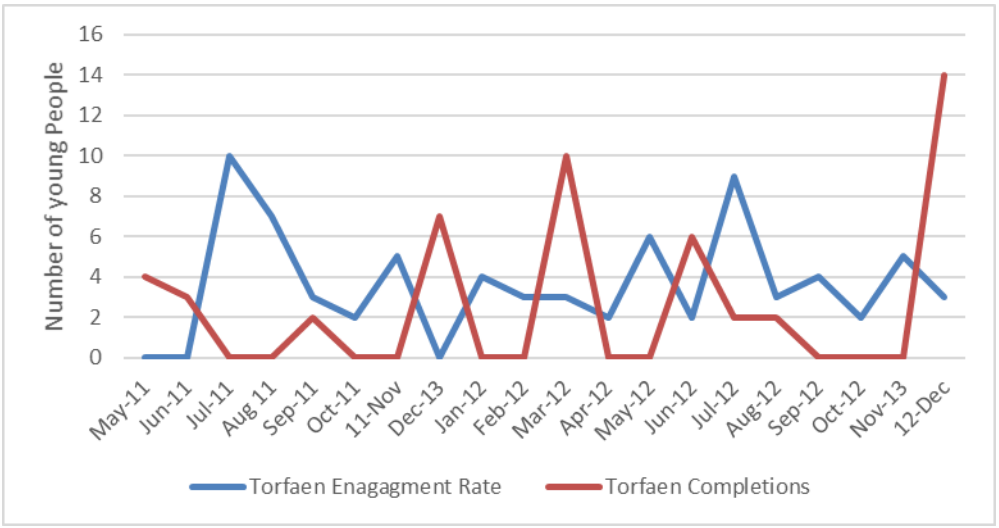
***figures reported for quarter not month**

Total caseload is a proxy measure as it does not demarcate the number of individuals on caseload that are retained into the following month. For example, caseloads may continue to climb because no young people are discharged from the service as opposed to the service creating throughput. In order to accurately assess case management, the net difference between those who actually engage in the service post-assessment versus the rate of treatment exits may offer greater insight into the throughput of the service (see graph 5 & 6).

Across the reporting period, 46 new clients were referred into the Monmouthshire service. A further 5 young people did not take up the service post assessment whilst 40 cases were closed. This left an average of 12 clients on case load per month (STD 5.4). In Torfaen there was a higher referral rate with 77 clients referred and only 4 declined to take up the service post assessment. A further 50 cases were closed during the reporting period. The average caseload for Torfaen was therefore significantly higher, with a caseload of 16.7 young people on case load (STD 7.3). So whilst Torfaen has demonstrated a higher caseload, it has also exhibited greater fluctuation in the numbers of young people presenting.

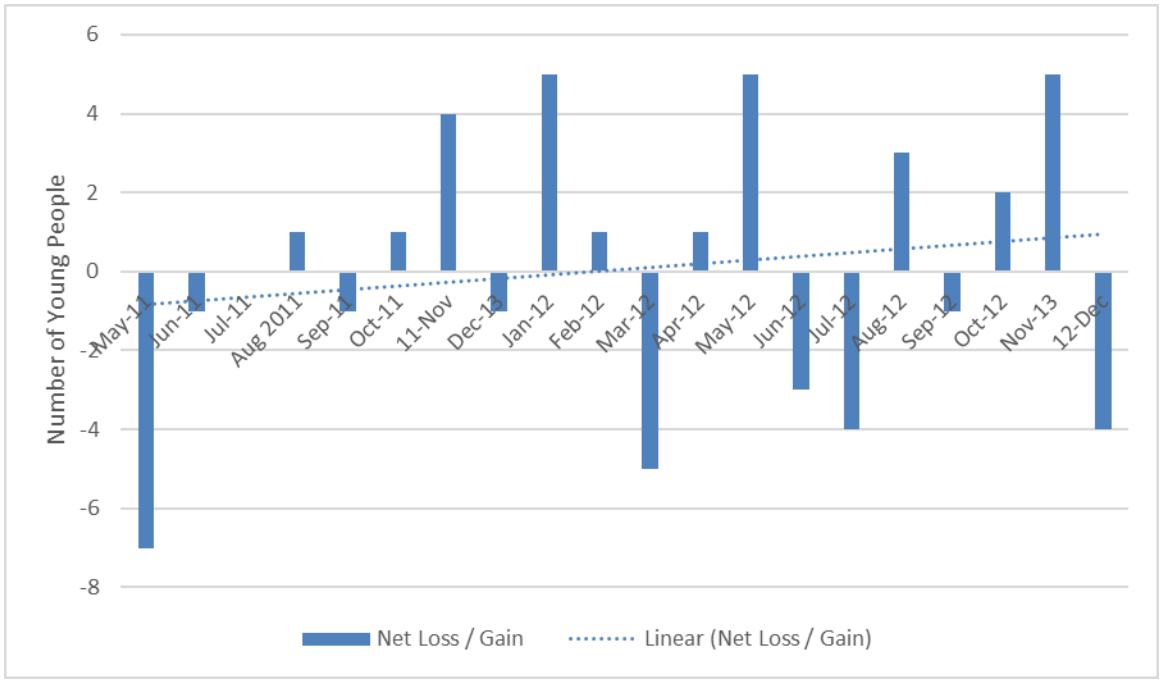


Graph 5: Caseload Management in Monmouthshire

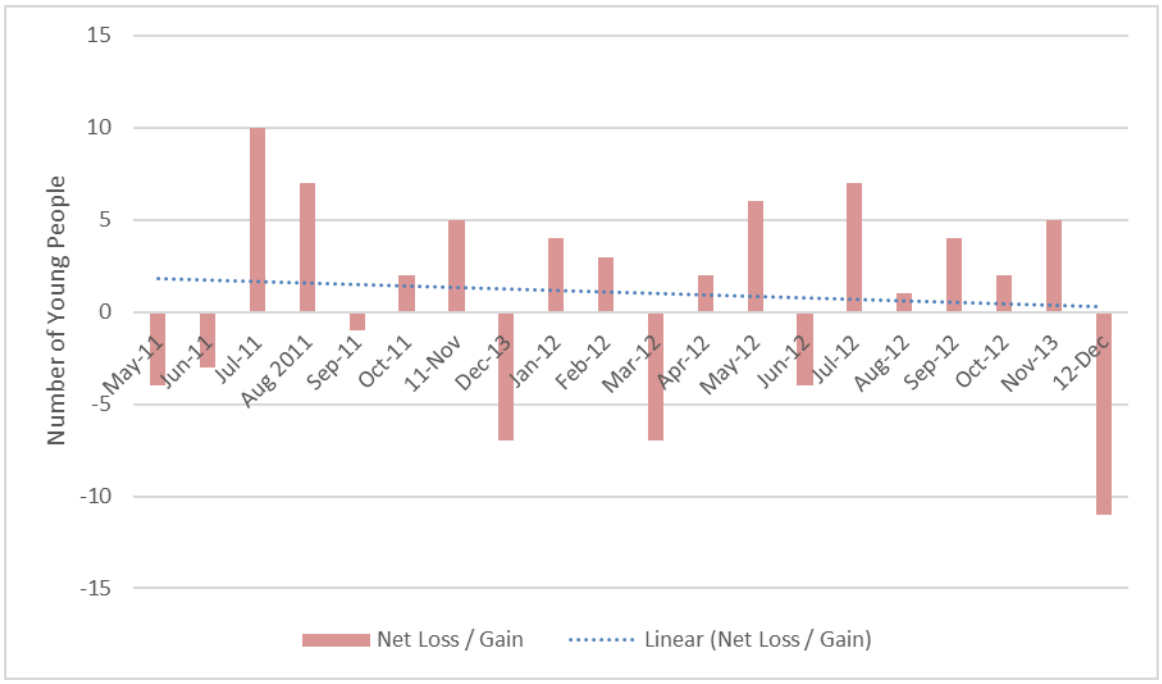


Graph 6: Caseload management in Torfaen

Net Gain / Loss was assessed by combining number of new referrals each month against the number of closures each month. This revealed an interesting pattern in the reported figures (see graph 7 & 8). Monmouthshire showed a large increase in case closures on the onset of the service, suggesting that the small numbers of young people in service prior to the new contract left treatment quickly with the transition. This figure was higher in Monmouthshire because 6 out of the 7 clients held by the old service were based there. Both Monmouthshire and Torfaen show peaks in referral followed by subsequent increases in completion either in the month or two months following a spike in referral. This identifies an anticipated lag between treatment entry and the subsequent completion. Treatment closure rates tend to increase at the end of each quarterly reporting period. This suggesting that the distribution of case closure may be more even but closures appear to cluster as a result of staff 'clearing' outstanding data prior to the submission of Quarterly Reports.



