Continuity of care for substance misusing prisoners released to a local community drug treatment system: A quantitative analysis of the systems approach.

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Acknowledgments

To Helen, Gill, David & Ben…thanks.

'Get process right and outcomes will follow' GB Olympic swimming coach 2012

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Glossary

AR	Arrest Referral
CARAT	Counselling, Assessment, Referral Advice & Throughcare
CC	Continuity of Care
CJIS	Criminal Justice Intervention Service
CJIT	Criminal Justice Intervention Team
DIP	Drug Intervention Programme
DIR	Drug Intervention Record
DIRWeb	Drug Intervention Record Web based data system
DH	Department of Health
DOMES	Diagnostic Outcomes Monitoring Executive Summary
DToA	Drug Testing on Arrest
DTR	Drug Test Recorder
DSCP	Drug Systems Change Pilot
EDAP	Essex Drug & Alcohol Partnership
EDAAT	Essex Drug & Alcohol Action Team
ERD	Entity Relational Diagram
HMP	Her Majesty's Prison
HO	Home Office
IOS	InsideOut Service
IDTS	Integrated Drug Treatment System
JCG	Joint Commissioning Group
MoJ	Ministry of Justice
NOMS	National Offender Management Service
NTA	National Treatment Agency for Substance Misuse
NDTMS	National Drug Treatment Monitoring System
OCU	Opiate and/or Crack User
PHE	Public Health England
PDU	Problematic Drug User
PNC	Police National Computer
PTB	Pooled Treatment Budget

PwC	PricewaterhouseCoopers
RTP	Return to Prison
SCP	Systems Change Pilot
SMP	Substance Misusing Prisoner
TC	Tough Choices
TOP	Treatment Outcome Profile
WDP	Westminster Drug Project

Abstract

Background: Continuity of care (CC) is associated with increased rates of engagement with drug treatment, and drug treatment is associated with reductions in crime. However, performance rates of CC reflecting the prison-to-community transition for substance misusing prisoners (SMP) are low and, although guidance is extensive, non-clinical quantitative research describing this key process point within the UK criminal justice healthcare pathway is limited.

Objectives: From a systems perspective, utilising a bespoke prison-to-community CC counting mechanism, this study aimed to: establish whether CC is associated with improved rates of drug treatment engagement, reduced waiting times and rates of return-to-prison (RTP); evaluate the impact on those measures post the introduction of the reconfigured single service delivery model 'InsideOut'. Also, given this study's pilot introduction of the statutory drugs data collection system into the local prison, describe a 'first look' pre-incarceration client treatment outcomes profile (TOP).

Design: Observational, encompassing a quasi-experimental (before and after) analysis of impact.

Participants: Adult, male substance misusing prisoners (N = 808) transitioning from the prison system to a local community drug partnership between April 1st 2008 and March 31st 2012.

Results: 'System' level prison-to-community CC was associated with increased rates of and reduced waiting times to drug treatment. The introduction of the InsideOut service was associated with a stepped change in performance. Compared to individuals engaged with community recovery, SMPs reported a significant deterioration in all outcome domains prior to incarceration.

Conclusions: Whilst the increased rates of prison-to-community continuity of care reported here were supported by the UK Department of Health's statutory reporting mechanism, the decreased rates of return-to-prison contradicted UK Home Office reoffending outputs. Analysis of the national administrative statutory health and crime datasets is suggested to address this and other issues associated with study power, confounding and validity.

Chapter 1 – The study

1.0 Introduction

Continuity of care (CC) is key to treatment engagement (National Institute for Health Care Excellence, 2014; National Treatment Agency, 2009c, 2009d, 2011), and drug treatment is associated with reduced crime (National Treatment Agency, 2009b, 2012a, 2012b, 2012c, 2012e). From a systems perspective, utilising data drawn from the community-based National Drug Treatment Monitoring System (NDTMS), the Treatment Out Profile (TOP)(Public Health England, 2015b, 2016) and the prison-based Drug Intervention Record Web-based (DIRWeb) (Home Office, 2007a) databases, this study tested the assertions that the prison-to-community continuity care transition was primarily associated with: **increased rates of ex-prisoner engagement with community drug treatment; decreased waiting times to drug treatment;** and is secondarily associated with: **increased lengths of time in drug treatment**; **decreased rates of return to prison.**

This study tested the hypothesis that: **an integrated (single) compared to a siloed (twin) service delivery model, bridging the prison and community drug recovery settings, would improve the rates of prison-to-community continuity of care journeys** and **reduce the associated waiting times to community drug treatment.**

With a view to improving the rates of prison-to-community continuity of care, a strategic commissioning exercise, involving the realignment of the prison and community criminal justice drug treatment funding streams, was undertaken in order to facilitate the introduction of the 'InsideOut' service (EDAP, 2009; National Treatment Agency, 2009h; Westminster Drug Project, 2010). This innovative service, which is essentially a consolidation of the Counselling, Assessment, Referral, Advice and Throughcare (CARAT) prison service and the community Drug Interventions Programme (DIP), began to operate on April 1st 2010.

1.1 Background - the Drug Systems Change Pilot

The opportunity to study the prison-to-community continuity care transition presented in the form of the UK Government's introduction of the Drug Systems Change Pilot (DSCP) initiative (National Treatment Agency, 2009g). This programme was introduced in order to tackle a wide range of drug systems issues that had been highlighted within the review of prison-based drug treatment fund arrangements (PriceWaterhouseCoopers, 2008). Amongst several recommendations, and with an emphasis on poor rates of prisoner continuity care to the community drug treatment setting, the review strongly supported suggestions from the field that implementation and testing of innovative commissioning models should be encouraged. A further recommendation was that the National Drug Treatment Monitoring System (NDTMS) should be introduced into the prison drug treatment system (PriceWaterhouseCoopers, 2008). These recommendations, in conjunction with the local commissioner's and information manager's experiential observations, provided the impetus for the locality-based drug treatment system change reported here.

Coordinated by the local Drug and Alcohol Action Team's (DAAT) Strategic Commissioning Lead, a consortium of senior strategic commissioners drawn from the police, probation and prison services awarded the reconfigured Criminal Justice Intervention Service (CJIS) contract to a third sector organisation (TSO) for an initial period of five years, inclusive of a grace period. A key element of the CJIS was the establishment of the InsideOut intervention to manage the prison-to-community continuity of care transition. The InsideOut service, essentially a consolidation of the Counselling, Assessment, Referral, Advice & Throughcare (CARAT) and the community Drug Interventions Programme (DIP), began operations on 1st April 2010 (Westminster Drug Project, 2010). and at the time of this writing, had entered its final year in that configuration. The decision to research and evaluate prison-to-community continuity of care transition, and the impact on delivery with the introduction of the InsideOut service, was sanctioned by the local drug and alcohol partnership board and was supported by both the NTA regional and national performance teams.

In order to better understand the impact of the introduction of the InsideOut service and service user perceptions, the mixed methods Process & Treatment Outcomes Research Study (PTORS) was developed and registered with the Integrated Research Application System in early 2011 (Connor, 2014). The PTORS study incorporated two Ph.D projects: one exploring the client's journey from the service user's perspective, and the second, this quantitative analysis of the prison-to-community continuity of care transition. The study and its academic elements gained favourable ethical opinion from the NHS Eastern Region Ethics Committee in 2011 (see appendix 1.0). The complementary qualitative investigation, describing client perceptions of their experiences with the InsideOut service and their views on what recovery from drug addiction means to them as individuals, is reported separately; this is located within the University of Essex's PhD archive and is published (Senker & Green, 2016).

