HM Prison & Probation Service

National Evaluation of the Male Offender Personality Disorder Pathway Programme

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A project conducted in partnership by University of Bristol, Kings College London, Middlesex University, University of East Anglia & Imperial College London

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1. Summary

1.1 Background

The Offender Personality Disorder (OPD) Pathway programme is a jointly commissioned initiative between NHS England and Improvement and HM Prison & Probation Service aimed at supporting and managing offenders with complex mental health needs. The aim is to provide a network of psychologically informed services for high-risk high-harm offenders guided by detailed case formulation.

The aim of this evaluation was to identify how the Pathway was being experienced by offenders within Pathway services and the staff involved in managing them since its implementation, to statistically compare outcomes between individuals referred to OPD services and those not referred, and to identify whether there was evidence of cost-effectiveness of the Pathway and how different elements of the Pathway contribute to cost-effectiveness. It should be noted that the aim of this evaluation was to look at the OPD Pathway as a whole, and was not to identify the contribution of the various OPD Pathway interventions.

1.2 Methods

A mixed-methods research programme was conducted consisting of three components: first, qualitative interviews with staff and offenders, to explore their understanding and experiences of the Pathway. Second, a quantitative evaluation was conducted to provide more insight into potential effects of aspects of the Pathway on recorded risk, adjudications, self-harm, recalls and proven reoffending. A linked dataset was created for these analyses and two groups established:

- 'Comparator' group: who were screened into the OPD Pathway and had either no record of other OPD services or had received a basic case formulation.
- 'Treatment' group: individuals who had received more complex formulations only (levels 2 and 3) or had been referred to an OPD intervention service.

Outcomes between groups were compared using a statistical technique called Propensity Score Matching (PSM) to reduce bias in assessment of effectiveness due to confounding variables. Subgroup analyses were also conducted, splitting the treatment group between formulations and intervention referrals. Third, an economic evaluation of the cost-effectiveness of the Pathway was conducted using decision modelling.

A number of important limitations were present in this evaluation, particularly with regard to the quantitative evaluation. In a programme that aims to address complex mental health needs, mental health was not a variable that was able to be matched. As such, this and other residual confounding variables may have obscured key group differences and may have violated key statistical assumptions of the PSM groups. The analysis was not able to compare individuals who had received treatment in relation to those who had not, and was instead only able to compare those who had been referred to services, irrespective of participation. Identifying a comparator group proved challenging, and, via the use of routinely collected data, large amounts of missing data were present with only limited follow-up periods available, suggesting follow-up periods were not long enough to observe an effect. Given the limitations to the quantitative analysis, these findings must be viewed as indicative and treated with caution.

1.3 Findings

Qualitative analysis from offenders and staff interviewed reported that establishing trust and collaborative work was key to the work of the programme. Offenders felt their risk had reduced, psychological health had improved and that they felt safer. Staff spoke highly of the training and supervision provided. Most staff thought that the Pathway had led to improvements in risk assessment and management.

The quantitative PSM analyses did not detect a statistically significant effect between treatment and comparator groups. In sub-group analysis, significantly fewer adjudications occurred in those receiving OPD intervention services. Costs were similar across all groups in relation to criminal justice outcomes. The comparator group was more costly than the treatment group and case formulation alone. OPD Pathway intervention service costs are substantially higher than mainstream criminal justice services: these services are for individuals with the most complex mental health needs and include residential interventions and formal therapy options. There are potential cost savings from case formulation.

1.4 Discussion and Conclusions

The OPD Pathway Programme has created new services and treatment options for a large population of offenders. The qualitative data from this study suggests the OPD programme is having positive effects on both offenders and staff. This, and the result of the economic evaluation suggest that the use of case formulation may be a particular strength. Although a beneficial effect on proven offending behaviour was not observed statistically, this may not be indicative of Programme failure and it is too soon to definitively conclude whether the

OPD Pathway is achieving its intended outcomes. It is important to note that, given the limitations to the quantitative evaluation, findings should be regarded as indicative and treated with caution. Furthermore, fully demonstrating the value of the OPD Pathway Programme will require data harmonisation across services and much longer periods of follow-up.

Building trust, instilling hope, case formulation and workforce development will be key to the future success of the Pathway. Establishing trust and working in collaboration was seen as a major part of the therapeutic work by offenders and staff alike. This is borne out by other research about the Pathway and it seems likely that trust is a key mechanism underpinning therapeutic gains that can be made by offenders when they are being managed by Pathway services.

2. Introduction

Across the prison estate, rates of behavioural disturbance (e.g. self-harm and assaults on staff) remain high and in recent years have been substantially increasing (Ministry of Justice, 2020). Within the Criminal Justice System, offenders with 'personality disorder'[1] can be among the most challenging groups of individuals to manage. Those with the most severe personality pathology are at increased risk of serious and violent offending, yet are one of the most difficult to engage groups (Sampson, McCubbin & Tyrer, 2006). Until recently, these individuals were labelled as 'untreatable' as many apparently failed to improve following treatment. Personality disorder is particularly challenging to treat, principally due to the fact that the underlying psychopathology causes disturbance in regulating healthy relationships, including those between the individual and their treating team. As a result, historically, these individuals have often been excluded from traditional mental health services (National Institute for Mental Health in England, 2003). More recently, there has been a significant shift in this perception and while the evidence base lags behind that of other common mental disorders such as depression and anxiety, and treatment options are costly, a consensus has emerged in relation to the common underlying features of successful treatment. Instead of focusing on specific treatment types, it is suggested that an integrated, structured, relational approach from a multi-disciplinary team, that incorporates the holistic needs of the individual and, where the main interventions are psychological and social in nature, is key to positive outcomes (Bateman, Gunderson & Mulder, 2015; Bateman & Tyrer, 2004; Evershed, 2011).

Over the past 20 years, policy makers have been increasing their focus of concern on this group of offenders. In 2001, this culminated in the Dangerous and Severe Personality Disorder (DSPD) Programme, which included provision of intensive treatment interventions in two high security prisons and two high secure hospital units (and in one prison for women) for individuals with a 'severe personality disorder', usually determined by the person satisfying more than one formal diagnosis, and / or having significant psychopathic traits as defined by the Hare Psychopathy Checklist – Revised (2003). Following the 'Bradley review' (2009) of diversion in the Criminal Justice System and evaluations of the DSPD programme,

[1] 'Personality Disorder' is a formal Mental Disorder with diagnostic criteria described in both DSMV and ICD10. The criteria revolve around thinking, feeling and behaving differently to social expectations, causing sometimes severe problems in functioning. There is significant contention with the concept of 'personality disorder' in terms of how it is defined, the evidence that underpins it, and the way the diagnosis draws on a disease model to explain a person's difficulties. In recognition of diagnostic criticisms, the OPD Pathway moves away from diagnostic categories and instead refers to the need for personality difficulties to be described as problematic, persistent across the lifespan and pervasive (i.e. present across a person's functioning).

which highlighted gaps in provision, high costs but also positive staff outcomes (Bowers et al., 2005, 2006; Burns et al., 2011; Tyrer et al., 2010), it was proposed that the DSPD Programme funding might more effectively reduce risk and harm if re-directed to provide an active pathway of interventions thereby reaching a larger population. By focusing on services within Criminal Justice settings (as opposed to high secure hospital settings), it is possible to deliver a greater number of interventions at a reduced cost. Under new proposals, the 'Offender Personality Disorder (OPD) Pathway Programme' was established through a unique, jointly commissioned arrangement with shared responsibility between HM Prison & Probation Service (HMPPS) and NHS England and Improvement (NHSE/I). The OPD Pathway model shifts the emphasis away from intensive treatment for a small number of individuals, towards psychologically-informed management of all individuals meeting high risk, high harm criteria, who also had personality difficulties.