Graph 7: Net Gain \ Loss of Caseload in Monmouthshire

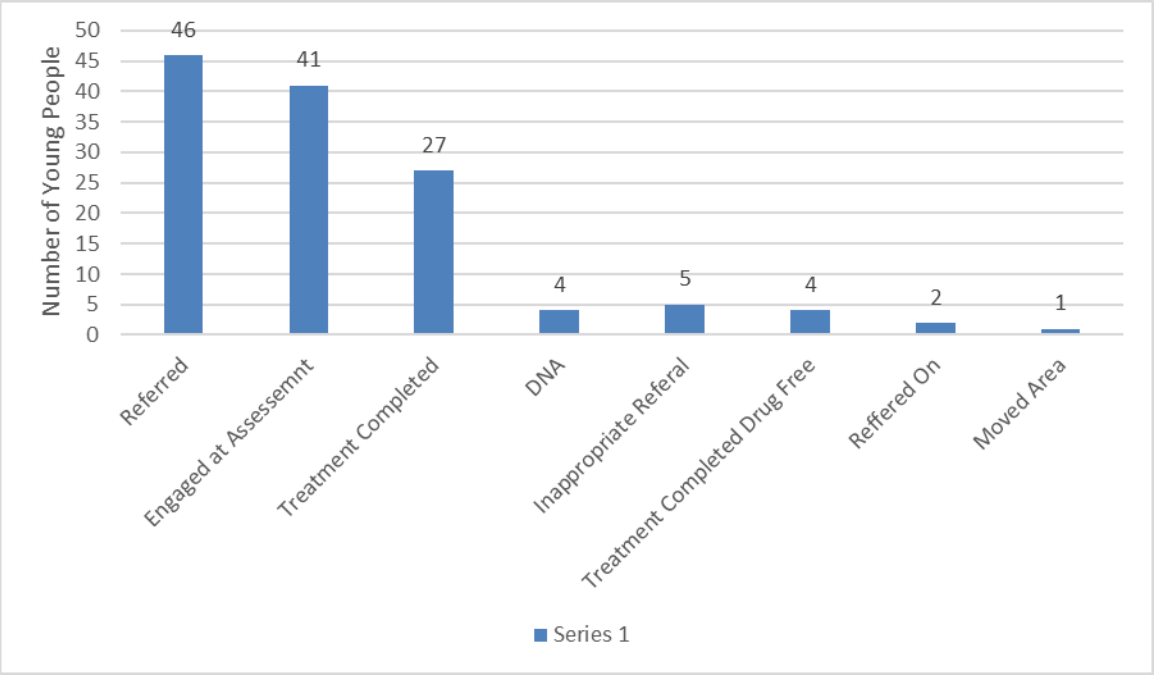


Graph 8: Net Gain \ Loss of Caseload in Torfaen

Linear analysis shows that whilst the average caseload in Monmouthshire is 12, this figure is inclined to increase at gentle pace as client numbers build in treatment services. Alternatively, the average caseload in Torfaen shows a slow decline in trends young people move through the service at a slightly faster rate than referrals enter. This rate may be skewed by the high rates of treatment exits in the final quarter of the reported period. All considered, the Net Loss / Gain of young people coming into and exiting the service shows that the Choices service has a fairly

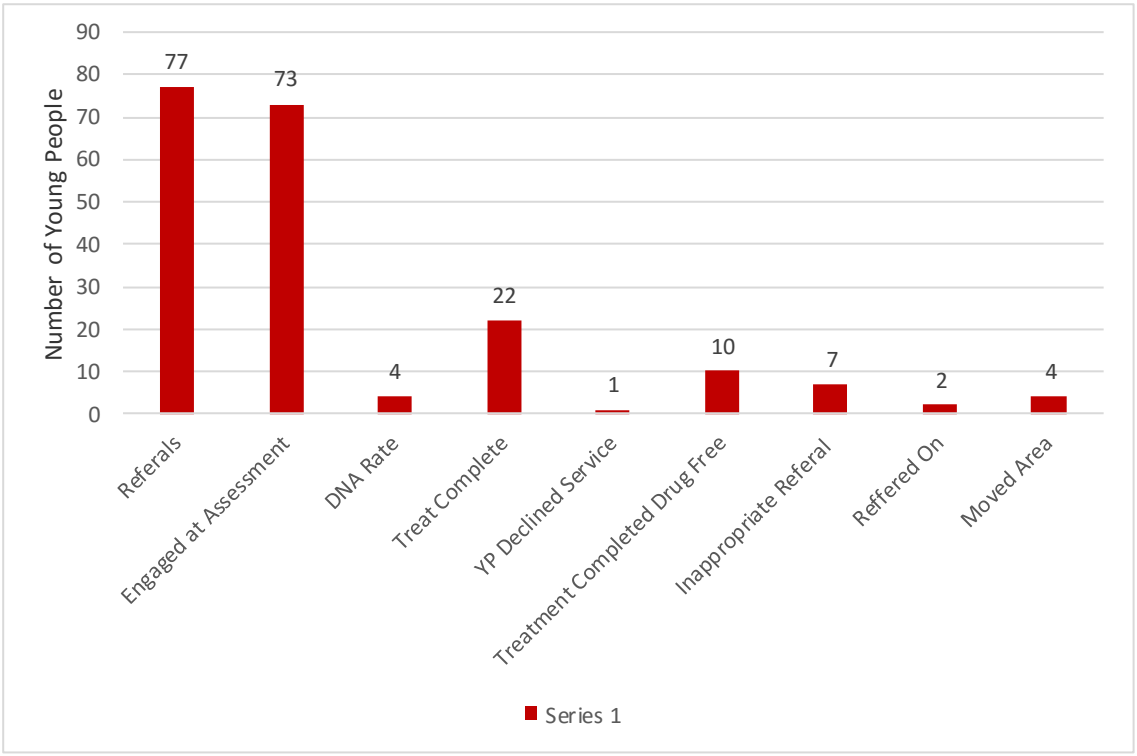
consistent caseload, with equitable entry and exit figures. These trends are not significant though, suggesting that there is a fairly consistent client flow through the treatment system in both counties. Reporting completions on a monthly basis rather than at the end of the quarter would not make a difference to the trend analysis though which shows a very consistent pattern of throughput.

Net / Gain analysis illustrates the throughput through the services but does not indicate the positive from negative case closures. Again, relatively small numbers of clients entering and exiting the service by quarter and by county would not be amenable to analysis. So case closures were examined for the entire reporting period by county rather than quarterly. Monmouthshire shows a high rate of positive case completion (see graph 9). Of the 43 young people leaving the service during the reporting period, 62 per cent completed treatment plus an additional 9.3 per cent completed drug free. This demonstrates that 71.3 per cent successfully completed treatment. In contrast, only 9.3 per cent of young people DNA'd in the service. A further 11.6 per cent represented inappropriate referral, 4.6 per cent were referred onto other services and 2.3 per cent moved area. There were no specific trends within this data across the reporting period.



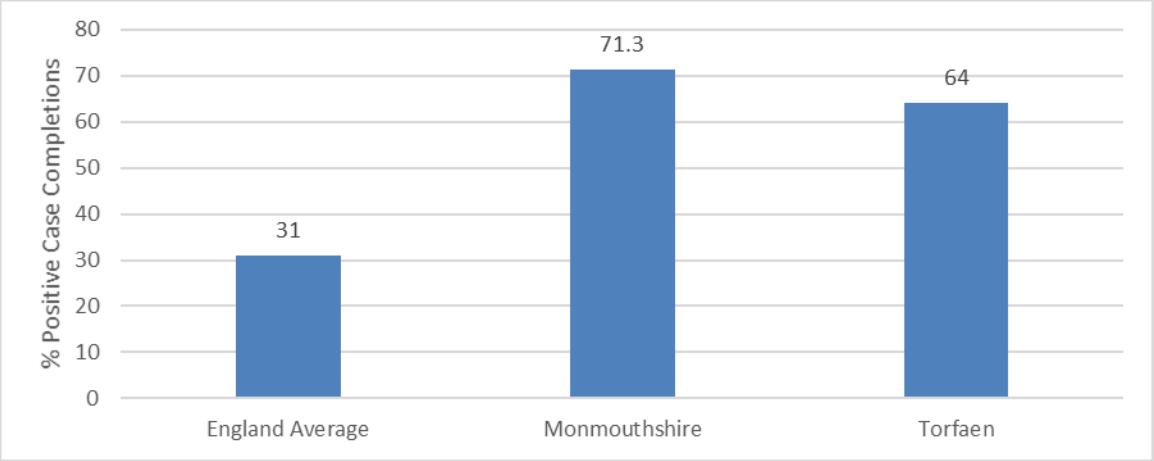
Graph 9: Monmouthshire Case Completions

In Torfaen, 50 young people completed treatment across the reporting period (see graph 10). Amongst these closures, 44 per cent completed treatment whilst a further 20 per cent completed treatment drug free. This demonstrates that 66 per cent of young people were successful in completing treatment during this period. In terms of negative case closures, 14 per cent of young people were inappropriately referred, 8 per cent of clients DNA'd. A further 8 per cent moved area and only 4 per cent were referred on to another service. Again there were no specific trends within this data.



Graph 10: Monmouthshire Case Completions

In comparison, 71.3 per cent of young people in Monmouthshire and 64 per cent of young people in Torfaen that exited the service had a positive completion. This compares favourably to the data in England compiled by the National Treatment Agency (2012), which compiles the national treatment figures for youth services in England. The NTA report that 77 per cent of young people in treatment services in England had a positive exit during 2011-2012. However, the English headline figure is misleading. The completion rates in England also count those young people referred onto other services as having completed. This is reported separately in the Monmouthshire and Torfaen data sets. To make direct comparison, the English average treatment figure must be adjusted to be equitable. The adjusted average in England between 2011-2012 is only 31 per cent. This means that the Choices service is operating at over double the successful treatment completions of England (see graph 11).



Graph 11: Comparison of the average per cent of positive treatment closures

This outperformance is interesting. Firstly, drug use profiles and complexities of need are similar in all three samples. This suggests that given a similar range of clients, the Choice service is performing at a very high standard. Secondly, treatment outcomes are regressed to the mean. This means that doubling outcomes is not a question of doubling efforts. Rather, this high level of performance is liable to be driven by a set of exponential treatment factors. This will include vital aspects of the treatment system, modalities and the alliance factors generated by the practitioners.

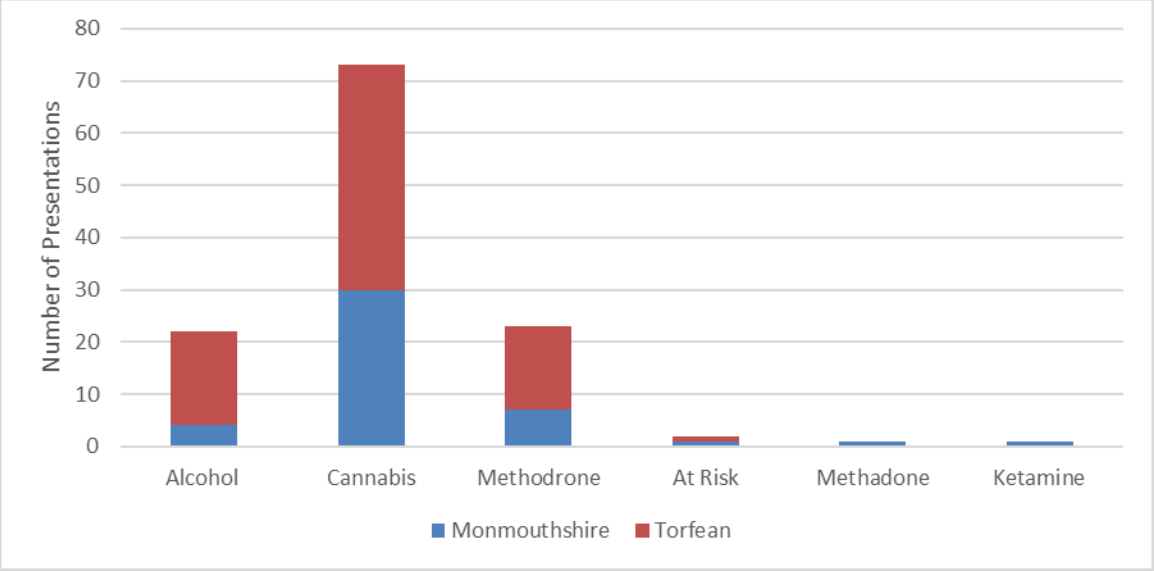
Secondly, these figures are interesting because young people's treatment outcome profiles have tended to be poor compared to adults. For example, the first large scale research study into young people's treatment outcomes was the Drug Abuse Treatment Outcome Study for Adolescents (DATOS-A) (Hser et al, 2001). This study was conducted in Pittsburgh, Minneapolis, Chicago and Portland and examined treatment outcomes of 1,167 young people in 23 community treatment settings, including 8 residential programmes. This study found that only 28 per cent of co-morbid youth completed the optimal 90 days of treatment. This figure is similar to the average England figure. The Choice's service is therefore demonstrating outstanding treatment completion rates in comparison to other large scale studies. Furthermore, research suggests that treatment outcomes are strongly linked to treatment completion. Therefore these high treatment completion rates should be substantiated by high rates of clinical outcomes.