Funding for the systems change intervention and this evaluation was granted by the central government to the Essex Drug & Alcohol Partnership (EDAP) during 2009, following a successful outcome to a competitive bidding process undertaken between the autumn of 2008 and the summer of 2009 (National Treatment Agency, 2009e).

1.2 Aims of the study

Rates of prison-to-community continuity of care associated with substance misusing prison leavers, whilst stable, are suboptimal. The purpose of this study is to establish whether service reorganisation, involving the integration of two sets of service delivery activities, is associated with increased rates of prison-to-community continuity of care transitions, increased rates of engagement with the community drug treatment system, reduced waiting times and decreased rates of return-to-prison. This is the first study in the field entirely devoted to investigating the prison-to-community continuity of care transition from a non-clinical (administrative) perspective.

1.3 Nature of this study

Observational, cross-sectional investigation encompassing a quasi-experimental design, evaluating system and organisational level process and outcome performance outputs.

1.4 Hypotheses and supporting research questions

Integrated prison and community (non-clinical) single-service delivery (1), is associated with improved rates of prison-to-community continuity of care (CC), (2) is associated with improved rates of treatment engagement, (3) is associated with reduced rates of return-to-prison and (4) is associated with reduced mean waiting times to treatment. In order to test these hypotheses, a series of descriptive, univariate (Chi Squared and student *t*-tests) and covariate (Kaplan Meier Survival and Mantel Cox log rank tests), supported with effect size calculations where applicable, will analyse the data to set study context and attempt to the answer the following research questions:

(1) is CC associated with increased rates of drug treatment engagement?

(2) is CC associated with reduced waiting times to drug treatment?

(3) is CC associated with increased length of time in drug treatment?

(4) is CC associated with reduced rates of RTP?

(5) is drug treatment engagement associated with reduced rates of RTP?

(6) is CC and engagement with drug treatment associated with reduced rates of RTP?

Secondary strategic concerns associated with issues related to data silos, standardising treatment delivery and information sharing were addressed through this study's piloting of the NDTMS and Treatment Outcome Profile (TOP) into the local prison (National Treatment Agency, 2012d). While a specific hypothesis was not studied, the study's introduction of the NDTMS into the

local prison allowed for a somewhat opportunistic ‘first look' at the self-reported outcomes data collected from prisoners as they engaged with prison drug treatment. Although not the primary focus of this study, standardisation of the local drug treatment data systems was deemed necessary to achieve longer-term strategic objectives and, importantly, paved the way for a national rollout.

The study analysis was undertaken in six stages. Firstly, the study group were contextualised via a comparative analysis with regional and national demographical information. Secondly, a ‘whole system’ descriptive, chi-squared and student t-test analysis was undertaken to establish potential associations between continuity of care and treatment in line with the research questions. Thirdly, a series of survival analyses were undertaken to strengthen the univariate stage, again at the ‘system’ level. Fourthly, the study’s hypotheses were tested by way of comparative and survival analyses of the CARAT vs. InsideOut CC, treatment engagements and waiting times activities. Fifthly, the prison-to-community continuity of care performance outputs generated by this study were compared to those as published by the DIRWeb, and latterly NDTMS, statutory performance reporting mechanisms. And finally, and peripheral to this study’s main aims and objectives, an opportunistic comparative univariate analysis of the pre-incarceration TOP data vs. TOP outcomes data collected from those in community recovery was undertaken, so that an initial look at the extent of the lifestyle deterioration experienced by individuals in the period leading up to their incarceration might be tentatively described.

1.5 Conceptual framework

This study was conceptualised within a ‘systems thinking’ (or theoretical) and strategic commissioning framework. The conceptualisation presented here was initially developed from experiential observations associated with data flow and performance management issues. Those early data flow constructs were subsequently strengthened with the incorporation of some of the key elements of systems dynamics (Forrester, 1968, 1971) and soft systems methodology

(Checkland, 1999, 2012), the latter being a branch of managerial science that attempts to better understand and improve individual human and organisational level interactions.

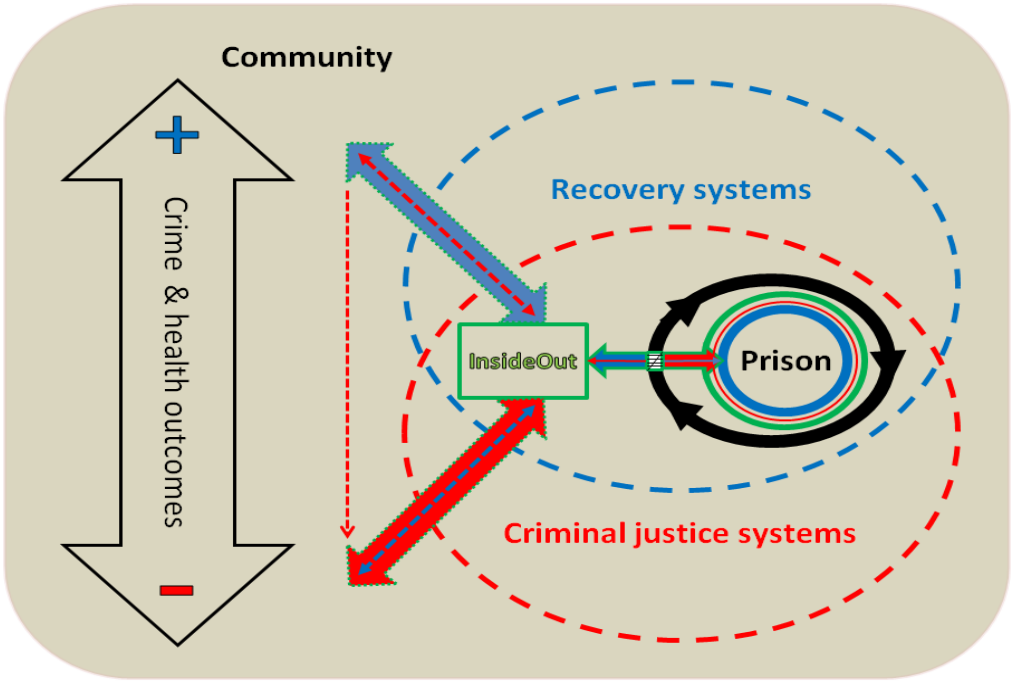

Figure 1: Drug system change located within a process linked to outcomes conceptual framework

This study specific conceptual schematic positions the system change (green) within the broader Partnership or community systems, and defines several boundaries, both physical and virtual (information management), which may display closed or open properties. The recovery system incorporates clinical and non-clinical drug treatments, recovery support services, housing/accommodation agencies, employment/training/education (ETE) bodies, etc. The criminal justice system includes the police, probation, and judiciary. Dependent upon context, these systems may operate independently or may interact with each other; for the purposes of this model, the prison is located at the centre of interdependency between the two. The flow of people and information can be uni or bi-directional, as indicated by the double-headed arrows. The degree of influence, and the frequency of system interactions, are shown by solid (robust and many) or broken (weak and few) arrows.