2.1 The Offender Personality Disorder Pathway Programme

2.1.1 Aims and underpinning principles

The aims and principles of the new OPD Pathway were articulated by Joseph and Benefield (2010). The new strategy was conceived as a 'cost-neutral' exercise, based on the decommissioning of some existing DSPD services, and adopts a jointly commissioned approach with shared responsibility between HM Prison & Probation Service (HMPPS) and NHS England and Improvement (NHSE/I).

The Pathway is for high risk offenders with complex mental health needs and has four 'high-level outcomes' and a further set of intermediate outcomes, related to both health and justice. The high-level outcomes are:

1. For men, a reduction in repeat serious sexual and/or violent offending
2. Improved psychological health, wellbeing, pro-social behaviour and relational outcomes
3. Improved competence, confidence and attitudes of staff
4. Increased efficiency, cost effectiveness and quality of Pathway services

The Pathway model is based on a 'whole system' approach across the Criminal Justice System (CJS) and NHS England, recognising that offenders are on a "journey from sentence through prison and/or NHS detention to community-based supervision and resettlement" (Joseph & Benefield, 2010). Treatment and management is led by 'psychologically trained staff' and should focus on relationships and social context. Additionally, a key principle of the Pathway model is that it acknowledges the need for offenders to access appropriate services

in a flexible way (depending on need), with a clear progression strategy in an attempt to reduce the likelihood of individuals becoming stuck in services that are not appropriate to their needs.

Offender Managers (OMs) have a key role to play in the Pathway, both in the early identification of an individual's needs and through having oversight of the whole pathway as an offender progresses through the CJS. OMs, in liaison with staff in the prisons, are responsible for risk assessment, setting out the sentence plan, encouraging the offender to engage with intervention programmes, evaluating and managing risk of harm, ensuring compliance with supervision conditions and monitoring progress.

2.1.2 Case identification, case formulation and referral to treatment

Case identification and formulation are key elements of the OPD Pathway programme. Case identification involves a screening process consisting of an administrative screen and assessment of risk. At the time of this evaluation this was conducted in the community by the Offender Manager post sentencing and following completion of an OASys assessment. If an individual is identified as meeting the criteria for the Pathway, this means that they may meet the criteria for a diagnosis of 'personality disorder' and could possibly benefit from receipt of additional services. Approximately 30,000 males are screened-in at any one time (Skett, Goode & Barton, 2017). A number of identified individuals will have no further activity if they appear to be coping well and have appropriate sentence plans in place.

Approximately 45% of these men will go on to have a consultation and formulation. Case formulations are carried out by OMs and a psychologist to inform a personalised, psychologically informed approach that feeds into pathway plans (Hart, Sturmey, Logan & McMurran, 2011). There are three levels of formulation, designed to address increasing complexity, with level 1 formulations being the most basic. Level 1 formulations attempt to organise the most relevant information and indicate patterns of behaviour. Level 2 formulations additionally take developmental history into account and attempts to produce a psychological explanation of problems. Level 3 formulations are for the most complex cases, factoring in how difficulties could be overcome, how to motivate the service user and where the psychologist takes the primary responsibility. Ungraded formulations – or 'no formulation required' refers to when an individual has a comprehensive sentence plan in place and there are no concerns related to their current behaviour or progression. The process of developing a case formulation involves integrating diverse information about an offender to provide an understanding of their psychosocial and criminogenic needs. The psychologist and Offender Manager (OM) can then work together to discuss how the individual is best managed. Based

on the formulation and the offender's need, they may be recommended offending behaviour programmes or specific interventions from the OPD Pathway including Psychologically Informed Planned Environments (PIPEs; interventions designed to support transition, prepare people for treatment and/or maintain progress across custody and Approved Premises) as well as OPD treatment interventions, across a range of settings. (These services are more intensive in nature, to work through more complex mental health needs. In the community, they are 'wraparound' services that factor in practical, as well as psychological needs).

While a small number of individuals may self-refer to the OPD Pathway, the majority of referrals derive from staff (offender managers or psychologists). A number of referrals to OPD intervention services will not be accepted, of which the reasons vary, including the offender not being motivated to take part, not meeting minimum criteria for the service or behaviour not being stable enough (e.g. current high levels of drug use) and the service not being suitable for the needs identified. This is particularly the case with progression services (such as progression PIPEs) where a treatment need has been identified.

In addition, for custody services, consideration needs to be given regarding sentence length such that the offender should have enough time left to serve, while ensuring that the intervention would not prolong a custody stay. In the context of community services, referrals differ considerably between the two main intervention types (Approved Premise (AP) PIPEs and IIRMS), such that there is less control over who is accepted in to the AP.

2.1.3 Evaluation aims

This evaluation investigated the male OPD Pathway (a separate women's OPD Pathway evaluation is to follow) and aimed to:

1. Provide an understanding of how the OPD Pathway was being experienced by offenders within Pathway services and the staff involved in managing them within these services.
2. Statistically compare outcomes between individuals referred to OPD services and those not referred.
3. Provide evidence on the cost-effectiveness of the OPD Pathway and on how different elements of the Pathway contribute to cost-effectiveness.

It should be noted that the aim of this evaluation was to look at the OPD Pathway as a whole, and was not to identify the contribution of the various OPD Pathway interventions. Substantial commitments of government funding such as those to the OPD Pathway are

subject to scrutiny and an interrogation of value for money and cost-effectiveness. For the evaluation of healthcare programmes and interventions in England and Wales, established and widely applied methods of economic evaluation are used to support decision making (NICE, 2013). There are no such conventions for the evaluation of interventions in criminal justice settings such as prisons and high secure hospitals, yet the same questions persist. As with outcomes, the economic impact of the OPD Pathway programme is likely to be realised in the short, medium and long-term.

3. Approach

To achieve the study aims, a mixed-methods evaluation was commissioned, consisting of three components; a qualitative evaluation of staff and offenders' understanding and experiences of the OPD Pathway; a quantitative evaluation comparing outcomes between individuals referred to OPD services and those not referred and an economic evaluation of the cost-effectiveness of the OPD Pathway. Approval was received from NHS Research ethics committee (16/SE/0299), Health Research Authority and the HMPPS National Research Committee (reference: 204989)

3.1 Qualitative study of offenders and staff

Qualitative in-depth interviews with staff and offenders were undertaken to explore their understanding and experiences of the OPD Pathway across the following Pathway services: four prison-based OPD Treatment Units; one prison-based Provision PIPE in a Category B prison; three prison-based Progression PIPEs; one NHS Medium Secure Unit; one community-based OPD Treatment Unit; two Approved Premises PIPEs; four Local Delivery Units. Sites were purposefully chosen to capture all elements of the Pathway, to be inclusive geographically and included a range of security categories. The interviews were undertaken using topic guides (Appendix A) which were developed in consultation with Expert Reference Groups, OPD clinical and probation leads, as well as the OPD research team. A total of 36 offenders (15 of whom had follow-up interviews approximately 12 months later) and 38 staff from a range of disciplines were interviewed (11 of whom had 12 month follow-up interviews). Offenders had to have been managed by the Pathway for a minimum of six months. All interviews were recorded on a digital audio recorder with PIN and encryption facility. Transcripts were subject to a thematic analysis using the framework suggested by Braun and Clarke (2006). A realist approach was adopted to data analysis, to examine the experience of participants and the meaning that they attached to the OPD Pathway.