DATOS-A also revealed that the highest dropout rates in community based youth services tended to occur in treatment programmes that determined abstinence as the goal of treatment. This aligns with wider research that suggests that young people are 10 times more likely to drop-out of services orientated to this goal. Abstinence is a treatment goal most apposite to longer terms problem users who have achieved a high range of physical dependence. As young people have not achieved this level of problematic consumption, 'treatment complete drug free' is a less relevant criteria to assess their treatment gains. For example, some studies

have shown that up to 50 per cent of young people continue substance use during their treatment. The high 'treatment complete' figures, with lower but significant 'treatment complete drug free' figures need to be understood against this context. 'Treatment drug free' whilst an important aspiration for young people in treatment may be a less relevant benchmark as it tends to be more appropriate to dependant adult users.

Substance Misuse Profiles

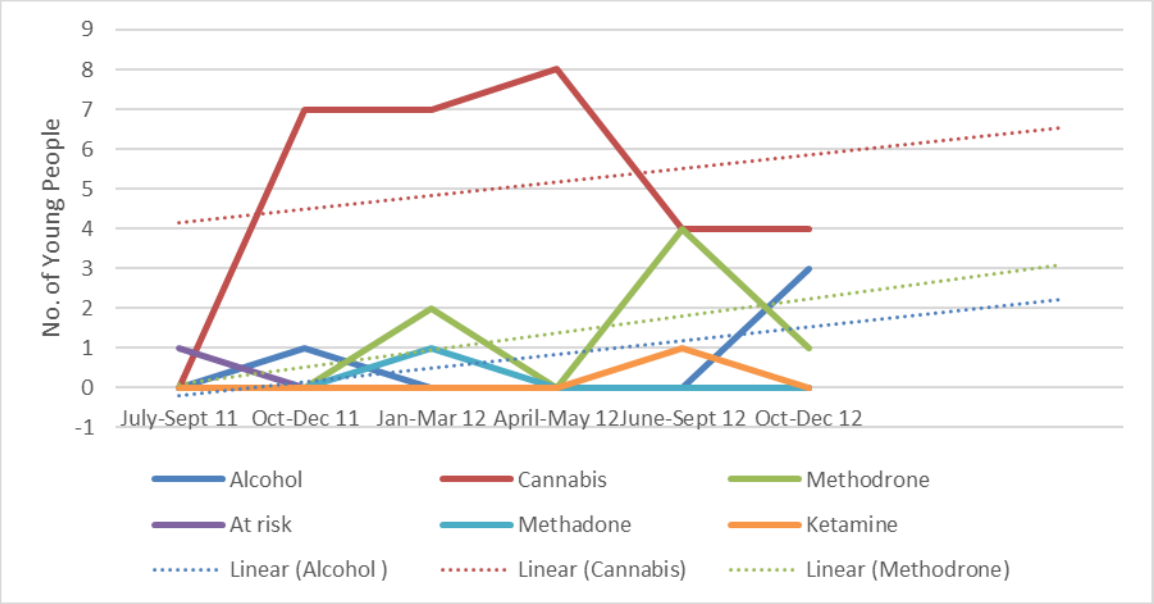
Young people's consumption patterns can serve as important indicators of drug and alcohol trends in a geographic location. This is because young people are often the early adopters of new substances or new routes of ingestion. Similarities and differences do emerge in both Monmouthshire and Torfaen (See graph 12). Similarities occur in terms of both counties experiencing a relatively limited range of substance use, largely being confined to cannabis, mephadrone and alcohol in order of frequency. Very occasional use occurred of other drugs, such as ketamine and one case of prescribed methadone. This suggests that both Torfaen and Monmouthshire youth display an expected gateway sequence of use, dominated by inexpensive and easily accessible substances with the exception of the prescribed methadone. This suggests overlap between substance using youth and adults seeking treatment where adult services are also experiencing higher rates of presentation of mephadrone and other internet stimulants. It also shows the evaporation of opiate use that is occurring as part of a national trend.



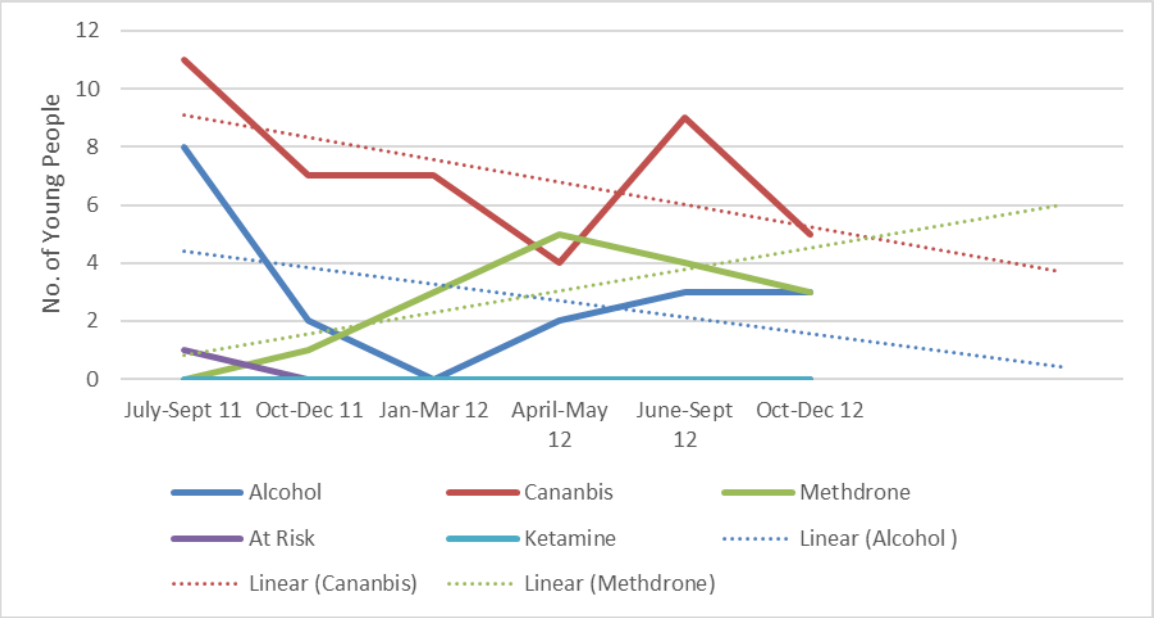
Graph 12: Drug Profiles by the Number of Presenting Cases

There are some differences in patterns of use in both counties. Linear trend line forecasts suggest that there will be increasing presentations for all primary drug use in Monmouthshire but within the context of the current rank order (see graph 13). In comparison, mephadrone is forecast as overtaking cannabis and alcohol use in Torfaen as the primary drug of abuse at presentation (see graph 14). Cannabis and

alcohol use are due to decline as the most problematic substance used by young people. Currently, there are higher rates of referral for problematic use in Torfaen characterised by increased mephadrone use. However, Monmouthshire displays use of a wider range of substances in a smaller treatment population.



Graph 13: Substance Profiles by Case and Linear Trend in Monmouthshire



Graph 14: Substance Profiles by Case and Linear Trend in Torfaen

Within the Quarterly Reports there is no data on age of first use or drug profile by age. These could be important baseline measures. A shift in average age of initiation may therefore help evaluate the effectiveness of prevention. From this, it may also be possible to calibrate long term health costs savings. Age of first use

may also assist the targeting of prevention interventions in the area. Effective prevention programmes should delay the age of first initiation of smoking tobacco which has a default effect of raising the age of initiation into other drugs. As a highly adaptive and flexible service, Choices might then be able to respond in a timely in and effective manner based on this emerging data pattern.

Consideration: Reports could include a breakdown of age of first smoking tobacco or age of first use any drug. May help evaluate the effects of prevention programs.

Psychosocial Interventions

In general the psycho-social interventions are not reported clearly. It is important to recognise that this is a less significant issue in light of the positive outcomes the agency is achieving. However, more accurate reporting of psycho-social services may assist commissioners to gain a clearer understanding of the treatment pathway through the service and how young people move through this structure. As such, data shortages here do not question the validity of the service at all, but would offer greater insight into how it works.

Data reporting on psycho-social intervention rates does not commence until the last quarter of the first year of operation and only offers a break down between less and more structured approaches. This translates into the brief intervention access point and the structured care planned responses that follow. However, this data is inconsistently reported in subsequent reports making analysis impossible as there are insufficient data points to analyse trends. Likewise, lists of modalities are described in the Quarterly Reports but it is difficult to detect throughput between these interventions with the data supplied. Language may also be an issue in the naming of these services. It can be difficult to discern the difference between a ‘brief intervention,’ a ‘less structured intervention’ and ‘motivational interviewing.’ All these interventions could be the same thing. Clear and consistent definitions may help understand movement through these pathways more clearly and offer greater scope to analyse what interventions young people are or are not responsive to.