1.6 Definitions

For the purposes of this study, continuity of care was defined as the process of transitioning from prison to community drug recovery systems. This event was recorded as the first episode of release and pick up as reported by the prison-to-community DIRWeb data systems. Treatment engagement, viewed as a study outcome, was defined as the first episode of release (case closed date, prison DIRWeb) linked to the first episode of treatment (triage date, community NDTMS); waiting times (process) were calculated accordingly. Return-to-prison was also viewed as a study outcome and was defined as reappearing on the local prison (DIRWeb) system within twelve months of first release, as measured from discharge date (community NDTMS) to case opened date (prison DIRWeb). Assignation to the opiate- and or crack/cocaine-using (OCU) cohort followed the NDTMS business definitions and guidance as at 2009 (National Treatment Agency, 2009f). Individuals not recorded as 'White British' were coded to the black/minority or other ethnicity (BME) group. All study participants were adult males.

The 'system' data (N = 808) reported here were comprised of three sub-organisational elements, namely CARAT (n = 255), InsideOut (n = 278) and HMP Other (n = 275). The CARAT activity data were collected between April 1st 2008 and March 31st 2010. The InsideOut activity data were collected between April 1st 2010 and March 31st 2012. And the HMP Other activity data were collected between April 1st 2008 and March 31st 2012. This latter group was comprised of people returning to the local drug recovery partnership from prisons located externally and is included to strengthen 'system' level outputs.

Within this study's context, the term 'clinical' refers to medical interventions, e.g. methadone maintenance (and its compliance), whilst the term 'non-clinical' refers to key (care) working and administrative/managerial/commissioning functions. For the purposes of clarity, this study is predominantly concerned with continuity of care as viewed from the non-clinical, administrative perspective, but does incorporate the 'care' aspect in order to help explain why rates

of prison-to-community continuity of care might may be influenced with the utilisation of peer mentors.

1.7 Assumptions

This study was conducted under the assumption that prison-to-community continuity of care was associated with increased rates of treatment engagement and reduced waiting times, and that drug treatment was associated with crime reduction. For the purposes of this study, it was also assumed that the local criminal justice system was 'closed'. HMP Chelmsford is a local prison, meaning most Essex residents will be resident there prior to release and will be returned there upon reincarceration.

1.8 Scope, limitations and delimitations

This study was small-scale, non-randomised, and confounded, as—for example—it was unable to account for prison leavers who were drug-free. Lack of access to the national DIRWeb and NDTMS datasets restricted this study's interpretations and generalisability. The possibility of researcher bias, given this author's proximity and input into the service design and recommissioning processes, should be considered. If this line of research is developed, a suggested direction would be to apply an action research or soft systems method approach, incorporating professional perceptions and feedback relevant to systems integration.

1.9 Personal role and motivation

During 2001, the National Treatment Agency for Substance Misuse (NTA), an executive NHS agency, was created (National Treatment Agency, 2001) in direct response to the United Kingdom's burgeoning heroin epidemic of the 1990s and early 2000s. The NTA's remit was to deliver an efficient drug treatment system as directed by the principles and guidelines set out within the 2002

Models of Care for the Treatment of Adult Drug Misusers guidance (National Treatment Agency, 2002, 2006). The NTA were tasked to commission and oversee the expansion and delivery of a high-quality and consistent drug treatment system within the community and prison settings throughout England and Wales. In order to support the NTA's performance aims and objectives, the National Drug Treatment Database Monitoring System (NDTMS) was developed to collect, monitor, and research client-level data (North East Public Health Observatory, 2001). During the initial development phases (2002-2004), as the London Region Database Manager I was involved in the implementation of what is now recognised as one of the country's foremost statutory health data collection and monitoring systems.

An interest concerning healthcare pathways located within the criminal justice system, and drug treatment compliance issues in general, began during the period of employment with the NTA, when it was noted that some clients were frequently in and out of the drug treatment system. This phenomenon appeared to be consistently associated with people recorded in the criminal justice dataset, which at that time was referred to as the Arrest Referral (AR) database and subsequently evolved into the Home Office's Drug Intervention Record Web-based (DIRWeb) system (National Treatment Agency, 2005). While personal interest developed alongside work experience with a Third Sector Organisation (TSO) specialising in criminal justice interventions, it was only in 2009 with the introduction of the Drug Systems Change Pilot (DSCP) programme, that the opportunity to research the prison-to-community continuity of care process, and evaluate a remedial intervention to improve performance, presented itself. This thesis reports those investigations.

1.10 Organisation of the thesis

The remainder of this thesis is presented in four chapters. Chapter Two critically reviews the literature associated with continuity of care and its association with the delivery of successful drug treatment outcomes. As the section progresses, continuity of care for people affected by drugs who are transitioning from prison to community drug recovery settings becomes the focal point;

attention is then drawn to research limitations and the sense of frustration experienced within the sector. A narrative is then developed to demonstrate how our understanding of the complexities and vulnerabilities associated with offending substance misusers has evolved from a simple linear model to complex clustered models of causality.

The third section of the review presents a descriptive narrative of the development of the UK Government's anti-drug strategy from a historical perspective. Each iteration or major refresh of the strategy serves as an 'anchor point' along a timeline upon which other government departmental procedures (such as commissioning guidelines), influential (UK) academics, and other relevant publications are located. As this section is developed, there is an increasing focus on material related to drug-affected prisoner throughcare and aftercare journeys, especially within the context of crime reduction. The chapter ends with a section introducing systems theory and describes how that branch of managerial science facilitated the development of this study's conceptual framework.

Chapter Three details the method(s) as per the STROBE guidelines. Also included is a description of the project activities within the associated timeline and presents the Process and Treatment Outcomes Research Study (PTORS) in its entirety. The requisite data sources are identified and a description of the audit activities undertaken to improve the quality of the data thereby maximising the number of matched statistical entities made available to this quantitative research is also included. The relational data modelling and development of the study-specific data process and outcome counting model is reported, and the quantitative analysis of the process and outcome outputs itemised.

Chapter Four presents this study's results in seven stages. In the first stage, the study group's demographic is contextualised within the local, regional and national profiles. In the second, the four-year outputs, generated by the study-specific counting model, are grouped into a 'system' count to provide research context by answering the research questions. In stage three, the study

demographic is interrogated for confounding factors. Stage four tests this study's hypotheses with comparative and survival analyses of the CARAT vs. InsideOut continuity of care, treatment engagement and waiting times to treatment. Stage five places the prison-to-community performance outputs generated by this research within the contexts of the Home Office's and latterly the Public Health England's performance reporting mechanisms so that the local performance activities reported by this study can be compared to national, other system change and similar drug recovery partnerships. The chapter concludes (stage six) with an opportunistic comparison of the self-reported TOP data of people relapsing to prison versus those who recovered in the community.

Chapter Five places the main findings of this study within the context of the literature and suggests how this research has reinforced and contributed to that knowledge base. The study's influence regarding local commissioning practice and policy, and the influence of systems theory upon commissioning strategy in general, are also discussed. Study limitations and potential researcher biases are expanded upon and the chapter concludes with suggestions for the direction of future research. Where possible, the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) guidelines (Vandenbroucke et al., 2007) were applied, although not necessarily in the order published.