3.2 Quantitative evaluation of the OPD Pathway

A retrospective cohort study design was chosen to compare outcomes between male offenders referred to OPD services and those not referred, considering outcome data for individuals screened in to the Pathway between July 2012 – July 2017, over a duration of six years (from 2–3 years before to 2–3 years after referral to the Pathway dependent on data availability). Appendix B details the extracted datasets and time frames for each data source. The OPD Pathway was assessed by comparing the pre-referral and post-referral to Pathway

differences of the outcomes between the treatment groups and a comparator group (defined below).

3.2.1 Participants and databases

The sample consisted of male offenders who met eligibility criteria for the OPD Pathway. Data was received from five Criminal Justice System (CJS) computerised databases: National Delius (NDelius) – Probation Case Management System; Offender Assessment System (OASys); Prison National Offender Management Information System (P-NOMIS); Police National Computer (PNC) and Public Protection Unit Database (PPUD). Nine datasets were extracted from these databases and the details of the sample sizes prior to matching are listed in Appendix B. In addition, the research team were provided with a collation of manually completed excel spreadsheets (routinely used for performance monitoring) from PIPEs and OPD treatment services. Together, these datasets included information on the characteristics of the individuals in the Pathway, details about their Pathway eligibility criteria and contacts within the Pathway; index offence and sentencing characteristics; offender behavioural measures (risk scores), prison infractions; self-harm or attempted suicide incidents in prison; and re-offences or breaches of probation licence following release from prison.

The following outcome variables were used for the quantitative evaluation. For custody-based outcomes:

- Changes in OASys General Predictor (OGP) and OASys Violence Predictor (OVP) scores (OASys dataset),[2]
- Number of recorded adjudication events (Adjudications dataset),
- Number of recorded self-harm reports (ACCT dataset).

For community-based outcomes:

- Number of recorded recall events (Recall dataset),
- Number of proven non-violent, sexual, violent, sexual and violent offences (PNC dataset)

The average (mean) length of time of a recorded outcome following referral to the OPD Pathway varied by outcome: 10 and half months for recall outcome (s.d. 8.5 months); 1 year

[2] The OASys General Predictor (OGP) score predicts the likelihood of general (non-sexual, non-violent) offences, while the OASys Violence Predictor (OVP) score predicts the likelihood of offences with a violent nature. They are based on a mixture of static (60%) and dynamic (40%) risk factors. OGP and OVP are seen to be one of the best predictors of reoffending currently available.

for PNC data (s.d. 9 months); 13 months for both adjudications and OASys data (s.d. 9 and 9.5 months respectively) and 14 months for ACCT data (s.d. 9.5 months).

3.2.2 Statistical analysis

For the purposes of analyses, the treatment and comparator groups of offenders were categorised in the following way:

- **'Comparator' group**: screened-in individuals who had no recorded services, or who had received Case Consultation, Case Formulation Level 1 or an ungraded Case Formulation.
- **'Treatment' group 1**: screened-in individuals who had received Case Formulation Level 2 or 3 but not been referred to an OPD intervention service.
- **'Treatment' group 2**: screened-in individuals who received case consultation, case formulation and/or who had been referred to OPD intervention services.

For the primary analyses, treatment groups 1 and 2 were combined (collectively termed 'Treatment' Group) and compared to the outcomes of the comparator group. Subgroup analyses were then conducted (i.e. secondary analyses) by comparing outcomes of the comparator group to treatment groups 1 and 2 separately. The referral date (as a pre-post marker of change) was taken from the nDelius dataset and simply indicated the routinely recorded date when an offender was referred to a generic OPD Pathway service. For interventions, it cannot be assumed that an offender received, complied with or completed an intervention following this date.

While the optimal method for testing effectiveness of an intervention is a randomised controlled trial, with observational data, such as those used in this study, selection bias and confounding variables are substantial threats to causal inference. Propensity Score Matching (PSM) was therefore used to reduce bias in the assessment of effectiveness. PSM is a matching technique that attempts to estimate the effect of an intervention by accounting for the confounding variables that predict both receiving the intervention and the outcome. In this way, comparator groups with similar characteristics are created and subsequent comparisons are, in principle, not confounded by group differences. Table 1 presents the variables that the data was balanced on:

Table 1: Description of variables used for propensity score matching

Variable	Description
Age	Age (years) as of 1 February 2018
Ethnicity	White, Asian, Black, Mixed, & Other.
Time left to serve	Difference between expected release date from prison and referral date, categorised into i) those who left prison ii) those who had less than four years to serve iii) those who had between four and twelve years left to serve and iv) those who had over twelve years left to serve.
Screening override items	Number of eligibility criteria from 4 'override' items for the Pathway: childhood difficulties, history of mental health problems, problematic behaviour/assaults on staff, history of self-harm.
Risk of Serious Harm (RoSH)	Levels low, medium, high, very high
Sentence type	Life, Imprisonment for Public Protection (IPP), Determinate (> 12 months), Short determinate (< 12 months), IPP
Offender Group Reconviction Scale (OGRS)	Two-year & One-year continuous scores, ranging from 0 – 100
For OGP/OVP outcomes analyses only: Baseline OGP/OVP scores	Total score (static + dynamic)

A range of statistical techniques were employed to analyse the data. For continuous outcomes, mixed-effects linear regression was used. The outcome rates of change before and after referral for each group were estimated using linear predictions from the models. For the count outcomes, negative binomial regression and Poisson regression were undertaken. All analyses applied propensity weights produced from the kernel matching algorithm and used a 5% level to declare statistical significance.

3.3 Economic evaluation of the cost-effectiveness of the OPD Pathway

The aim of the economic component of the evaluation was to evaluate the long run cost-effectiveness of the OPD Pathway through the creation of a whole Pathway economic model.

Attempts have been made to evaluate the cost-effectiveness of criminal justice interventions in England & Wales using economic modelling. Economic models are a study design and evaluation framework that are useful in situations where experimental observation is not possible or viable (Philips, Ginnelly, Sculpher et al., 2004). Decision models use mathematical relationships to define possible consequences that flow from a set of alterative options being evaluated. Models are useful because once constructed, assumptions and

data can be amended as more relevant or up-to-date information becomes available. Models can also be used to explore ‘what if’ scenarios, so providing information to decision-makers on the likely impact of modifications to the services, such as changes in treatment length, personnel or capacity. In this evaluation an approach to modelling called Discrete Event Simulation (DES) was used; this is a system level approach that involves modelling events, costs and outcomes of individuals across the whole OPD Pathway and where crucially, an individual can transition between states at any point.