Data reporting on psycho-social interventions needs to be harmonious with the sub-trajectory treatment pathways currently being operated. When considering youth interventions from this perspective, there are four central issues that need to be addressed through treatment interventions targeting young people.

-The management of substance use through the control or abstention from consumption (control drinking, relapse preventions etc).
-Pharmacological interventions for those experiencing physical withdrawal
-The management of specific sub-trajectory symptoms (such as depression, poor impulse control etc)

-The provision of life skills that address development delay and assist young people to manage effectively within the mainstream structures of everyday life.

It is clear from the service developments documented in the Reports that this spectrum of need is being addressed. However, the lack of detail makes it hard to assess who is engaging in these range of services. It is important to stress that this does not distract from the overwhelmingly positive outcomes for the service. Where it is liable to be in an issue is in the ability to refine interventions for those that have not responded in accordance with the otherwise high outcome range.

As the development of the sub-trajectory approach is unique, it would be enlightening to understand the number of young people entering these modalities from a sub-trajectory perspective. Therefore, the report should re-organise the modality data within the integrated pathway framework by sub-trajectory, accepting that young people may be engaged in more the one modality in either unstructured or structured interventions. This may offer a new modality table such as described in table 2. It would need to be configured in partnership with Choices in order to ensure each modality is included.

	Modality	Normative	Internalised	Externalised	Ext / Internalised
Unstructured Interventions	Advice & Information				
	Brief Intervention				
	Motivational Interviewing				
Structured interventions	Case Management				
	Structured Counselling				
	Behavioural Family Therapy				
	A-CRA				
	Relapse Prevention				
	Controlled Drinking				
	Parental Support				
Life Skills	Recreational Counselling				
	Life Skills Programme				
Pharmacology	Substitute Prescribing				
	Mental Health				

Table 2: Treatment Engagement by Modality / Sub –Trajectory

Consideration: Reporting on modalities needs to be reflective of the treatment pathways that young people are entering into in order assess take up and outcomes rates more finely.

Complexity Index Data

One of the unique innovations that feature in the Choices treatment system was the implementation of the clinical research that had identified the sub-trajectories of young people's drug and alcohol usage. The main tool for the identification of these subgroups was the Complexity Index-Revised. This tool had been piloted in a needs

analysis of young people prior to the award of the contract. Analysis of the sub-trajectories outcomes reveals interesting differences between the young people presenting for service. Raw data on the range of presenting complexity and scores was not reported in the Quarterly Reports. This data should be included in a section on Complexity Index, most suited to the Referral section of the Reports.

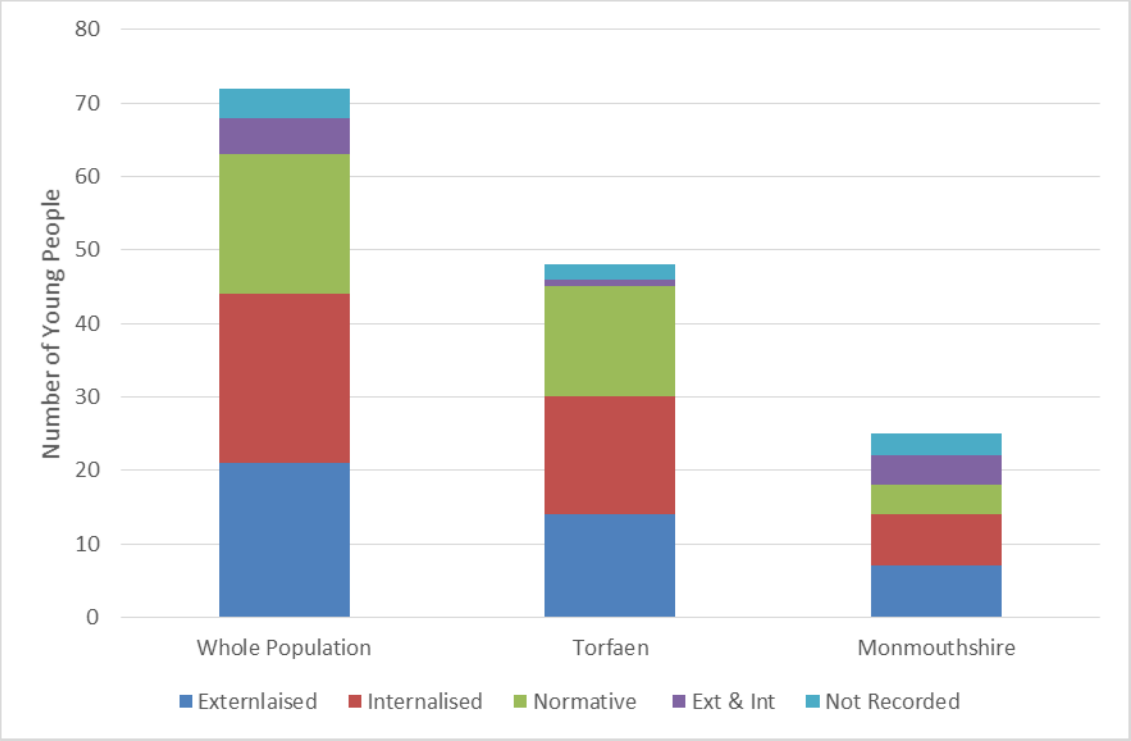
Consideration: Include the breakdown of sub-trajectory and their average scores of referred young people in Quarterly Reports

Data on complexity was therefore extracted from a PalBase data set of case closures that included, 25 young people in Monmouthshire compared to 47 young people in Torfaen. The service breakdown demonstrated a wide range of trajectories across the two counties. This wide coverage of the use Complexity Index -Revised demonstrates the Choices services were able to implement the tool effectively across both counties. Interestingly, no young people were reported as not meeting the Complexity Index criteria, supporting the validity of the tool in the identification of young people's needs. The breakdown of young people was:

21 externalised
23 internalised
19 Normative
5 Internalised and externalised
4 Non-completed (due to one being a concerned other, telephone contact, prevention case etc).

Analysis of the complexity scores reveals that twice as many young people presented with Externalized disorders in Torfaen (14) than in Monmouthshire (7), and also had greater numbers of Internalised (16) compared to Monmouthshire (7). Furthermore, 15 Normative users are reported in Torfaen compared to Monmouthshire's 4 (see graph 15). However, Monmouthshire did show far higher presentations of young people with concurrent Externalised / Internalised disorders with four young people meeting this criteria compared to 1 in Torfaen. These young people tend to be older adolescent with primary externalised behaviour. But as they mature across adolescence the impact of their behaviour on social integration often begins to elicit internalised symptoms such as depression.

These profiles are largely proportional in each county, though with higher numbers in Torfaen. This may be reflective of the divergent demographics of the two counties, with Torfaen's higher levels of social deprivation being reflected in high rates of presentation. It might also be reflective of Choices penetration of youth networks. In Torfaen they may have established themselves with a wider range of Statutory Services compared to Monmouthshire, where referrals may emanate from support services that are already in place for young people.



Graph 15: Number of Presenting Clients by Complexity Index-Revised

There were some differences in the age ranges of presentation. On average, the age of presentation of Externalised youth was 16.4 years old with the widest standard deviation of 1.74 years. This suggests that the majority of Externalised youth do not cluster close to the average suggesting a broad variation in presentation. This may be because their disruptive behaviours or background vulnerability factors brings them to the attention of professional services quickly or leads to exclusion which means that problems remain unaddressed for longer. Internalised youth presented on average at the age of 16.2 with a narrower standard deviation of 1.2 years. This narrower deviation may be reflective of a later onset in use compared to Externalised, but they also present to services at an early age. Whilst Normative users did present at the highest age range of 16.5, again, reflective of a later onset and showed a wide standard deviation of 1.59. This suggests that they may be more treatment inclined or that the more stable family backgrounds results in earlier detection of changes in their behaviour.

Those with concurrent Externalised / Internalised symptoms presented at the average age of 16.2 years old and their standard deviation was the lowest at .5 years. It is interesting that Externalised / Internalised youth present at the same average age range as the Internalised only youth in a highly consistent pattern of presentation. Whereas Externalised youth demonstrate poor impulse control and lack awareness of their behaviour, Internalised disorders such as depression and anxiety are psychologically more difficult to ignore. Increased rates of personal unhappiness may trigger treatment engagement rates in these young people despite the behavioural difficulties that they have faced.

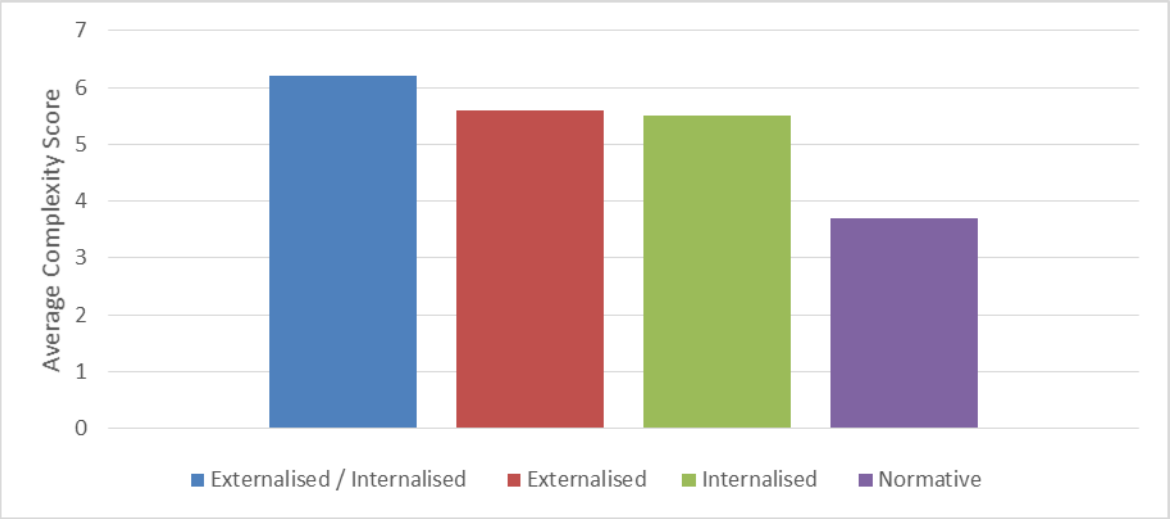
There are limits to the value of age of presentation within this data. The age at which young people present may be driven by a number of factors other than consumption. The evolution of substance misuse problems tends to develop in young people within a relatively predictable time frame for the majority of young people. Phase One is marked by increased tolerance, that tends to occur within the first two years of consumption. Alongside this is increased time invested in using the substance and using for longer than intended in any given using episode. Phase Two is characterised by increasing social consequences and attempts to quit. These symptoms tend to occur within two to four years. Phase Three is determined by the experience of withdrawal from drugs on cessation of use. However, this takes long term exposure and so can take up to seven years to achieve. Those who telescope quickly through these phases tend to have a late onset consumption pattern. Treatment entry can thus be shaped by two central drivers. External pressures, such as involvement with the law or family pressure may precipitate treatment entry in the second phase as well as emergent recognition in the young person that they need to quit or control their use.