1.11 Summary

Although this is predominantly an applied piece of work, I propose that the study's intellectual weight lies in the following: (1) its conceptualisation of the prison-to-community continuity of care transition within a process linked to outcomes framework, informed by systems theory; (2) its development of a CC/RTP counting mechanism, utilising relational data modelling techniques as applied to the statutory data sets at that time; and (3), the impact of the introduction of the combined prison and community InsideOut drug recovery service via the realigned prison drug

treatment funding streams as per the 'Freedoms and Flexibilities' granted within the remit of the 2009 Drug Systems Change Pilot. Should this line of research not be developed further, this study's legacy will be its leading role regarding the introduction of the NDTMS into the UK prison health care system.

Chapter 2 – Literature review

2.0 Introduction

This study is primarily concerned with the delivery of continuity of care from within a strategic commissioning and information management context, and relies on a systems (non-reductionist) approach to problem-solving within that environment. This critical review, set within an historical and descriptive framework, presents this programme of research and evaluation from three perspectives, namely: (1) the prison-to-community continuity of care transition viewed through the lenses of clinical and non-clinical delivery; (2) the complexity and vulnerability associated with substance-misusing offenders; and (3) implementation of the drug treatment system(s) within the context of the UK Government's anti-drugs strategy.

Within each theme, the emphasis towards either a descriptive or a critical narrative is dependent upon this study's focus, namely the delivery of continuity of care from a commissioning perspective. For instance, the mainly academic literature describing continuity of care within the clinical context is critically reviewed, albeit from within a descriptive and historical framework, whilst the subsequent section, dealing with complexity and vulnerability, is less so. The aim of that section is to describe the development of our understanding of causality as a means of emphasising the challenges associated with providing care to substance-misusing offenders, rather than critically reviewing the nature of causality (and its contribution towards policy formation) per se.

Similarly, because the section dealing with policy and drug treatment system(s) implementation is primarily concerned with highlighting the frustrations associated with delivering continuity of care across silos and within an environment of staggered delivery, an historical descriptive narrative, informed by a large volume of non-peer reviewed literature, takes precedence.

2.1 Continuity of care and substance misusing prisoners

Continuity of care (CC), also referred to as throughcare and aftercare, is comprehensively understood as key to delivering successful treatment outcomes in both general settings (National Institute for Health Care Excellence, 2014) and drug treatment settings (National Treatment Agency, 2009c). And whilst prisoner continuity of care research is ongoing (Grace et al., 2016; C. Lloyd & Page, 2015; Scaggs et al., 2015), there are few, if any, quantitative non-clinical studies devoted entirely to the process of CC when associated with drug-affected prisoners at the point of their release.

From a performance perspective, the delivery of CC within the criminal justice context has exercised commentators for some time (Edwards, Gunn, Kilgour, & Smith, 1985; Gulland, 2010; MacDonald, Williams, & Kane, 2012), and yet its systematic delivery, targeted towards drug-affected people leaving prison, has remained elusive (Dyer & Biddle, 2013; The All Party Parliamentary Drugs Misuse Group, 1998). Following the publication of the UK Government's first national anti-drugs strategy in 1995, successive academic, policy and guidance publications have advocated and reinforced the importance of delivering CC to this high-risk and vulnerable offending group of people. And yet, by 2004 and the publication of the Reducing Re-offending National Action Plan, little if any progress could be reported (Home Office, 2004a); and more recent initiatives, namely the 'Through the Gate' programme, appear to have had no substantive impact on the rates of relapse to drugs misuse and recidivism amongst (short-term) prisoners (HM Inspectorate of Probation, 2016).

The following sections review and discuss CC as viewed from the clinical and non-clinical perspectives. For the purposes of this study, the non-clinical perspective takes primacy because ultimately this study's focus is the commissioning and information architecture of the system providing the delivery of prison-to-community continuity of care rather than with the delivery of drug treatment as such.

2.1.1 The clinical perspective

Since the 1980s, quantitative evidence has been building describing improved health and crime outcomes that may be realised by people engaging with drug treatments. Notable contributions describing prison to community continuity of care can be attributed to the criminal justice drug treatment research teams located in Oregon (Field, 1989, 1998), Delaware and Texas (Broome, Knight, Hiller, & Simpson, 1996; Broome, Knight, Joe, & Simpson, 1996; Hiller, Knight, Devereux, & Hathcoat, 1996; Hiller, Knight, & Simpson, 1999, 2006; Knight, Simpson, & Hiller, 1999), and latterly the Baltimore team (Gordon, Kinlock, & Schwartz, 2008; Gordon et al., 2014; Gordon, Kinlock, Schwartz, & O'Grady, 2008a; Kinlock, Battjes, & Schwartz, 2005; Kinlock, Gordon, Schwartz, & O'Grady, 2008; Kinlock et al., 2007; Kinlock, O'Grady, & Hanlon, 2003; Lee et al., 2016).

Within the UK setting, substantive contributions to the field can be attributed to, for example, Gossop, Strang, Marsden, Best (Best et al., 1999; Best, Man, et al., 2001; Gossop, 2015; Gossop, Marsden, & Stewart, 1998, 2000; Gossop et al., 1997a; Gossop, Marsden, Stewart, & Kidd, 2003a; Gossop, Marsden, Stewart, & Rolfe, 2000a, 2000b; Gossop, Marsden, Stewart, & Treacy, 2001; Gossop, Trakada, Stewart, & Witton, 2005; Stewart, Gossop, Marsden, & Rolfe, 2000; Strang et al., 1997; Unnithan, Gossop, & Strang, 1992).

In terms of quantitative findings, early research undertaken in the United States (US) reported that completers (N = 43, average time in treatment = 11 months) of the Oregon 'Cornerstone' prison drug treatment programme were more than four times less likely to be rearrested (no arrest rate = 37%) than those dropping out (N = 65) within two months (no arrest rate = 8%) (Field, 1989). Similarly, the Delaware team, whilst evaluating the effectiveness of prison drug treatment, compared the rates of relapse and recidivism for those having received drug treatment pre- and post-release, with those having received treatment in prison only, reporting that prisoners engaging with community rehabilitation had a four times lower risk of relapse and less than half the risk of recidivism within the first eighteen months of their release (Inciardi, 1995; Inciardi & Martin, 1993).

Building on those observational findings, Martin et al (1999) proceeded with a quasi-experimental design and compared the outcomes for four groups; namely, prison treatment, community treatment, both prison and community treatment, and a control group. In that study, the twelve-month outcomes were positive in terms of relapse and recidivism rates, but after three years, the combined treatment effect appeared to have had no impact. However, when the sample was restructured to the following: comparison group (N = 210), dropouts (N = 109), treatment completed (N = 101) and treatment completed with aftercare (N = 69), the group that received aftercare reported significantly lower rates of recidivism and relapse at the three-year point.