The model focuses on capturing the long-term outcomes influenced by the Pathway through dynamic generation of incidents, recalls and reoffences based on detailed offender profiles, which are generated by the model from routine data. This made it possible to simulate the time it takes for an incident to occur, the outcomes of the incidents, their impacts on the length of sentence, and the relationship between interim and long-term outcomes. It runs simulated offenders through one at a time to create a picture of the Pathway population and tracks the amount of time offenders spend in each state, and the Pathway is then costed using unit costs for each state. The model simulated 20,000 offenders entering the Pathway over 1000 weeks. Offenders progress through the model according to the characteristics they were given on entry and they pick up costs for treatment, incidents, additional days added to their sentence and recalls. By the endpoint of the model, some offenders will have completed their prison sentence and others will still be in progress.

The economic evaluation involves a comparison of the incremental costs of the different analysis groups to the incremental negative costs in what can be considered a partial cost-benefit or a cost-offset analysis. Essentially, the question being addressed is whether the additional spending on the OPD Pathway is immediately worthwhile in terms of savings as a result of changes in incidents, recall, days added and reoffending.

3.4 Limitations

In terms of methodological strengths, it was possible to extract data on thousands of offenders from five Criminal Justice System databases to assess whether it was more effective for an offender to actively be ‘on a Pathway’ as opposed to having a standard risk assessment.

The qualitative investigation was undertaken using carefully developed topic guides that were scrutinised by senior members of Pathway staff. A wide range of staff and offenders from a wide range of settings and establishments were interviewed, but inevitably not all relevant views may have been captured, (e.g. those from ethnic minority backgrounds).

The possibility of both staff and offender response bias needs to be considered when interpreting the qualitative findings. Staff working in the pilot services may have viewed this study as part of a process of evaluation that would influence future funding decisions. In regards to the offenders, it is important to bear in mind that some of them may have distorted their accounts (in principle, both positively and negatively). There is also evidence to show that negative information can influence evaluations more strongly than positive information (Ito, Larsen, Smith & Cacioppo, 1998). It is therefore possible, that a greater focus on the identified problems has been identified in the qualitative evaluation, to the relative exclusion of positive features of the Pathway. By the time the evaluation was commissioned, a radical restructuring of probation services had already commenced (*Transforming Rehabilitation*). The establishment of Transforming Rehabilitation may have had an impact on delivery interventions and among the Offender Managers (OMs) interviewed many acknowledged that they had little time to consider the OPD Pathway Programme set against the challenges of having new caseloads comprised primarily of high-risk offenders.

There were several limitations with the quantitative, data-linking study. Although propensity score matching was used, key group differences may have been obscured by residual confounding variables. In a programme that aims to address complex mental health needs, mental health was not a variable that was able to be matched. This is particularly important when considering the nature of the groups identified, such that individuals requiring an intervention should be those who have greater complex needs compared to those screened in to the Pathway and a basic level formulation. The groups are therefore likely to be qualitatively different and there are likely to be differences in factors such as complex mental health problems and pathways to offending between the groups. Indeed, the Expert Reference Groups noted that certain offender characteristics would be more likely to lead to a referral being made to OPD intervention services, reporting that offenders referred to these services tended to be more overtly disturbed, as indicated by one or more of the following features: frequent adjudications; spending significant amounts of time in segregation; continuing to offend whilst in prison; engaging in self-harm; having a history of ‘sabotaging’ their progress on a sentence plan; being querulous and involved in litigation against the prison system; having committed assaults on staff; having had inappropriate relationships with staff; and frequently failing to complete courses. The quantitative analyses failed to capture these characteristics.

Other key unmeasured covariates which the analyses failed to account for include substance misuse, other mental disorder (particularly depression and anxiety) and the presence of psychopathic personality traits, all of which are likely to be highly prevalent in the sample and

are also related to recidivism (Bonta, Law & Hanson, 1998; Hare, Clark, Grann & Thornton, 2000). In addition, we did not match on MAPPA level and only the additional override items of the OPD screen were matched for – and not the 10-item OASys screen. Risk scores (OGP and OVP) could only be matched in relation to risk analyses.

Identifying an appropriate, comparator group proved challenging. Individuals in the comparator group of this study had received a case formulation and this alone may have had an effect which contaminated the assessment of impact. Combining no formulation and level 1 formulations in the comparator group was also not optimal but was necessary to retain adequate statistical power. Due to the challenges encountered with data linkage (chiefly the lack of a common linking variable), it was not possible to create one over-arching 'global dataset'. Neither was it possible to split the data further to aid interpretation (e.g. between those offenders in custody and in the community). Whilst the initial intention was for the OPD intervention group (treatment group 2) to consist of individuals who had participated in interventions, the final data set included those individuals who had been referred to the OPD Pathway but not started the intervention for various reasons. The referral date, as a pre-post marker of change, simply indicated the routinely recorded date when an offender was referred to an intervention service and it cannot be assumed that an offender received an intervention following this date (or the amount of treatment received and adherence to treatment following this date). Furthermore, it is unclear what proportion of individuals received an OPD intervention.

Several deviations from the initial analysis plan took place in the course of the quantitative analysis, due to the lack of consistent identifiers across Criminal Justice data and poor completion of both this and OPD intervention datasets. There was a large amount of missing data, resulting in substantial proportions of offenders from each analysis sample being dropped. The problem of missing data affected all outcome datasets, particularly self-harm (>70% follow-up data not recorded) and recall (>60% follow-up data not recorded) data. One of the limitations of using administrative data is that the non-occurrence of an adverse event (e.g. an episode of self-harm) goes unrecorded (i.e. there is no option for recording zero events). It is therefore plausible that the lack of a record at follow-up could indicate positive change (e.g. from self-harm to no self-harm). However, given the uncertainties about this, a more conservative analytic framework was applied and offenders having no record of outcome data or having missing data in any of the baseline covariates included in the propensity scoring model were dropped. The main statistical analyses based on available data for each outcome were, however, supplemented by a series of sensitivity analyses by multiple imputations of missing covariates which did not reveal any obvious bias in the

findings from the main analyses (Appendix G). It is also worth noting that there was no self-harm data for individuals in the community and so our self-harm (as well as adjudications) analyses only relate to changes in behaviour within prison. Furthermore, it was not possible to detail the classification system used for reoffending, including what type of reoffences were included in the follow-up analyses.

The average length of follow-up for most of the outcomes was around 1 year; this is not long enough to evaluate whether OPD Pathway services are producing significant outcomes among high-risk, potentially high-harm offenders, particularly in the case of reoffending. This timeframe would not allow enough time for offenders to progress through the Pathway or even complete a custody intervention. Given the high risk nature of offending and the views expressed by staff, any significant health or forensic gains are likely to occur over a much longer time frame.

The key weaknesses of the economic evaluation were the issues arising from the quantitative evaluation, in particular not being able to differentiate individuals in the treatment group who were referred, nor those with greater complex needs. The narrow way in which the effects, or outcomes of the programme were considered is also a key weakness, particularly in respect to psychological health outcomes. In the evaluation of healthcare programmes, an intervention can be considered cost-effective if the additional costs are worthwhile in terms of improvements in outcomes. Here, these outcomes could be an improvement in quality of life, or a reduction in a self-harm or on a suicide scale. Since there is no routine collection of these data in the criminal justice system, we were unable to undertake analysis using person focused outcomes. The result is that cost-effectiveness is only considered in terms of savings that result from changes elsewhere in the system because of reductions in incidents or reoffending rather than being worthwhile because of improvements in outcomes. Indeed, these findings do not suggest that the OPD Pathway is not cost-effective, just that there is no case for savings within the criminal justice system. The support for case formulation is much stronger; this is dominant compared to the comparator condition in that although costs were slightly higher, the incremental savings from the avoidance of negative consequences were greater. It does not appear that a combination of case formulation and OPD treatment is cost saving compared to the comparator, since the savings are not sufficient to offset the cost of the treatment.