At the same time, age of treatment entry can be a helpful marker of treatment success. Even though the differences in age of presentation appear slight from an adult perspective, these differences can be large from an adolescent perspective. For example, in the Hser et al (2007) study that conducted a 33 year follow study of opiate users. This study found that slight differences in the age of initiation led to profound long term outcomes. Opiate users who were unlikely to remit from opiate use had an average initiation age of 14 years old. Whilst those that remitted from opiate use in their twenties had an average age onset at 14.6.

This raises an important question regarding young people's treatment outcomes: does earlier treatment intervention affect the long term outcomes for young people? This question is difficult to answer. The age of treatment presentation may be reflective of the natural history of drug and alcohol problems. Young people may reach a sensitivity point where they become more responsive to treatment within 2-3 years of consumption in a determined pattern. However, the possibility of earlier interventions may assist young people in making positive lifestyle changes sooner with a greater impact on their long term life course trajectories. Therefore, attempts to reduce the average age of treatment engagement *could* offer an important milestone in the development of more effective treatment. This is an important caveat, because if treatment inclination occurs within the natural history of substance misuse problems, earlier intervention may not make any difference when the young person is not responsive at that moment. This issue would need further exploration and deeper consideration.

Levels of presenting complexity also differed amongst the various sub-groups in the outcome data (see graph 16). The highest Complexity Index scores were achieved by the Externalised \ Internalised who average 6.2 points on the scale with very little standard deviation at 0.7 points. This shows that these young people not only

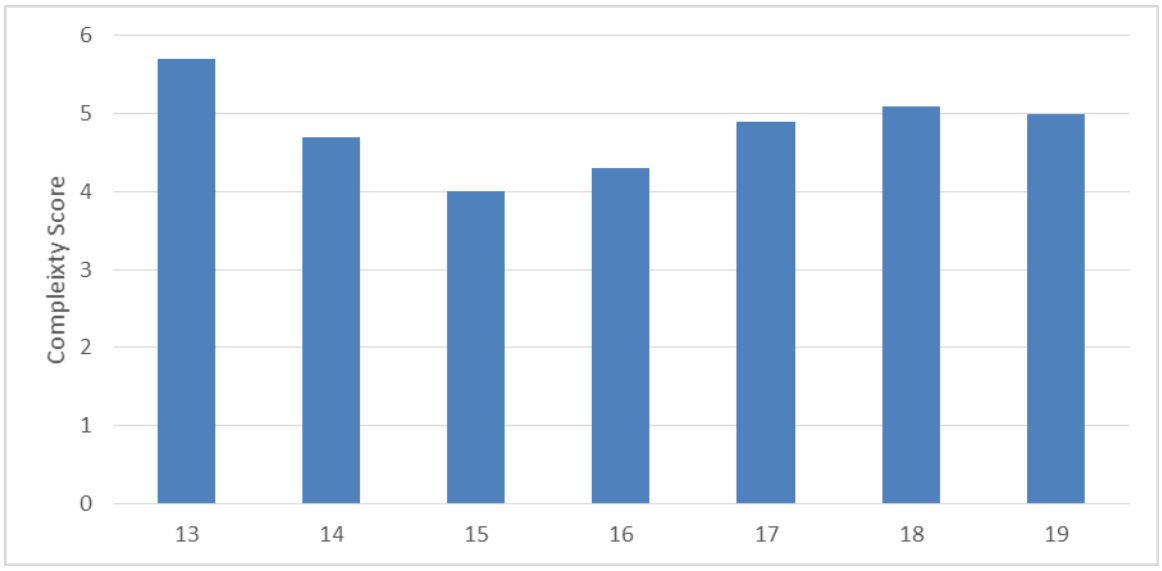
scored in the highest range but are also all clustered around this average in a highly consistent pattern. They were not only highest scoring but all the young people within this range were consistently high scoring. Externalised youth scored in a similar range to Internalised youth with an average score 5.6 and 5.5 respectively. Standard deviation was similar as well, with a variance of 1.5 and 1.3 points. These scores reflect a high average level of need presenting but with a much wider degree of variation. This may be reflective of the broader age ranges that these two groups exhibited at the point of treatment, with some young people being intercepted earlier in their use than others. As age of onset of use scores are not available this cannot be tested within this data set. It also confirms the idea that at presentation, Externalised and Internalised may appear similar in their needs, even though they are divergent in treatment response. Normative youth scored the lowest average Complexity Index score at 3.7 but showed the highest range of standard deviation at 1.7 points. Hence Normative youth presented with a lower range of need but within the context of wider variance in use. These scores feel within the expect hierarchy.



Graph 16: Comparison of Average Trajectory Scores

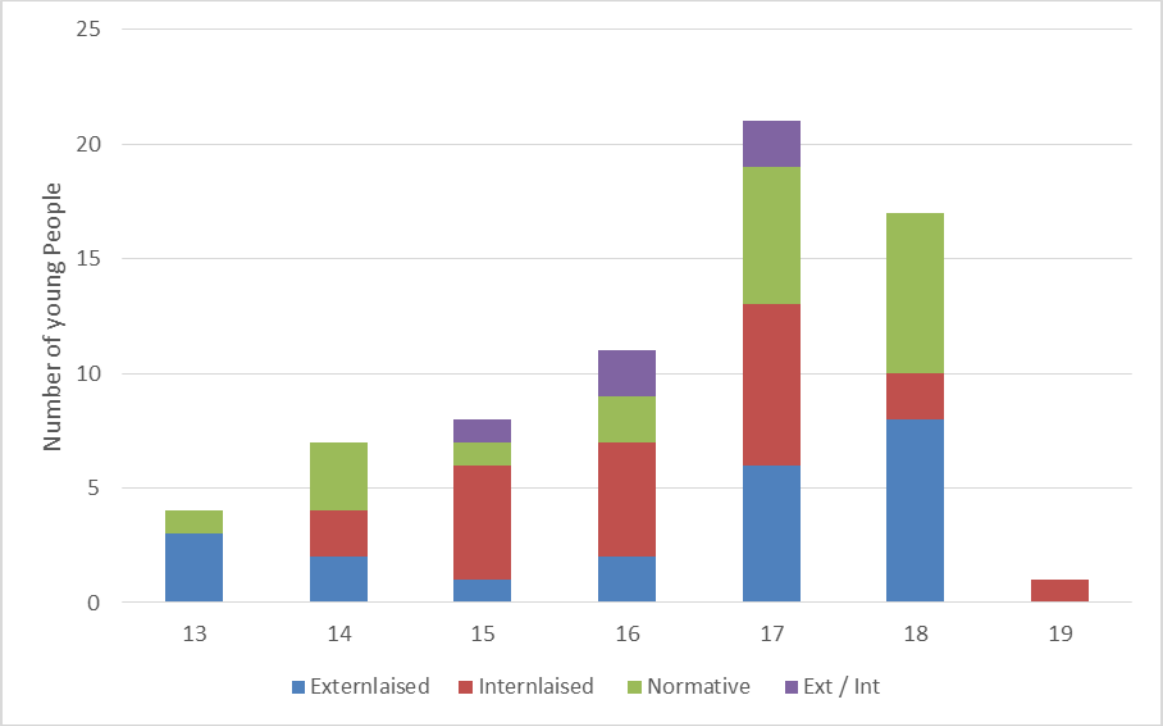
In general, these Complexity Scores were lower than in the previous data sample (Miller, 2010). In this previous sample, street agencies working with young people reported an average score of 8.375 on the Complexity Index whereas the NHS reported an average score of 7.6. There may be a number of reasons why these scores are lower. Firstly, previous Service Providers where working with much smaller cohorts of young people. High scorers in a small population can distort average means scores. Secondly, there may be a different pattern of use. In line with national trends there has been significant decreases in certain types of use such as heroin. Finally, Choices maybe more effective at intervening in the development of substance misuse problems at an early age with a wider range of non-chronic youth. Early interventions would also intercept use before escalating to higher levels of problems use and therefore would be characterised by lower complexity scores at outset.

The range of Complexity Index scores by age reveals an interesting 'U' shaped pattern. High scores occurred at the youngest and highest range (see graph 17). It would be expected that a young substance misusers needs would become more complex with time, thus the scores would increase with age. These higher scores at the lower end of the spectrum may be indicative of greater reach in the new service. For example, the new service would have commenced with a population of young people in transition around their drug and alcohol use. However this new service may have established better links with services in the younger age range, combined with better diagnostic screening of young people's needs. This means that they are working with a much younger cohort of emergent use in the 13-14 year olds, that may not have presented for services until much later under the old treatment regime. Within the framework of this data set it is difficult to establish whether this is a trend but this would serve as a useful indicator of the increased effectiveness of the new service in detecting and intervening sooner.



Graph 17: Average Complexity Index Score by Age

Variations in presentations occurred by age in terms of trajectory. As expected, high scoring Externalised youth dominate the youngest age ranges. This is followed by a dramatic increase in Internalised use post 14. Then increases in Normative use post-16. These sequences occurs in exactly the expected direction. Likewise Internalised / Externalised youth begin to appear post-puberty. The only outlier against the expected trend is a relatively low scoring (4) 13 year old normative user (see graph 18).



Graph 18: Sub-Trajectories by Age.

In general, the Complexity Index-Revised was successful in identifying divergent levels of need between the sub-trajectories. It also identified trends across the life course in the exact hierarchy of progression. The area with the narrowest distinction between scores were between the External and Internal youth whose average complexity scores and standard deviation were similar. For a very brief tool, this degree of proximity may not be an issue. However, it may useful to follow this up with workers to reflect on their subjective experiences in working with these two different trajectories and whether they feel that these two groups represent significant differences in case work. Examination of the amount of treatment time utilised by each sub-trajectory may also substantiate the core assumption behind this treatment model. Refinement to the Complexity Index questions may assist in developing scores which feel more reflective of complexity. These distinctions may also be further validated through the difference in outcome as derived from the Reliability Change Indication.