Subsequent studies have reported similar trends. For example, in San Diego, California, a randomised experiment of prisoners assigned either to no treatment, or intention to treat (ITT) reported that within the ITT group (N = 425), dropouts from prison treatment only (n = 98) and prison treatment completers but aftercare dropouts (N = 35) were almost six times more likely to be reincarcerated than those completing both prison and aftercare programmes (Wexler, De Leon, Thomas, Kressel, & Peters, 1999). And in Texas, a three-year outcome study that had allocated prisoners to: no treatment group (N = 103), prison treatment only (N = 123), and prison and community treatment group (N = 179), found that the cohort receiving prison and community aftercare were least likely to relapse. In their analysis, 25% of that group, compared to 64% of the aftercare dropouts and 42% of the untreated comparison groups, were reincarcerated (Knight et al., 1999).

In 2004, a subsequent analysis of the Delaware cohort (N = 680) reported that at the five-year follow-up point, prison treatment completers (in receipt of aftercare) were four times more likely to be drug-free, and half as likely to have been rearrested, compared to those dropping out (Inciardi, Martin, & Butzin, 2004). Later, a randomised clinical trial (N = 211) assessing the impact of delivering methadone treatment prior to and shortly after release found that those receiving methadone treatment and counselling (N = 71) were significantly less likely to test positive for illicit

heroin use and self-reported significantly less crime at the six-month follow-up point (Gordon, Kinlock, Schwartz, & O'Grady, 2008b).

An observational study (N = 357) of the characteristics of those returned to prison within the mid-west (Kansas) setting, reported significant differences between programme completers and those who dropped out. At all follow-up points (six, twelve, eighteen and twenty-four months), treatment completers were significantly less likely to be reincarcerated. At the twenty-four-month point, 51% of dropouts compared to 35% of completers had been returned to prison (Severson, Veeh, Bruns, & Lee, 2012). And a Canadian retrospective outcomes study (N = 856), comparing the return-to-custody rates of those receiving methadone maintenance post-release with those that did not, found significant reductions in recidivism in those continuing with their treatment (Macswain, Farrell-MacDonald, Cheverie, & Fischer, 2014).

Whilst reviews continued to promote prisoner re-entry continuity of care, an underlying sense of frustration with the rate of progress could be detected. For instance, Prendergast (2009), in his systematic review of drug treatment effectiveness within the prison and community settings, dedicated a section to continuity of care and reported that no clear guidelines existed (at least within the US setting) which described the important role of continuity of care in reducing relapse and recidivism. However, and importantly for the purposes of this study, in conclusion, he suggested the possible value of using a single provider for delivering both prison and community treatment. And McKay (2009), having reviewed the continuity of care literature in general from three perspectives (1 quasi-, 2 experimental and 3 retention studies), suggested that if continuity care was less clinically-driven then treatment outcomes might be improved.

Engaging with drug treatment has been shown to promote secondary clinical and non-clinical gains. For instance, in their randomised study (N = 157) of clients engaged by the Baltimore City Drug Treatment Court, Gottfredson et al (2005) assessed the level or quality of relationships, education, wealth, mental disability and physical health and reported lower crime rates in the study

group compared to their control sample. Their research further reinforced that the development of Interventions for Seropositive Injectors – Research and Evaluation (INSPIRE), an integrated intervention for HIV-positive IDUs, had resulted in improved utilisation of HIV care, improved adherence to HIV medications, and reduced sexual and injection risk. The authors emphasised that there was a need for an integrated intervention for HIV-positive IDUs, and these data supported the acceptability of such an approach.

In a similar context, Vlahov et al (1998) explained that enrolment in the Baltimore Needle Exchange Program (NEP) was associated with short-term reduction in risky injection practices. Consequently, Visher's (2003) report proposed that the policymakers and service providers need to develop drug recovery wings that may assist in how to release and monitor prisoners returning to Baltimore and navigate these challenges of re-entry. In this regard, integrated care services may have a protective influence regarding subsequent drug use and delinquency behaviours.

From within the UK perspective, the research outputs generated by the National Treatment Outcomes Research Study (NTORS) (Gossop et al., 1995-2000) and latterly the Drug Treatment Outcomes Research Study (DTORS) (Donmall, Jones, Millar, Barnard, & Davies, 2006-7) teams have substantively contributed to our understanding of the individual and societal health, crime and cost benefit outcomes, that may be realised from engagement with treatment for substance misuse.

Research participants were recruited to the NTORS prospective study (N = 1075, from 54 community drug treatment centres) during the spring of 1995 and were followed for up to five years (Godfrey, Stewart, & Gossop, 2004; Gossop, Marsden, Stewart, & Kidd, 2003b; Gossop, Marsden, Stewart, et al., 1998; Gossop, Marsden, Stewart, & Rolfe, 1999; Gossop, Marsden, et al., 2000a; Gossop et al., 2001; Gossop et al., 2005). The study was the first of its kind within the UK setting and its findings, regarding the beneficial health, mortality and crime outcomes that might be realised from engaging with drug treatments, have significantly influenced drug treatment policy (Gossop, 2015; Gossop, Marsden, & Stewart, 2000).

The DTORS programme of research began in 2006 (Donmall et al., 2006-7). Of the 1796 people recruited (from 94 areas), 504 were followed up and interviewed at about the one year point (Jones et al., 2007). And whilst mainly supporting and strengthening the positive health and crime outcomes reported by the PTORS group (Jones et al., 2009), this study further developed a cost benefit analysis suggesting that for every £1.00 invested into drug treatment a £2.50 saving might be realised (L. Davies, Jones, Vamvakas, Dubourg, & Donmall, 2009).

From within the clinical perspective, drug treatment has been demonstrated to improve health crime outcomes and reduce societal costs, however, not all reviews have been wholly supportive. For example, Hedrich et al (2012), having undertaken a systematic review of experimental and observational studies within the European Union (EU) setting, reported that, if continuity of care arrangements were in place, engagement with treatment in prison predicted engagement with community treatment, but had no significant effect on the rates of crime and reincarceration. McDonald et al (2012) went further: from their analysis of healthcare availability within the EU criminal justice system in general (with a focus on continuity of care or throughcare), they observed that CC was patchy and not properly monitored, and emphasised the lack of coordination between prison and community systems.

2.1.2 The non-clinical perspective

As therapeutic evidence accumulated, the case for an increased focus on prisoner continuity of care from the non-clinical perspective has strengthened. For example, early contributions came from Anglin and Maugh (1992), whose review of the associations between drug treatment and crime reduction identified certain strategies to maximise treatment. They suggested that 'upon completion of the in-prison portion of their rehabilitation programs, probationers and parolees should be enrolled in community-based treatment programmes' (p. 86). Moreover, in his paper 'Reducing

Recidivism Through A Seamless System of Care', Taxman (1998) proposed that a systemic case management system was required to improve the prison-to-community transition.

For the purposes of this study, non-clinical refers to: (1) client care and support outside of clinical interventions such as opiate substitute prescribing; (2) administrative implementation and performance monitoring; and (3) the process of continuity of care located within a systems paradigm. The theoretical aspects of care are briefly highlighted here because, whilst this study's primary concern is with continuity of care viewed as a process within a system, a key element of the InsideOut service was the introduction of volunteer peer mentors to assist with the transition from prison to community drug recovery settings. This type of additional care, targeted towards substance-misusing prison leavers, whilst innovative to the local drug recovery system, is well-established nursing theory and practice and is likely to have contributed to the improvements in continuity of care reported in this study.