Given the limitations, specifically regarding the quantitative evaluation, the findings must be viewed as indicative and treated with caution.

4. Results

4.1 Qualitative findings

The key points from the qualitative findings are presented below, split by overarching theme. Appendix C displays the participant characteristics of the offender and staff samples.

4.1.1 Offender interviews

Lives before the OPD Pathway

- Many of the offenders disclosed a range of severe adverse childhood experiences and trauma. Mental health problems were commonly reported by the offenders and most of them described experiencing substantial difficulties in relating to others and managing their emotions. In speaking about these difficulties, many described feeling overwhelmed by their emotions, being unable to identify their feelings, 'bottling things up', being highly self-critical, having poor social skills and struggling to cope when under pressure. Several men attributed these difficulties to their adverse childhood experiences, explaining that these had resulted in a profound inability to trust others. In addition to 'personality disorder', participants described having a range of other mental health problems. Half of the sample said they had experienced a psychotic illness and others described experiencing anxiety, depression and post-traumatic stress disorder. In addition, several participants volunteered that they had self-harmed or attempted suicide at some point in their sentence. In a few cases this had been an ongoing problem with repeated and severe acts of self-harm. Eight participants had been transferred under mental health legislation to hospital at some point in their sentence, with a minority spending over a year in a hospital setting.
- Most of the interviewed sample had experienced a highly turbulent time in custody prior to being referred into an OPD Pathway service. In the early period of their sentence, many described patterns of frequent and often severe conflict with staff and other offenders in prison. Such incidents led to regular periods in segregation units, adjudications and, for some, additional sentences. Some described being *'stuck in the system'*. Several described a 'revolving door' of custodial sentences with their time in the community between sentences characterised by drug use, theft and violence.

Experiences of the OPD Pathway

- Although some offenders from custodial or NHS services were aware of the OPD Pathway initiative, most of the offenders from community services were unaware they were being managed under a Pathway initiative.

- Many participants in secure settings were familiar with the term, formulation. Some offenders offered detailed descriptions of their case formulations, commenting that the process had helped them to make links between childhood experiences and their adult behaviour. For some, this was the first time that the role of their adverse childhood experiences had been recognised, and many indicated that they valued this. Some had been directly involved in the case formulation approach with their OM and a psychologist and reported that the nature of their relationship had changed following the case formulation. They contrasted the new approach with their previous experiences of probation, which in their view had been characterised by a lack of transparency and a lack of control in the interaction with the OM. This had previously led to them keeping secrets as they were unsure how information would be used against them.
- For some offenders, the case formulation had provided a novel focus on their strengths, rather than just on their shortcomings. Some offenders spoke of encountering a less restrictive and more supportive approach from their OMs, that they thought had evolved from case formulation.
- Many of the offenders expressed great appreciation for the help received from staff. They described having a high level of support; being able to talk to staff; feeling comfortable approaching staff, understood by staff rather than judged, staff being patient and not reactive, feeling respected, feeling safe on the unit, staff being attuned to the mood of offenders and being involved in decision making with staff. Participants also praised the officers' tolerance and patience, and their skilled approach to de-escalating situations. Where criticism was made of staff, this was mainly about lack of contact that participants had experienced with OMs or Offender Supervisors. Participants praised the high level of interaction made possible by these relational environments and compared these favourably to their other custodial experiences. They commended the transparency of communication in these settings and emphasised the extent to which staff spoke openly with offenders about their levels of risk and how to go about reducing them. Despite these positive reports, some offenders in the community also told us that their relationships with their OMs had been adversely affected by a high rate of staff turnover. Criticisms raised by participants about psychology staff revolved primarily around uncertainty or misconceptions about their role. Less positive responses were also expressed in relation to the Pathway's 'joint' working approach. One person talked of being unsure exactly what was expected of him and felt that he was receiving mixed messages from staff.
- Participants spoke of their treatment experiences, including Offending Behaviour Programmes (OBPs). Experiences were wide-ranging and variable with some valuing one-to-one therapy work, and a few viewing group work as key to progress. Groups were

described by some as fostering trust and a sense of community, while a range of OBPs were identified as being useful.

- Safety in secure OPD Pathway services was a recurrent theme in the interviews with offenders in these services. Offenders commonly made distinctions, based on feelings of safety, between Pathway services and ordinary location. Many commented that compared to ordinary location, their Pathway units felt more stable, much safer and less disturbed. Those in secure settings valued feeling safer and not having to put on a *'tough front'* to survive. Offenders thought that the sense of increased safety had allowed them to be more honest and open about their feelings. Yet at follow-up, some offenders reported a perceived deterioration in the environment within some secure services and were experiencing some of the wider, well-documented problems currently afflicting English prisons. This included, but was not limited to, the availability of substances and general concerns about safety. Due to pressures elsewhere in the system, some secure OPD Pathway units had been required to admit prisoners not 'on the Pathway' where some participants felt this had significantly altered the environment on units.

Perceptions of outcome & progression

- Many of the interviewed offenders felt that their risk had reduced since beginning their sentence and were able to give clear descriptions of how their risk had reduced. For example, they described being able to exert greater control over their temper, being less aggressive, being less reactive and reckless than they used to be, having greater emotional literacy, and becoming less *'paranoid'*. Some described adopting more prosocial behaviour, describing themselves as being: better able to express themselves, more polite, kinder, and more helpful than they were, more open about their feelings and their problems, more willing to seek and accept help from others, more aware of the consequences of their behaviour, and better able to assert themselves, to set goals and achieve them. Offenders ascribed these changes to having greater self-awareness, greater emotional literacy and to having learnt new coping mechanisms whilst they had been receiving OPD Pathway services.
- Offenders described experiencing improvements in psychological health, including a reduction in emotional turmoil, a shift towards a non-criminal identity, feeling more hopeful for their future and reductions in self-harm. Following entry into a Pathway service, participants said they were calmer, more compassionate, more tolerant, more hopeful about the future, more motivated to be better people and more confident that they could achieve this. Some participants talked of a growing sense of hope that had occurred when they had entered a Pathway service. Some reported feeling optimistic about their future for the first time in their life and this hope was linked to a feeling of

confidence that they could actually build relationships with others. They described feeling motivated to be better people and reported feeling more confident that they could eventually achieve this. The positive relationships with staff, alongside attendance at one-to-one sessions, group work and social activities, were all cited as being instrumental in instilling hope and confidence for the future. Several participants reported that their self-harming behaviour had reduced dramatically or stopped as a result of being in a Pathway service. These included some individuals who had engaged in quite extreme levels of self-harm. At follow-up, some described drawing on new skills they had acquired in Pathway services.

- Some participants in secure settings expressed concern about returning to main prison location due to the level of disturbance present in that setting. All participants originally recruited from community services remained in the community at follow-up and felt that they were at a good stage of progress of reintegration. However, they faced a number of challenges, in terms of managing their day-to-day lives, including budgeting, using time effectively as well as finding suitable accommodation. At follow-up, some participants talked of employing new skills learnt in the Pathway in their new locations.