Outcomes

The importance of outcomes is very central in commissioning services in the light of current policy changes. This is changing organisational output measures as set through Key Performance Indicators towards client outcomes in terms of the agencies effectiveness at facilitating enduring lifestyle change. In assessing clinical outcomes it is important to understand that outcomes occur on a spectrum. When an individual enters into treatment there are only four possible clinical outcomes that can be achieved. These outcomes are:

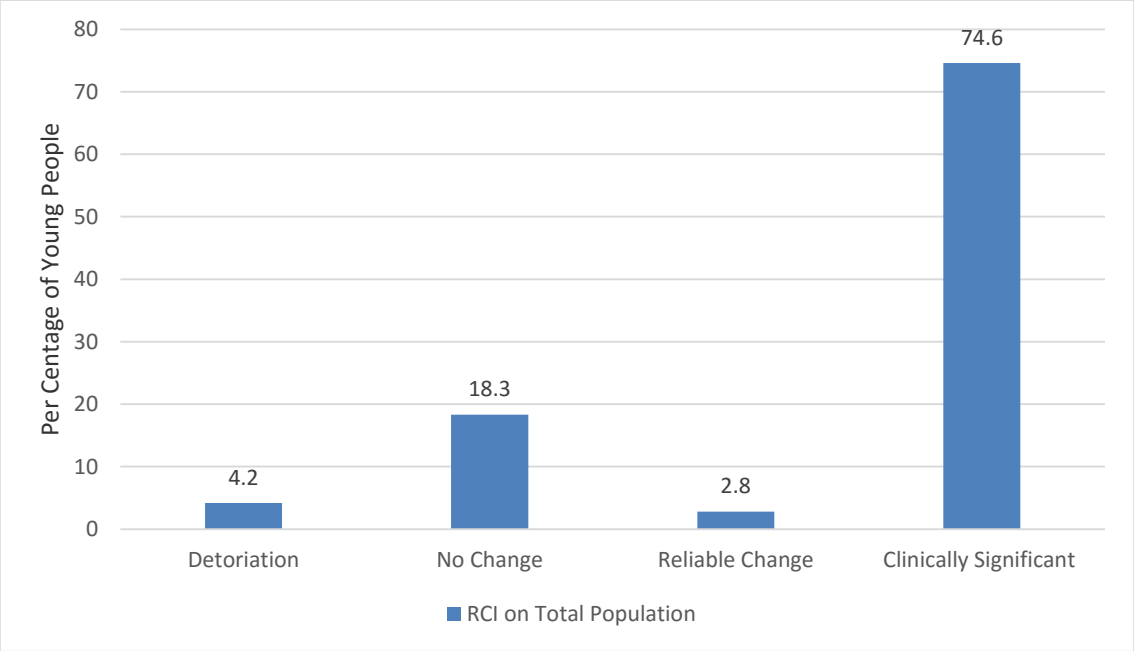
Deterioration: The client can worsen as treatment progresses
Null Hypothesis: The client can experience no greater change than might have occurred through random chance.
Reliable Change: The client show improvement that can be attributed to the treatment that they have received
Clinically Significant Change: The client's social function is akin to those who do not require treatment

These four outcomes can be calculated simply by a Reliability Change Indication. The Reliability Change Indication is a mathematical framework that assesses the significance of change that has occurred based on the initial and last clinical score given by the client.

The Choices service routinely conducts Reliability Change Indications within their Quarterly Reports and this should be applauded. Very few Service Providers are as diligent in the processing of this information. However, there are two confounding variables in their data. Firstly, Quarterly Reports present the Reliability Change Indications on the whole treatment population rather than on the sub-trajectories. As these populations can show divergent outcomes it is important to separate these populations out.

Consideration: RCI calculations should be conducted on sub-trajectories and not whole populations

Within the limitations of the paper calculation, initial and final scores were extracted from PalBase and recalculated by sub-trajectory on 71 young people (see graph 19). The Reliability Change Indication shows a clear pattern of improvement across the whole treatment population.



Graph 19: Reliability Change Indication on Whole Treatment Population (n=71)

A further 19 per cent of clients showed signs of No Change. This score may be artificially high however as 11 clients had the same entry and exit scores which accounts for 15 per cent of the overall sample. This issue may arise from PalBase double entering the first score as the last score for clients who only attended one session. If this is the case, then clients attending one session should not have their score included in PalBase.

Only 2.8 per cent of clients experienced Reliable Change, that is to say that they improved and this was accountable to the treatment they had received. In contrast to this 74 per cent of young people achieved clinically significant change. This is to say that the young people exited the service scoring in the same range as young people who were not seeking professional help. This is the highest range of treatment outcome. Choices are achieving a very high rate of outcome with a very difficult client group.

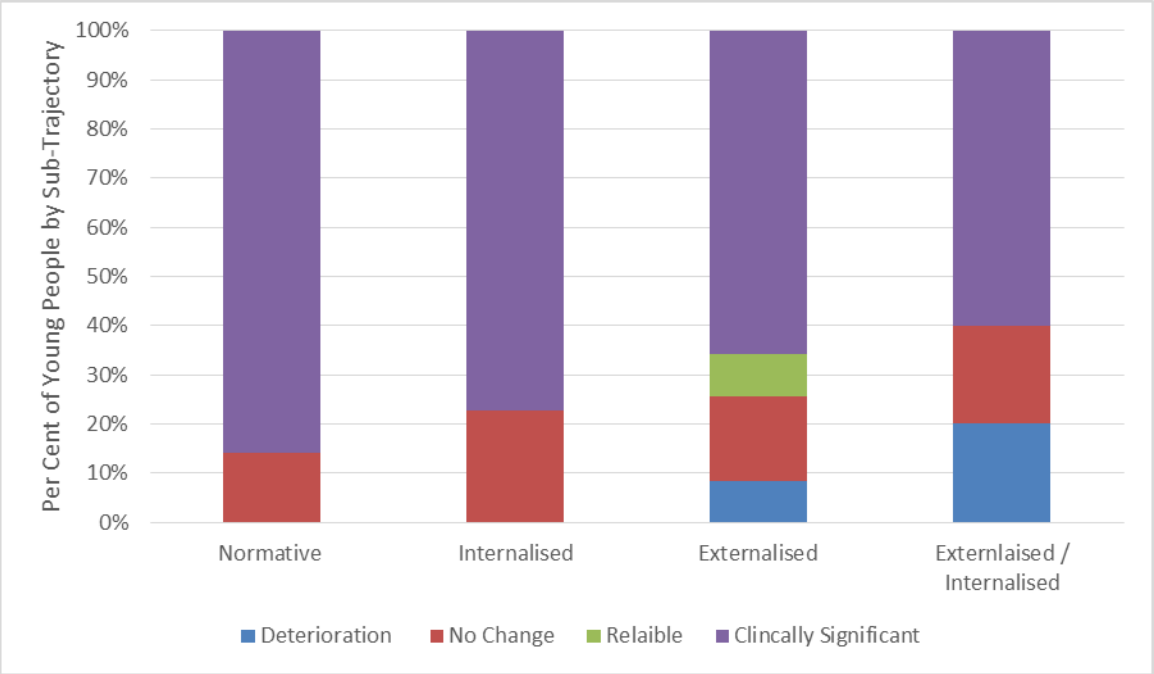
In this sample, 4.2 per cent of young people worsened during treatment. This needs to be understood in a wider treatment outcome perspective. Lambert & Ogles (2004) noted in their comprehensive review of treatment outcomes that there was a 'relatively consistent portion of individuals (5-10%) deteriorate whilst participating in treatment.' (p158). This does not occur as a result of negligent practice but seems to occur *despite* the practitioners best efforts. It appears to be a clinical reality that a small number of clients simply do not respond to talking cures. The Choices service is operating at the lowest end of this clinical reality, with only 4.2 per cent of clients experiencing this outcome. This finding also supports the validity of the Reliability Change Indication in capturing data that is reflective of overall clinical outcome gains.

Within this it is important to recognise that treatment response rates do vary amongst sub-trajectories of young people. The sub-trajectory model suggested that high rates of outcomes for late onset Normative youth can mask poor treatment response rates for early onset Externalised youth. As the treatment outcomes were linked to sub-trajectory, it has allowed for deeper analysis of the service outcomes by trajectory (see table 3).

	Normative	Internalised	Externalised	Externalised / Internalised	Total
Deterioration	0	0	2	1	3
No Change	3	5	4	1	13
Reliable Change	0	0	2	0	2
Clinically Significant Change	18	17	15	3	53

Table 3: RCI by Sub-Populations

Reviewing the sub-populations reveals an expected pattern of outcome. 85.7 per cent of Normative users achieved Clinically Significant outcomes. This highest rate of outcome then declines by trajectory to 77.2 per cent in the Internalised, 65.2 per cent in Externalised youth and 60 per cent in the Externalised / Internalised youth. This hierarchy of outcome was as predicted by the sub-trajectory model. Furthermore, Normative youth were also the least likely to experience No Change (14 per cent) and none of them worsened in treatment. No Internalised youth worsened, but they did experienced the highest rate of No Change at 22.7 per cent. Symptoms of Externalised disorders had the greatest impact on lowering overall treatment outcomes. This population was the only sub-group to experience the lower rate of positive change with 8.6 per cent achieving Reliable Change. In this sample 17 per cent and 20 per cent of the Externalised and Externalised / Internalised groups experience no change respectively. However, 8.3 per cent of Externalised groups deteriorated in contrast to the Externalised / Internalised group where 20 per cent of this small population did (see graph 20.)