Theories of care

Outside of the clinical or adherence to treatment contexts, continuity of care can be viewed as a set of (non-clinical) coordinated activities (clinician- and / or care team-led) directed towards delivering ongoing quality healthcare during the patient or client's treatment episode (Metz, Chard, Rhodes, & Pounder, 2004). Quality continuity of care in the general sense decreases fragmentation of care and improves patient safety (Homer, Brodie, & Leap, 2008). A key aspect of delivering continuity of care holistically is the notion of service integration (2009), which can be viewed from various aspects.

For instance, Hunt (2009) suggests that in the community, healthcare providers may contribute towards continuing care by visiting patients at home to assess progress and help with arranging other services. In terms of patient data management, continuity of care can be enhanced with integrated information systems which are viewed as necessary to seamless transitions with the continuum. Quality of care requires data that follow the patient for a period across several health settings (Ball, Hannah, Newbold, & Douglas, 2009) and integrated data management systems may

contribute towards patient-centred care models. And importantly for this study, there is the notion that case management services can harmonise transitions within and across care settings, especially for vulnerable people (Cohen & Cesta, 2005). Given the nature of the intervention reported here, the last two examples are of interest.

Theories of care have evolved as the nursing profession has developed (Smith & Parker, 2015), and a number have come to the fore. For instance, Watson's 'Theory of Caring' – which, adopting an existentialist phenomenological approach, focuses on the patient's body, mind, and spirit – embraces continuity of care as key to successful treatment outcomes (Jean Watson, 1999; J Watson, 2012). Peplau's theory describes care as an essential, interpersonal, and therapeutic process; it involves concepts such as assessment, communication methods, defining of problems and goals, responsibility clarification, and direction (Ziegler, 2005). The interpersonal theory is particularly useful within psychiatric nursing, dealing with psycho-social problems and the 'ideal bond' between nurse and patient (Basavanthappa, 2007). Orem's self-care theory is comprised of three linked theories incorporating self-care, the theory of nursing systems, and the theory of self-care deficit. Orem referred to every individual as a 'self-care agent' who can conduct self-care actions (Meleis, 2011). The responsibility of a nurse is to facilitate, besides augment, the self-care capacity in a healthcare institution. This theory embraces continuity of care for patients in homes and healthcare facilities among others by providing universal language in self-care, thus leading to enhanced communication and improved constancy in care delivery by building agreement regarding the goals and outcomes of nursing (Renpenning & Taylor, 2004).

Johnson's Theory integrates the nursing process into a general systems model. Johnson applied this model to care for a patient with the intention of testing, assessing, and determining its usefulness for predicting the impact of nursing care on a patient (Manning, 2010). In this theory, it is considered that subsystems interact with each other whereby the environment is said to be constantly acting on them. This theory embraces the continuity of care by allowing nurses to assist

patients in restoring the subsystems to balance and accomplish the best probable operational behaviour. Depending on the condition of the patient, the nurse is supposed to support the patient by making alterations to the environment as required and helping the patient to develop new behaviours (Alligood, 2014).

Roy's Theory advocates that an individual adapts to the environment through four modes, namely physiologic needs and processes, role mastery, self-concept, and interdependence (Swansburg, 1996). Simply, as the patient adapts to the transformations in the environment, so does the nurse who is delivering care to the patient. The purpose of the nurse in any healthcare institution is to assist the patient to adapt to the illness so that he/she could be capable of responding to other stimuli (Shives, 2008). This theory supports the continuity of care by enabling patients to adapt to their illness so that they can receive the full benefit of nurses' care.

In conclusion, the continuity of care is attained through discrete bridging components in the care pathway, whether mixed episodes or interferences by different care providers. Continuity of care exists where there are experienced health professionals. The experience of continuity for patients is the perception that care providers know what occurred previously so that nurses can agree on a consistent management plan for the treatment.

Performance

Within the UK setting, a likely early impediment to the delivery of prison-to-community continuity of care can be traced to the ten-year period prior to the launch of the UK Government's 1995 anti-drugs strategy (Lord President of the Council, 1995). At that time the Probation Service, whilst being directed to lead on the coordination of offender resettlement, was discouraged from doing so (M. Lloyd, Calderbank, Moore, Allen, & Flaxington, 2001). Specifically, the Probation Service was directed not to prioritise prisoner aftercare and other post-release support (Home Office, 1984).

During this period, concerns were raised, not only about the growing numbers of people entering prison, but also – importantly in the context of this research – about the perceived lack of continuity of care directed towards prisoners upon their release. In correspondence to the British Medical Journal, detailing the minutes of a meeting discussing the state of prison health care and NHS collaborations operating in the Trent area, the plight of drug users within the prison system was made explicit (Edwards et al., 1985). The authors commented that 'the community drug services were at that point not properly configured to accept drug-affected prisoners upon their release' (p. 1698), and observed that the community treatment centre environment experienced by those released would almost certainly encourage relapse because of their proximity to the drugs scene. They concluded that not enough was being done at discharge in terms of aftercare and, contradictory to the Home Office directive, suggested that the Probation Service should take a more proactive role in the delivery of continuity of care (Edwards et al., 1985).

The Carlisle Committee (1988) acknowledged that the Home Office Probation directive was a strategic mistake, and announced that the 1984 statement was one 'that we very much regret… . Reducing the priority of work with prisoners does not seem to us to be consistent with the overall objective of preventing further offending' (p.90). The UK Government responded in the form of the Criminal Justice Act 1991, within which the concepts of throughcare and aftercare, and the importance of their contributions towards preventing reoffending, were re-established. The Act directed that prisoners should serve half of their sentences in the community under supervision, and required that a renewed emphasis be placed upon prisoner throughcare and aftercare (HM Government, 1991, 2003).

However, systemic impact on the rates of prison-to-community continuity of care appeared muted, and towards the end of the decade, whilst it was noted that good progress had been made by a few dedicated prisoner staff committed to improving drug treatment provision, the All Party Parliamentary Drugs Misuse Group (1998) reported that they were 'profoundly concerned' as to the

level and the scale of the response, and emphasised that 'thorough comprehensive care and aftercare of drug abuse and addiction among prisoners has been much neglected, since there is no other way to define it. We are in fact at a loss to find logical explanations of efforts aimed at rehabilitating short termed or remanded prisoners. Hence, it is subjective to declare that the remanded prisoners are the very individuals who are chronic drug users and usually steal in order to fund their addiction' (para. 2.1.iv).

This criticism was acknowledged and a response came in the form of the updated prison anti-drugs strategy of the same year (HM Prison Service, 1998), detailing extra funding to facilitate the introduction of the Counselling, Assessment, Referral, Advice & Throughcare (CARAT) schemes (HM Prison Service, 1999). However, issues regarding implementation were soon realised, particularly regarding CARAT's capability to deliver seamless throughcare and aftercare. Mitchell (1999) noted that 'although the CARAT vision was to set up multidisciplinary schemes to incorporate uniformed prison staff, probation, health voluntary sector drugs workers into the CARAT equation, in reality and caused by prison service contracting restraints, the Probation Service were largely omitted' (p, 253). This reduced the effectiveness of the CARAT provision because, without Probation input at the assessment and release planning stages, continuity of care was much more difficult to deliver.