4.1.2 Staff interviews

Understanding and views of the OPD Pathway

- Understanding of the OPD Pathway varied according to profession with clinical staff showing greater awareness. Although staff were able to provide detailed accounts of the work of their service and some had heard of other Pathway components, few were able to describe a coherent network of services constituting a 'Pathway'. Many of the OMs reported that they were still adjusting to major changes in their working lives resulting from the reorganisation that had taken place through Transforming Rehabilitation.
- Prison officers working in OPD Pathway services were clear that the key aims of the Pathway were to reduce offender risk and reoffending, as well as the focus on a different understanding of the offender. Prison officers expressed this was helpful in building self-awareness of the offender. For Offender Managers within probation, some staff expressed views that the Pathway offered a more holistic approach to the management of risk with greater support between prison and the community. Others, however expressed concerns relating to the additional workload from the Pathway initiative which was not always welcome, particularly in the context of Transforming Rehabilitation.

Views of OPD Pathway components

- Knowledge of the screening process varied widely, reflecting wide variation in how the process has been undertaken across the country. The screening process was described

as identifying offenders who were *'more chaotic'* and *'more volatile'* compared to those not screening into the Pathway and was also likely to capture those who were disengaged and not progressing. Offenders at risk of being incorrectly screened out were those with co-morbidity, where 'personality disorder' was not the primary diagnosis. Yet, when discussing concerns about case identification, clinicians also emphasized that the process was dynamic. Any offender who had initially been screened out could be screened into the Pathway at a later date, and those screened out on the basis of the algorithm, could still be flagged up by the OM and following consultation with a psychologist, screened into the Pathway, thereby overriding the system.

- Knowledge and experience of case formulation varied widely and most of the interviewed staff were unaware of the existence of levels of case formulation. OMs provided disparate accounts of the value of it. Although many reported that case formulation had not fundamentally changed their practice, some noted that the process of developing a case formulation had helped to inform their understanding of an offender's behaviour and risk. In addition, some OMs thought that the information obtained from case formulation about an offender's interactional style had allowed them to adopt a less restrictive approach in their general work with offenders. A recurrent theme emerging from the accounts of staff related to whether offenders should be directly involved in, or indeed even informed about, the process of constructing their case formulation. Those in 'Treatment and Progression' services (such as OPD Treatment Units or PIPEs), were more likely to involve the offender. Within these settings, the offender was usually aware of the case formulation and was either involved in the process from the beginning or was able to comment and be involved in amending the case formulation. Staff in these settings reported that offender feedback about the process had usually been positive. In the community teams and local delivery units, offenders were rarely involved in the process of developing a case formulation.

Key ingredients of the OPD Pathway

Four themes emerged from the staff accounts in relation to key ingredients underpinning the therapeutic work of ODP Pathway services:

- the **focus on relationships** and relational functioning; staff spoke about the importance of spending time getting to know offenders and the benefits that relational functioning had for both offenders and themselves. They valued the focus on themselves and felt better able to remain calm and responsive in stressful situations. This was often compared to ordinary prison locations, described as a 'toxic environment' and incidents in Pathway treatment settings were dealt with differently compared to ordinary prison location. From the perspective of some OMs, the OPD Pathway had changed the way they engaged

with the offender. There was a greater focus on the offender's mental health, identifying their strengths, maintaining engagement and trying new and less punitive approaches in working with them. OMs reported that offenders responded well to this approach.

- **instilling hope and building trust with offenders** was described as key to the work of their service by many staff. It was felt that building trust and acting consistently was key to offender's ability to be more open and reflective. This was not always easily achieved however, particularly with those on indeterminate sentences, and as some offenders who had been in prison for most of their lives were often fearful of building relationships.
- the importance of having **transparent and 'open' exchanges with offenders,** often characterised as more transparent discussions about their risk and factors that impact on this, such as substance misuse. One staff member claimed that there is *'less of a them and us'* mentality compared to ordinary location.
- the provision of a **safe environment** was often noted as critically important. Staff felt that it was only in the context of a safe environment that offenders could learn and practice healthier ways of relating to others.

Perceptions of outcomes & progression

- Most staff thought that the OPD Pathway had led to improvements in offender risk assessment, as well as risk management. Key improvements noted by staff were the availability of more comprehensive information about offenders, through case formulation, and enhanced arrangements for inter-agency information sharing that had resulted from the joint-commissioning of services. Many of the probation staff noted that a more psychologically-informed approach emerging from case formulation, had enhanced their understanding of offender behaviour. They thought that this had allowed them to adopt a more measured management approach which, in turn, was likely to reduce the risk of disengagement from services, re-offending and recall to prison. Staff also reported that the OPD Pathway had helped facilitate a *'more fluid'* transition and movement of offenders through the Criminal Justice System.
- Staff reported positive developments occurring among offenders being managed within Pathway services in terms of reductions in aggressive behaviour and increasing prosocial behaviour. Some staff were keen to highlight that they did not think that the behaviour of this population would change rapidly, and were keen to emphasise the importance of noting subtle changes in an offender's behaviour. They spoke of progression being marked as offenders being more compliant, less argumentative and less aggressive. Some mentioned the importance of improvements in mental health, as evidenced by reduced self-harm. The offender's ability to tolerate frustration in a non-violent way was also described as being a potential indicator of progress.

- Although most of the interviewed staff thought that the psychologically informed approach of the OPD Pathway had led to improvements in risk management, only a minority thought that it would lead to an actual reduction in offender risk. The reasons for this included the relatively new status of some Pathway services and the *'very damaged'* status of some offenders. Staff were confident that changes in behaviour should be observable after offenders had spent some time in the treatment or PIPE services. Others raised doubts about whether changes in offender behaviour and risk could be sustained after release from prison, in the community. They also raised doubts about whether it could be possible to establish a causal relationship between the occurrence of re-offending and being managed within a pathway. Some staff were at pains to point out that prolific, chaotic offenders cannot simply stop offending, but that Pathway services might provide an 'anchor point' to teach them key skills in order to help begin that journey.

Workforce development

- Staff who had received training related to the Pathway, usually rated it highly, although the amount of formal training people received varied widely. Some staff indicated that training had helped them to understand what drives offender behaviour, increase empathy towards the offender and counter stigma surrounding 'personality disorder'. They indicated that training had helped not only to develop better ways of understanding 'personality disorder', but also more effective ways of interacting with offenders and managing their risk. Others indicated that it had enabled them to set clearer boundaries with offenders. This suggests that the training received by some staff has also been useful for helping to improve their confidence in working with this group of offenders.
- Staff also spoke highly of supervision; all reported that they received supervision and many indicated that it was one of the main ways in which they felt able to develop their skills. Staff described supervision as a process that helped them to develop their listening skills and transparency in communication. Those who reported having had a high level of supervision felt that their practice had improved substantially as a result of the supervision, and that it had increased their confidence. Staff also revealed that supervision was valuable for its ability to help staff engage with difficult (and sometimes distressing) conversations with offenders.
- Peer support, with informal conversations with colleagues from a range of different disciplines was also highly valued and was regarded as helping to maintain morale. There was explicit recognition that staff needed to look after themselves in order to do their work effectively. Staff valued the input and expertise provided by colleagues working in other disciplines. Prison officers indicated that the barriers that exist in the wider prison

estate between officers and clinical staff were less evident in Pathway services. Yet there were also inevitable tensions between professional groups, particularly in relation to the handling of rule-breaking behaviour by offenders.