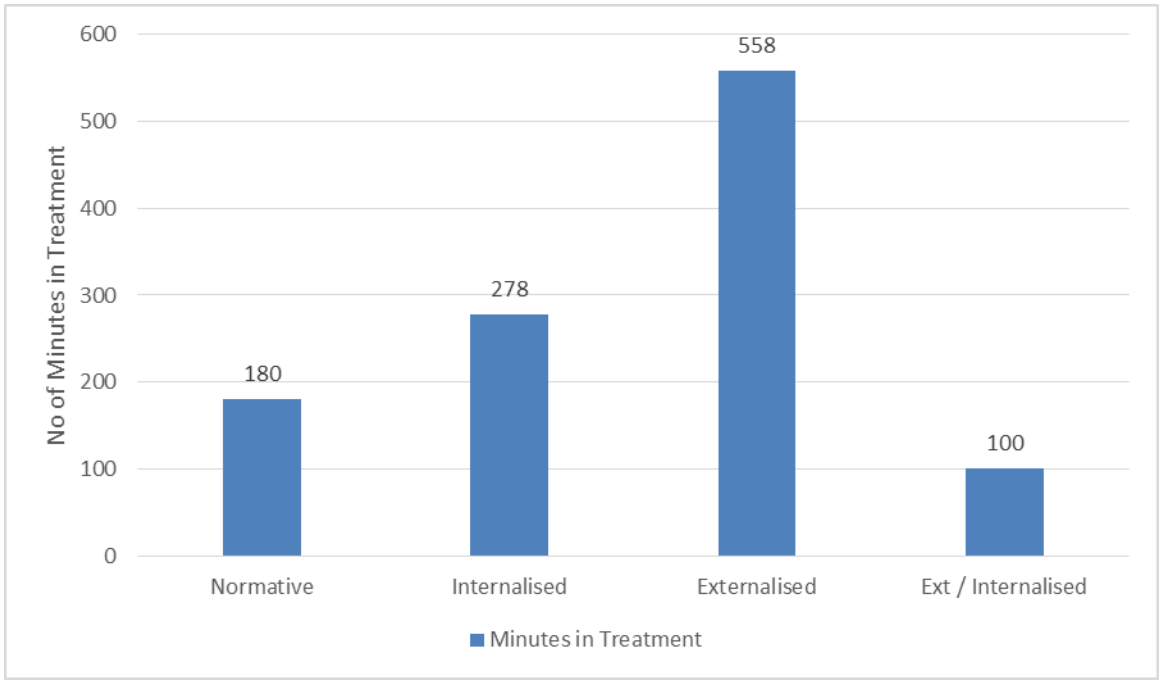


Graph 20: Per Cent of Treatment Responses by Sub-Trajectory

This data supports the value of sub-trajectory analysis in separating divergent treatment responses amongst young people. High gains occurred in the least chronic treated youth that has the statistical potential to 'mask' lower gains achieved by the most chronic youth. This supports the assumption that reporting by sub-trajectory is an important element of service review. This was tested by reviewing treatment outcomes by age rather than trajectory. Assessing clinical outcomes by age may clutter these findings with too much data. Instead, to check whether age is related to treatment outcome, a correlation covariance was conducted on the ages of the young people in service with differential treatment outcome scores. This yielded a very low correlation of -0.12. This suggests that there were no real differences in

treatment gains by age, with older youths experiencing marginally lower gains than younger youths. This might be accounted for with poor treatment response rates of the Internalised \ Externalised youth who tended to be in the older age cohort. Trajectory measures seem much stronger predictors of outcomes than age. It does suggest that the Choices service is able to provide effective interventions across the age spectrum.

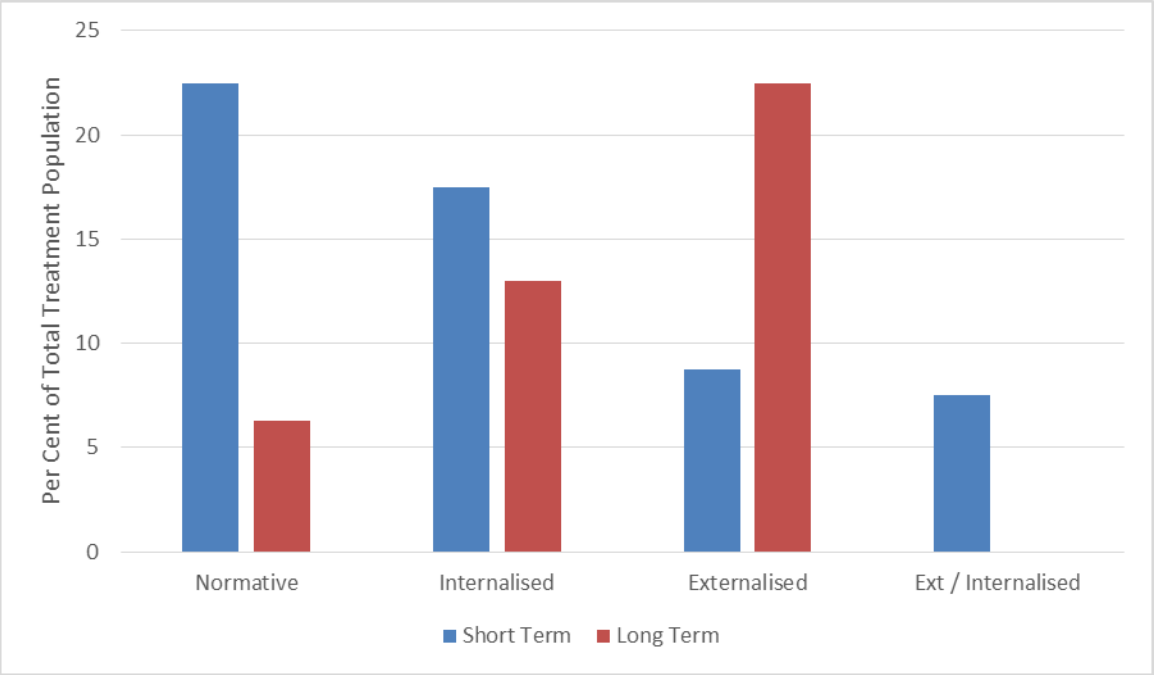
The Complexity Index-Revised operated on the assumption that greater complexity of presenting would incur more treatment resources. A second data set was extracted from Palbase using a strict criteria. These data sets had to identify young people by trajectory, completed outcome scores and also have all treatment contacts recorded. This yielded a sample of 55 young people. Sub-analysis of the excluded cases showed that they did not differ statistically from the included cases. In this sample, treatment length was directly proportional to trajectory in terms of minutes in treatment (see graph 21). So not only did Normative youth make the greatest gains as a whole population, they did this in the shortest time period. Treatment length increased with complexity with the exception of the Externalised \ Internalised group. This small population had the lowest treatment time and the poorest outcomes. This strongly suggests that brief interventions are not indicated for these young people.



Graph 21: Sub-Trajectory Time in Treatment by Minutes

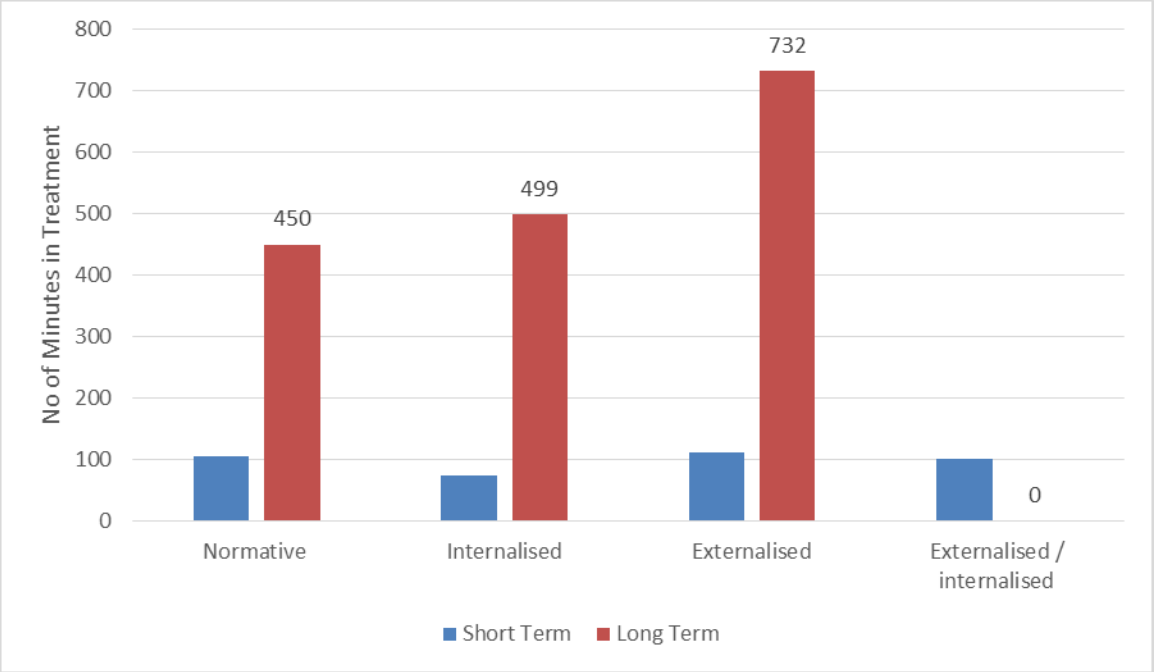
These patterns were repeated when a deeper analysis was conducted. As there was incomplete modality data, this second wave of data was re-calculated. As brief interventions occurred within three hours of treatment, youth in treatment below this period of time were separated for those who were in treatment beyond this period of time. In general, involvement in long term treatment increased by trajectory. Little differences were found in short term treatment length, as this is always capped at

180 minutes. Major differences did appear in the long term treatment (see graph 22). Normative youth were far more likely to engage in the brief interventions, but the rate of take up to longer treatment increased by trajectory.