Further concerns were raised within the Drug Prevention Advisory Service report, which identified gaps in service provision and concluded that 'large gaps in provision remain at the point of arrest and on release from short term…sentences' (p. 56) and, for what appears to be a first within the UK literature, identified that this most problematic and high-risk of cohorts had remained neglected because they fell outside of statutory obligations (Edmunds, Hough, Turnbull, & May, 1999).

Moving into the new millennium, the organisational obstacles impacting on CC appear to have remained. In their assessment of the throughcare and aftercare outcomes of a small prisoner

cohort drawn from two London prisons, Mitchell and McCarthy (Mitchell & McCarthy, 2001) accentuated that one-third of prisoners of the two prisons are passed through detoxification services, yet this information is not a part of prisoner's file and is not subsequently released during the planning of therapeutic regimes. It was important to note that while some of the component integrated care services were observed, better coordination and linkages were required to maximise the benefits of detoxification and addiction treatment in prisons (p.205).

Limited progress was also reported by Burrows et al (2000). In their report to the Home Office, they noted that, whilst heroin use declined by 20% after release, only 11% of those released benefitted from a structured appointment with their community provider. They observed that substantive barriers – or as they termed it, 'structural impediments' – remained to the rational provision of throughcare which, they suggested, might be due to the nature of the recovery systems themselves. For instance, there was an overwhelming number of possible community contacts a prison worker organising a release package might have had to deal with; he or she might have had to contact one of 54 Probation Trusts for resettlement, one of 142 Local Authorities for accommodation needs, social services, etc., and one or more of the 700 community drug agencies and their respective health authorities (p. 2).

This was substantiated by Harrison et al (2001) who, whilst reviewing prison drug treatment throughout the South East of England, noted that although treatment within prison was becoming established, it had been more 'difficult to influence throughcare and aftercare' (p.476). They suggested that that difficulty reflected the complexity of the multi-agency arrangements then in place. Interestingly, they noted that an element of 'game-playing' might have been involved, especially by the community agencies. Their view was that the community teams might have deprioritised their initial post-release aftercare responsibilities to the CARAT service, because technically that element of the care pathway was viewed to be out of scope. They extended this observation by suggesting that the gaming element might have involved senior players representing

the Home Office and the Department of Health by way of offloading expense to each other in an environment of competition and scarcity of resources (Harrison, Capello, Alaszewski, Appleton, & Cooke, 2003).

From the prison perspective, the Prison Inspectorate Lloyd et al (2001) reported that a major factor affecting the delivery of prisoner aftercare was that the community drug services were ill-prepared to receive abstaining prisoners because their treatment systems were geared towards harm reduction. This observation brought the philosophical tensions between the two recovery domains, i.e. punishment vs. rehabilitation, into focus. Fox (2002) reinforced the latter point by drawing attention to a European study which described the presence of a fundamental conflict of approaches. She identified that the key difference between the two recovery domains was that on the one hand the prison setting naturally fostered a punitive mindset, whereas on the other, community provision was more likely to be founded upon the rehabilitative approach. She also highlighted the importance of stable housing, employment, financial, and family arrangements as crucial to the aftercare package.

The Social Exclusion Unit's report, 'Reducing re-offending by ex-prisoners' (2002), whilst observing that the delivery of drug treatment throughout the prison estate was progressing, also noted that all the positive work undertaken within the prison environment was not being carried through upon release. They found that 'no one was clearly in charge of joining up treatment between prison and the community' (p.65) and highlighted that, although contractually obliged, the CARAT teams were not routinely offering the (up to) eight weeks of post-release support, as per their remit. This aspect was either not recognised by some workers, or could not be fulfilled because of other work pressures. The report noted that, '…community and the prison-based addiction services are considered as funded for separate services; hence, prisoners are viewed as new cases when they are released and they have to join the back of the queue' (p.65) – a concerning observation, given the APPG's comments some four years earlier.

In their review of drug treatment in the English and Welsh criminal justice settings, Kothari et al (2002) recommended that throughcare should be given a higher priority, and that drug agencies should be organised to deliver care to the prisoner on release. They emphasised 'that through the whole process, continuity of care needs to be promoted and a holistic approach be adopted', (p.17) and whilst acknowledging the introduction of the CARAT schemes, asserted that 'effective and sustained delivery of the schemes will be a major challenge' (p.19).

In the foreword section of Ramsey's 2003 report, Carol Hedderman stressed that a major theme of the seven studies under evaluation within the report was the prime importance of aftercare to treatment effectiveness: 'Without good quality aftercare both in and on release, treatment is much less likely to be successful' (Ramsey, 2003). Specifically, and drawing on mainly US evidence, the report concludes that if quality treatment is to be effective in reducing re-offending, it must be adequate in length, meet individual needs, and 'above all, [must be] followed through with aftercare within prison and on release' (p. vi). The report concluded that 'good quality aftercare (both for the remainder of the period of imprisonment and also on release) is absolutely vital to the success of treatment in prison' (p. viii).

During this period, as observations focussed towards the structural impediments associated with poor rates of prisoner continuity of care, the language associated with systems concepts could be seen to be emerging. For instance, in Carter's report 'Managing offenders, reducing crime' (2003), the criminal justice system was observed to be 'dominated by the need to manage two systems, rather than focussing on the offender and reducing re-offending', and it was noted that there 'remain gaps in the system with, for example, interventions in the prison not being followed up in the community' (p.4).

By this time the CARAT schemes had become established, and yet effective delivery of prison-to-community continuity of care (a core remit) remained problematic. In their evaluations of five CARAT schemes based in the North West of England, Harman and Paylor initially concluded that

the CARAT schemes were failing to 'bridge the gap' (2004) and subsequently reported that little or no effective continuity of care was being delivered (2005). They observed that, although all the teams being evaluated were fully cognisant of their post-release responsibilities, there was an unwritten policy of 'no work to be undertaken' with those released, and that time and resources did not allow for it. Their research indicated that the CARAT teams were working to achieve the minimum performance standards as opposed to 'offering an effective post-release service' (p.358).

Also during this period, the Judiciary's shift in sentencing policy (Ministry of Justice, 2016) and its impact upon the plight of the non-statutory (serving less than twelve months) prisoner cohort were being realised. Burke and co-workers (2006) clarified the need for robust continuity of care practices and identified complex partnership work as a potential barrier to successful prisoner re-entry. They drew attention to the long waiting times (three to four weeks) experienced by prison leavers referred to the community drug treatment services and, perhaps more worryingly, that some clients felt that the waiting lists 'were being used as a tool to test their commitment' (p.113), leading many of those released to return to drug use almost immediately. They concluded that the period immediately following release was crucial in terms of relapse, and that 'reintegration is both an event as well as a process, and if initial re-entry is not achieved, there is less chance of successful long term resettlement' (p.121).