- Staff identified the following threats to the effective delivery of Pathway services: staffing shortages (and cross-deployment); gaps in services; the admission of non-Pathway offenders into OPD intervention services; the pervasive stigma surrounding mental health among both prisoners and prison staff; and the use of new psychoactive substances both in secure and community-based Pathway services.

4.2 Quantitative findings

Appendix D details the descriptive statistics for the overall treatment group (Treatment groups 1 and 2 combined) and comparator groups prior to matching. As it was not possible to create a single global dataset, each outcome group was matched separately. Quality of matching was examined through the production of standardised mean differences of the two groups for each covariate, before and after matching (Appendix E). Subgroup analyses were conducted (i.e. secondary analyses) by comparing outcomes of the comparator group to treatment groups 1 and 2 separately. Sensitivity analyses by multiple imputations were also conducted to investigate any potential impact of exclusions of offenders due to missing data in covariates. Results for subgroup and multiple imputation analyses are only presented where different findings to the main analyses were revealed. (See appendices F–H for detailed results of main, subgroup and imputation analyses).

4.2.1 Risk scores (OASys General Predictor (OGP) and OASys Violence Predictor (OVP) scores)

The analysis model for the OGP and OVP outcomes included 19,440 offenders (treatment group = 7,390, comparator group = 12,050). Where a recorded outcome was observed, the mean length of time in years of a recorded outcome following referral to the Pathway was 13 months (s.d. = 9.5).

OGP scores in both the treatment and the comparator group increased (deteriorated) in the period before referral to the OPD Pathway, although this increase was not statistically significant for the treatment group ($p=0.105$). During the period after referral to the Pathway, OGP scores for both groups improved (comparator group slope = -0.786, $p<0.001$; treatment slope= -0.402, $p<0.001$). The before/after difference in the slopes for both groups, were also statistically significant (comparator group slope= -0.927, $p<0.001$, treatment group slope= -0.537, $p<0.001$). Taking account of the pre-Pathway differences in slopes between groups, the treatment group improved at a slower rate (by 0.39 OGP points per year;

p=0.023) compared to the comparator group. Considering the theoretical range of the OGP score (0 to 100), this is a very small effect and at this rate, it is estimated that it will take about 2.5 years to get a score difference of just 1 point between groups.

OASys Violence Predictor (OVP) scores in both groups increased in the period prior to referral to the OPD Pathway. During the period after referral, OVP scores for both groups improved at a statistically significant rate (comparator slope = -1.074, p<0.001; treatment slope= -0.777, p<0.001). The before/after difference in the slopes for both groups was also statistically significant (comparator slope= -1.309, p<0.001; treatment slope= -1.020, p<0.001). The improvement rate in both groups was statistically similar, indicating that there was no Pathway effect on change in OVP score.

Sensitivity analyses by multiple imputations yielded similar results to those from the main analyses, apart from the OVP scores, which showed a statistically significant difference (in the same direction as that of the main analysis). The absolute difference however, was very slight (0.39 OGP points per year). Considering the theoretical range of the OGP score (0 to 100), this is a very small effect and at this rate, it is estimated that it will take about 2.5 years to get a score difference of just 1 point.

4.2.2 Adjudications

Adjudications data included individuals who had a recorded adjudication date only, from 3 years before to 3 years after referral to the OPD Pathway. In the pre-matched dataset, approximately 45% for the comparator group, 39% for treatment group 1 and 45% for treatment group 2 respectively had no recorded adjudication data. Of the remaining individuals, the negative binomial regression for the analysis of the adjudications outcome included 12,998 offenders (treatment group = 5,158, comparator group = 7,840). Where a recorded outcome was observed, the mean length of time of a recorded outcome following referral to the Pathway was 13 months (s.d. 9 months).

Both the comparator and combined treatment groups had a statistically significant lower rate of events after referral to the OPD Pathway, compared to the period prior to referral. There was no significant difference in the rate of improvement of adjudications between groups (ratio of rate ratios: 0.962; 95% CI: 0.896, 1.026; p=0.252), indicating that there was no Pathway effect on adjudications.

Comparisons of the comparator group and the intervention treatment subgroup (treatment group 2) also showed that both groups had a lower rate of adjudication events after referral

to the OPD Pathway compared to the period before referral to the OPD Pathway. This was statistically significant for both groups (p<0.001). However, the estimated effectiveness of the Pathway for the adjudication events outcome for this subgroup analysis was found to be 0.862 (95% CI: 0.766, 0.958; p=0.009). This result indicates that the improvement rate for the interventions subgroup was significantly higher than the comparator group.

4.2.3 Self-harm

Self-harm data included individuals who had a recorded self-harm event only, from 3 years before to 3 years after referral to the OPD Pathway. In the pre-matched dataset, approximately 82% in the comparator group, 73% in treatment group 1 and 71% in treatment group 2 respectively had no recorded self-harm event data. Of the remaining individuals, the negative binomial regression for the analysis of self-harm reports included 5,513 offenders (treatment group = 2,522, comparator group = 2,991). Where a recorded outcome was observed, the mean length of time of a recorded outcome following referral to the OPD Pathway was 14 months (s.d. 9.5 months).

Both the comparator and combined groups had a statistically significant lower rate of self-harm events after referral to the OPD Pathway compared to the period prior to referral (p<0.001). There was no significant difference in the rate of improvement of self-harm between groups (ratio of rate ratios: 0.955; 95% CI: 0.867, 1.042; p=0.326), indicating that there was no Pathway effect on self-harm and that improvement rates for both groups were similar.

4.2.4 Recalls

The recall dataset included only individuals with a recorded recall event date, from 3 years before to 3 years after referral to the OPD Pathway. The analytic dataset consisted of 6,440 offenders (treatment group = 2,445, comparator group = 3,997). Where a recorded outcome was observed, the mean length of time of a recorded outcome following referral to the Pathway was 10.5 months (s.d. 8.5 months).

Both groups had a lower rate of recall events after referral to the Pathway compared to the period prior to referral. The incident rate ratio was, however, not statistically significant for either group. There was no significant difference in the rate of improvement of recalls between groups (ratio of rate ratios: 1.019; 95% CI: 0.938, 1.099; p=0.640), indicating that there was no Pathway effect on recalls.

4.2.5 Reoffending

Offences were categorised into four classes: non-violent, sexual, violent, and sexual and violent, and each was analysed as a separate outcome. Time duration for the number of offences was four years (two years pre- and two years post-referral) as there were insufficient numbers of offenders with available data to allow for a longer follow up. Only individuals who had a proven re-offence recorded were included. In the pre-matched dataset, approximately 20% of the comparator, 22% of treatment group 1 and 40% of treatment group 2 respectively had no recorded proven reoffence data. Where a recorded outcome was observed, the mean length of time of a recorded outcome following referral to the OPD Pathway was 1 year for PNC data (s.d. 9 months).