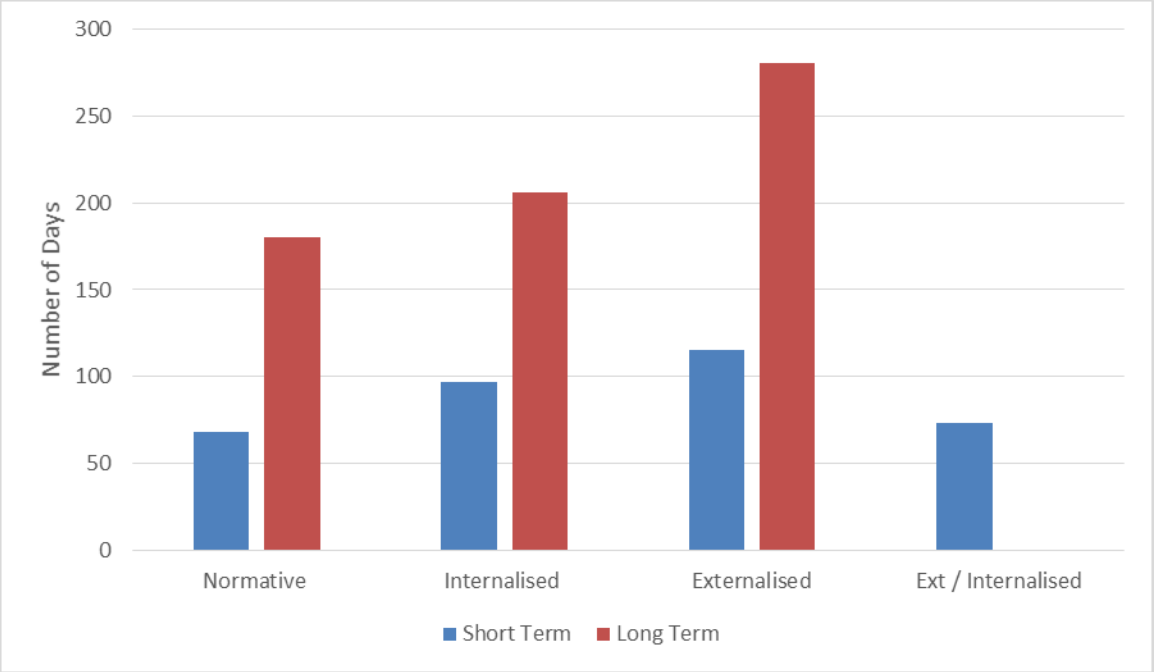
Graph 22: Percentage of Young People in Brief and Long Term Treatment by Trajectory

Not only did the sub-trajectory predict the type of modalities that young people engaged in it, they also demonstrated differences in time within each treatment. Normative youth remained in longer term treatment for 450 minutes, Internalised for 499 minutes and Externalised youth for 732 minutes. So, even in the long term treatment option, Normative youth treatment was 40 per cent shorter than Externalised (see graph 23).



Graph 23: Minutes in Treatment by Sub-Trajectory

The number of days in treatment is a proxy measure at best as it does not necessarily relate directly to actual treatment time. However, as days in treatment are reported in the NTA data set from 2011-2012, this allows for direct comparison between the two Welsh counties and the average for England. In England, the average length of treatment stay was 154 days. Opiate users remained in treatment for 193 days and the shortest time in treatment by substance was Ecstasy users who stayed in treatment for 136 day. In comparison the mean average treatment length in the Choices services was 145.7 days. This is directly comparable to the national English average coming in at under 5 per cent the English average. The English data is sub-divided by substance. However analysis by sub-trajectory shows a more stable pattern of treatment involvement with treatment days being directly proportional to trajectory. The same heirarchy of progression is still present in Torfean and Monmouthshire when calcualted by days in treatment (See graph 24).



Graph 24: Average Number of Days in Treatment by Sub-Trajectory

So, not only does the Choices service outperform the English average with over twice the treatment completion rate, it does so in less treatment time. Furthermore, the quality of the treatment outcomes for Torfaen and Monmouthshire can be clinically validated in a way that England's data is not. These very high levels of clinical gain are supported by the very high treatment completion rates which research has shown, demonstrate a very strong relationship.

Analysis of Outcomes

These findings raise the opportunity for further analysis of the young people that did not respond to change. It is statistically unlikely that the overall rate of deterioration could be reduced any further as the Service is already operating at the very lowest end of this measure. The poorer range of treatment outcomes for Externalised / Internalised youth strongly suggests that brief interventions are not indicated for this group. However, this data might suggest that closer examination is made on the neutral treatment cases that occurred within these sub-group to identify any common clinical features in these cases. This might highlight gaps in the current range of treatment. However, it must be stressed that these outcomes are very high and so the degrees of improvement are marginal.

A number of clients did not appear to respond to treatment or failed to achieve the same high rates of change as Normative youth. Whilst Internalised youth were more liable to experience no treatment gains (if this is not an artefact of data recording). Cross referencing trajectory, treatment modality and clinical outcomes highlights who these young people were. Furthermore, it also offers insight into a deep pattern that appeared to predict treatment outcome as described in table 4.

	Average Complexity Score (STD.P)	Average Time in Treatment	Average Days in Treatment	% of Cohort	Reliability Change Indication			
					Deterioration	No Change	Reliable Change	Significant Change
Normative Short Term (n=18)	3.5 (1.5)	105	68	22.5	-	2	0	16
Normative Long Term (n=5)	4.6 (1.6)	450	180	6.25	-	-	-	5
Internalised Short Term (14)	5.4 (1.5)	73	97	17.5	1	5	-	8
Internalised long Term (n=13)	6.4 (1.2)	499	206	13	-	1	1	10
Externalised Short Term (n=7)	4.4 (1.4)	111	115	8.75	-	2	1	4
Externalised long Term (n=18)	6.2 (5)	732	281	22.5	1	1	1	15
E / I Short term (n=6)	6.5 (0.9)	100	73	7.5	-	1	2	3

Table 4: Summary Table of Key Data

Normative users were more likely to engage in short term treatment and experience substantial benefit from this with 87 per cent achieving clinically significant outcomes. These young people were characterised by low complexity scores and high social functioning. In contrast, Normative entering into long term treatment had higher Complexity Scores and lower social functioning. Despite this, they all experienced clinically significant change on treatment completion.

A more complex pattern emerges with the Internalised youth. Internalised youth in the brief option scored an average of 5.4 on the Complexity Index compared to the long term youth who averaged 6.4. Likewise the brief group had higher social functioning. Despite these differences in need, a smaller population of Internalised youth were more likely to choose brief interventions than longer term options. Internalised youth in brief interventions were the most likely group to experience 'No Change' in treatment. This suggests that the treatment length may not have been sufficiently long enough, especially when considering that significant mental illness can slow the rate of early treatment responsiveness.

Within this population of internalised non-responders, there was little difference in the Complexity Index scores compared to treatment responders (5.6 compared to 5.4). However, non-responders did score much lower on social functioning at intake than responders (23.1 compared to 27). So whilst the Complexity Score was a good indicator of type of treatment, the social functioning was a better indicator of intensity of treatment. This is important as 83.3 per cent of Internalised youth in long term treatment experienced clinically significant change compared to only 61 per cent in the short term treatment. This suggests that young people with lower social functioning should be directed to longer term treatment options.

In terms of Deterioration, there was no significant pattern. As deterioration rates fell at 4.2 per cent of the whole sample, there is very little scope to reduce this figure, given that 5-10 per cent of clients deteriorate in any given treatment population. It is an exceptionally low rate of non-responsiveness. The area where limited improvement could be made is through the equalising in positive outcomes across the trajectories. Externalised youth present a complex challenge to youth services and their probability of remission appears much lower than any other treatment group. It raises an issue regarding whether this population is inherently less treatable than other youth groups. For example, the impulse control they exhibit may be a personality trait rather than a learned behaviour making it less amenable to conscious change. Greater analysis of modality versus treatment outcomes may highlight where responsiveness occurs and how to maximise these clinical factors further. This emphasises the importance of modality data reported by sub-trajectory. This will make the analysis of modalities effect on trajectory clearer to assist in the development of these services to enhance outcomes.

One central clinical finding in the wider research base is that high severity Externalised youth often show similar outcomes as other young people but these outcomes were vulnerable to collapse at the 12 month mark. The Reports do not make mention of systematic follow-up of this population but this could be a key inclusion to sustain gains for these young people. Adjunct follow-up models have been developed in conjunction with the A-CRA model. These may offer a structured intervention at follow up to assist in these long term gains.

Consideration: Choices do not include follow interventions in their data but an assertive follow up programme may be important for the Externalized youth long term treatment gains to stabilize.

Conclusion

The Choices service implemented a highly innovative treatment model that attempted to advance a developmentally informed treatment system. The service was effective in its implementation and has achieved remarkable levels of attainment through its application. Not only has the service been successful at integrating into a wider youth service landscape but it has also increased its referral rates. It demonstrates huge success in translating referrals into treatment engagement with a client cohort who are typically resistant. Whilst the integrated pathway is not always presented clearly within the Reports, the outputs of the service are exceptional. Positive treatment rates are twice the average for similar services in England and are achieved within comparable time frames.

The central sub-trajectory hypothesis of the treatment system appears validated by the data outcomes over the last two year period. The complexity of young people's needs was highly predictive of treatment type and the demand for treatment resources. High retention rates suggest that it was also highly effective in streaming young people into services that felt relevant to their needs. An interesting

relationship between complexity of need and social functioning offers a tantalising prospect of the development of clinical cut off scores that may enhance treatment outcomes further. The concern that high response rates in Normative users might mask poor treatment outcomes for Externalised youth was also upheld with clear differences in outcome by sub-trajectory.

In their fidelity to the model and commitment to young people, Choices have produced a remarkable range of positive treatment outcomes. The further development of their data submission also advances the possibility of further refinements to the service to ensure equity in outcomes for all young people, regardless of their presenting need. As such, the service should be in receipt of wider recognition and should be encouraged to disseminate its approaches and experience to wider services.

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Summary of Recommendations

Consideration	Notes	Action
1. Action research with young people who self-present regarding their motivation to do so and any fears or blocks that may have impeded it.		
2. Assess Social Service referrals and promote the service to statutory agencies in Monmouthshire.		
3. Assess Youth Service referrals and promote the service and referrals		
4. Choices piloted innovation in assessment. This is beyond the scope of this report, but further investigations should be made regarding the impact of this novel approach to assessing young people.		
5. Reports could include a breakdown of age of first smoking tobacco or age of first use any drug. May help evaluate the effects of prevention programs.		
6. Reporting on modalities needs to be reflective of the treatment pathways that young people are entering into in order assess take up and outcomes rates		

more finely.		
7. Include the breakdown of sub-trajectory and their average scores of referred young people in Quarterly Reports		
8. RCI calculations should be conducted on sub-trajectories and not whole populations		
9. Choices should consider whether to adopt the MyOutcomes software to offer greater insight into client response rates than produced through the paper calculations.		
10. Choices do not include follow interventions in their data but an assertive follow up programme may be important for the Externalized youth long term treatment gains to stabilize.		