Non-violent offending: the negative binomial regression model for the analysis of the number of non-violent offences included 402 offenders (treatment group = 105, comparator group = 297). Both groups had a higher rate of non-violent offence events after referral to the Pathway compared to the period prior to referral. This was however not statistically significant for either group (treatment group; p=0.499, comparator group p=0.203). The extent of increase in non-violent offending did not differ statistically between groups (ratio of rate ratios: 0.912; 95% CI: 0.324, 1.5; p=0.779), indicating that there was no Pathway effect on non-violent offending.

Sexual offending: the negative binomial regression model for the analysis of the number of sexual offences included 1,359 offenders (treatment group = 399, comparator group = 960). Both groups had a higher rate of sexual offence events after referral to the OPD Pathway compared to the period prior to referral. This was statistically significant for both groups (treatment group; pp<0.001, comparator group' p=0.008). The extent of increase in sexual offending did not differ statistically between groups (ratio of rate ratios: 1.268; 95% CI: 0.574, 1.962; p=0.395), indicating that there was no Pathway effect on sexual offending.

Violent offending: the negative binomial regression model for the analysis of the number of violent offences included 10,997 offenders (treatment group = 4,015, comparator group = 6,962). Both groups had a higher rate of violent offence events after referral to the OPD Pathway compared to the period prior to referral. This was statistically significant for the treatment group (p=0.001), but not for the comparator group (p=0.362). The extent of increase in violent offending did not differ statistically between groups (ratio of rate ratios: 1.099; 95% CI: 0.988, 1.210; p=0.066), indicating that there was no Pathway effect on violent offending.

Sensitivity analyses yielded similar results to those from the main analyses, apart from the violent offences outcome, which showed a statistically significant difference (in the same direction as that of the main analysis) between the comparator and treatment groups in terms of Pathway effectiveness.

4.3 Economic findings

Economic analyses were considered for the comparator and two treatment groups separately. The baseline characteristics of the matched group of offenders showed that there was an even spread of sentence type and index crime between the comparator, case formulation (treatment group 1) and case formulation and OPD treatment groups (treatment group 2). Around 7% of offenders were on a community treatment, 70% on a determinate sentence and 23% on a life or an IPP sentence. The full details of the results are tabulated in Appendix I. In brief, the index crime was violence for around 55%, sexual for around 26% and other for around 19%. The average cost for the case formulation group through the OPD Pathway was £86.41 and for the OPD treatment group was £20,133.17, of which 99% were the Pathway service costs. The costs as a consequence of progression through the model included the estimated cost of incidents, recall, reoffending and of additional days added. Overall, the estimated costs as a consequence of the model are fairly similar in all groups; comparator group £1833.55; case formulation group £1670.42; OPD treatment group £1741.63. The spread of incident type was similar in the three groups, though violent incidents were more common in the comparator and case formulation groups (37% and 36% respectively) compared to the OPD treatment group (24%). In terms of reoffending, only 1% of the OPD treatment group reoffended and all these offences were violent. Rates of reoffending however, were higher in the comparator and case formulation groups.

The comparator group was more costly than the treatment group and case formulation alone. The modelling found that the additional cost of the treatment was not offset by savings elsewhere, even where effects were simulated to be greater than those found in the data. It is unclear whether the limitations of the quantitative study, including being unable to look at complexity, would impact on these findings.

5. Implications/Conclusions

The OPD Pathway Programme has created new services and treatment options for a much larger population of offenders than under the previous DSPD Programme. The qualitative data from this study suggests the OPD programme is having positive effects on both offenders and staff. The findings from the quantitative evaluation must be regarded as indicative and treated with caution given the challenges and important limitations to the adopted approach and this must be borne in mind when considering and interpreting findings. Although a beneficial effect on offending behaviour was not observed, the authors caution against any suggestion that the quantitative findings may be indicative of Programme failure. Findings from the quantitative evaluation appear to be inconclusive; improvements were observed in relation to adjudications, recalls, self-harm and risk scores, but there were no statistically significant differences in the rates of improvement between treatment and comparator groups. Adjudications are the exception to this, with subgroup analysis showing significantly improved rates in the OPD referral group. Whilst rates of proven offending rose in both groups, there was no statistical evidence that the programme was having an adverse impact on offending and the availability of follow-up data indicates it is too soon to tell. These findings should be considered in the context of rising rates of behavioural disturbance across the national prison estate during the study time period. It should also be noted that at the time periods in which this evaluation took place, the increase in violent and sexual offending rates, reflected the wider national trend of increasing rates of assaults across the entire prison estate since 2013. In the case of self-harm and assaults, the general trends for those referred to the OPD Pathway were positive, while nationally they were on the rise at the time this study took place.

It is early days in the lifetime of the OPD Pathway Programme and this evaluation took place at a time of considerable change within the Criminal Justice System. Fully demonstrating the value of the OPD Pathway Programme will require data harmonisation across services and much longer periods of follow-up. Methodological challenges remain in relation to the selection of the most appropriate comparator for an evaluation of the OPD Pathway. Robust evidence on the effectiveness of key Pathway components, including case formulation, will require randomised controlled trials. Establishing trust and working in collaboration was seen as a major part of the therapeutic work by offenders and staff alike. This is borne out by other research about the Pathway and it seems likely that trust is a key mechanism underpinning therapeutic gains that can be made by offenders when they are being managed by Pathway services. Changes in personnel should, as far as possible and appropriate, be kept to a minimum, as should the disruptive effects of filling treatment and progression placements

with prisoners who have not been selected to receive an intervention. Finally, it is critical that the training and supervision of staff working in OPD Pathway services continues and is given the protected time it deserves.

6. Recommendations

6.1 Good practice pointers for services

Staff supervision and training time needs to be more robustly protected to sustain the workforce at all levels of the Pathway. Organisations hosting OPD Pathway services should endorse and support this priority.

In the interests of optimising the therapeutic value of case formulation, as well as building trust between offenders and staff, all offenders who are identified as being suitable for the OPD Pathway should be informed about this process at the outset. Offenders should, as far as is practicable, be directly involved in the process of developing their case formulation which should be shared with them.

In the interests of building trusting relationships between offenders and staff, and providing boundaries and consistency, changes within the offender's management team should be kept to a minimum.

Pathway services should closely monitor the use and associated harm of substance use. Staff working within OPD Pathway services should be provided with training on substance misuse, including on New Psychoactive Substances to enhance their understanding of the risks, impact and treatment pathways available for offenders.

6.2 Recommendations for research

All services should routinely measure the mental health of offenders using a brief, reliable and valid measure, such as the CORE-10.[3] This measure should be repeated at least yearly, to facilitate the assessment of change in mental health status. Pathway services should also closely monitor the use and associated harm of substances.

In the interests of creating an informative national database, it is recommended that there is harmonisation of data collection across all OPD Pathway services, with a common identifier present in each dataset. Furthermore, the evaluation findings highlight the pressing need for robustly linked data on offenders across health and criminal justice systems.

[3] The CORE-10 is a short-form measure of psychological wellbeing, often used as a monitoring tool. It covers anxiety, trauma, functioning and risk to self.

The collation of all data needs to be supported by an appropriate electronic and administrative resource in each service. There should be a continued commitment to the long-term observational evaluation of the whole OPD Pathway, strengthened in the manner suggested above.

It is recommended that a series of dismantling studies designed to assess (preferably using an RCT design) the effectiveness of individual components of the OPD Pathway is commissioned. Given that case formulation is a key element for all offenders in the OPD Pathway, an RCT of case formulation should be a key priority for research commissioning.

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