Failure to engage with treatment soon after release was also associated with significantly elevated risks of overdose and deaths (Mills, 2004), thus reinforcing the case for better coordinated prisoner throughcare and aftercare. In their review of the UK Home Office 'Pathfinder' prisoner resettlement project, Lewis and colleagues reported professional frustrations with long waiting lists for drug treatment post-release (Lewis, Maguire, Raynor, Vanstone, & Vennard, 2007). In 2007, as a part of its assessment of progress to the ten-year anti-drug strategy and with a view to addressing prison system-related drug treatment issues, the UK Government engaged a team of independent consultants (PriceWaterhouseCoopers) to review prison-based drug treatment funding. In their

report (2008) they observed that, whilst significant progress had been achieved regarding the provision of care and drug treatment within the prison system, implementation of robust continuity of care practices between the prison and community drug recovery systems remained fragmented. They remarked that the situation may have been exacerbated by the limited access and lack of information sharing between the DIP and CARAT teams. They suggested that data attrition – caused by loss of hard-copy records during transition, and the fact that the separate electronic information systems did not facilitate data sharing – had made monitoring the CC transition difficult. However, they did find evidence of 'well-managed transition arrangements between community, prison, and out again', but concluded that 'such instances were rare' (p.18). Importantly within the context of this study, a key recommendation from that report was that 'continuity of care of entry to and release from prison would be facilitated with the DIP and CARAT's service being commissioned as one combined service' (p.22).

Partly in response to the PwC report, but mainly resulting from a consultation of professionals employed by the Prison, CARAT and community drug services, the NTA published their process guidance for continuity of care between prison and community (National Treatment Agency, 2009c), within which was the tacit acknowledgement that the CARAT initiative had failed. From that point they advised that the CARAT and Prison Health Care teams should be referred to as the 'Substance Misuse Team' (p.3). However, from 2009 onwards, the focus on prisoner continuity of care, at least from a performance perspective, appears to have diminished. A change of government in 2010 and the integration of the National Treatment Agency into the Public Health England function have led to a move away from the central and regional performance structures and corresponding shifts in priorities. Whilst prison-based drug treatment research conducted in the UK is ongoing (Callanan, Turley, & Simpson, 2014; C. Lloyd & Page, 2015), there appears to be little appetite to revisit prisoner continuity of care from within a strategic commissioning context, and – given the current situation within the UK prison system (2015) –there perhaps is the possibility that

giving less priority to CC is likely to result in more relapses ultimately leading to further pressures on the prison system.

Since 1993, the UK prison population has doubled (Ministry of Justice, 2016), the Probation Service has undergone a significant restructuring (National Audit Office, 2016), and austerity measures have reduced the Prison Service budget year-on-year since 2010 (The Guardian Newspaper, 2014). Combined with other factors associated with, for example, client complexity (discussed in the next section), efforts to deliver effective continuity of care journeys for prisoners at the point of release have been confounded.

There have been several wide-ranging reports that have attempted to influence and reinforce the prison-to-community continuity of care agenda. For instance, Warren's White Paper to the US Department of Justice's Institutes of Crime and Justice and National Corrections (Warren, 2007), promoting the use of evidence-based practice (EBP) to reduce rates of recidivism, emphasises that 'effective interventions … are based on chronic care model requiring a continuous framework of care, aftercare and support. Further, by securing the offender's commitment to the rehabilitation care services, compliance with therapeutic regime and needed progressive monitoring and assessment of both program operations and offenders' outcomes' (p.68).

In the UK setting, there have been two notable contributions. Although not targeted towards substance misusers specifically, Bradley's review of people with mental health problems or learning disabilities in the criminal justice system (2009) did incorporate people with dual diagnosis. The fundamental themes that resonate throughout the report include assessment at earlier stages of treatment regimes, the continuity of care, support of the offenders, and working in partnerships for better flow of information and later the report directed that the prison mental health teams need to form linkages between liaison and diversion services in order to ensure that better planning for continuity of care is in place prior to a prisoner's release (p.110).

In 2010, Lord Patel published his comprehensive report entitled 'Recovery and rehabilitation for drug users in prison and on release: recommendations for action' (2010), in which a focus on prison-to-community continuity of care was firmly established within its primary remit (p.6) and reiterated more than thirty times throughout. And within the context of this study, the key recommendation was supportive of the system change evaluated here:

> 'The appropriate place to develop a clear 'menu' of evidence-based, effective and cost-effective services would be within a new national framework that spans drug treatment in the community and in prison to ensure consistency and continuity of care as people are released from prison' (p.15).

Whilst there appears to be a theoretical consensus that the prison-to-community continuity of care transition is key to improving health and crime outcomes, operationally, poor rates of prison-to-community continuity of care have persisted (Gulland, 2010). And relatively recent initiatives introduced to improve prisoner transitions and resettlement – for instance, the combined 'Resettlement Prisons' and 'Through the Gate' schemes (Ministry of Justice, 2013) – have had little impact (National Audit Office, 2016).

The commissioning architecture had not been conducive. For instance, prior to the Drug Systems Change Pilot Programme, funding for drug treatment among prisoners in England (the Pooled Treatment Budget) had been relatively protected from significant reductions at the time of research. However, the level of future funding allocations was an area of concern, together with the money movement of this into the public health budget and removal of the ring-fence. On the other hand, the current context was seen as a positive opportunity for integrating services, in particular for increasing investment in alcohol interventions.

Critique of continuity of care

The continuity of care literature reviewed by this study predominantly focuses on the health and crime outcome gains that might be achieved when people engage with the drug treatment services in general and upon their release from prison. And, whilst emphasising the importance of continuity of care, most of the studies reviewed have been less concerned with the process itself. Most studies were small and, to date, there appears to be a single instance of a large experiment where prison-to-community continuity of care is reported as a primary concern, (National Institute of Corrections, 2012) and a single case where commentators have made suggestions pertinent to this research, i.e. the delivery of treatment in the prison and the community settings delivered by the same provider (Gordon et al., 2014).

Whilst there is a common understanding that the process of continuity of healthcare is fundamentally associated with successful drug treatment outcomes, it is apparent, from this research's review of the literature, that its implementation into the prison side of the UK criminal justice system can be predominantly viewed as having been ineffective. The management of short term prisoners at their point of release appears to have been poorly coordinated.

During the ten-year period leading up to the launch of the 1995 UK anti-drug strategy, there appears to have been little research activity (in the UK at least), as observed by Hough who, one year into the 1995 drug strategy, noted that the literature on the topic of drug rehabilitation in prisoners after their release from prison has little to add to the value of aftercare (Hough, 1996). The author further explained that if the fundamental aspect of a successful treatment is in keeping offenders confined, there is no logical need to coordinate between programmes that are offered in the prisons and those offered by the Probation Service to offenders under post-release provision (p.6). Importantly for this research, Hough draws attention to the plight of short-term or non-statutory prisoners, i.e. those sentenced to less than twelve months, who appeared not to have benefitted from the care packages offered to the longer term or statutorily supervised prisoners. He observed

that time spent in prison should be an opportunity to reflect and effect change, thereby inferring that short sentences precluded these types of intervention. Without being explicit, he had identified a potential major flaw in the prevailing sentencing policy.

Three primary factors have been identified that appear to have contributed towards the disjointed delivery of prison-to-community continuity of care; hence, either in isolation or in combination, these factors have confounded strategic commissioners' expectations regarding this key juncture within the drug recovery journey. Firstly, from a philosophical perspective, it can be argued that the opposing world views or mindsets of the respective workforces (at all levels) might have consciously and / or subconsciously encouraged and reinforced the 'silo' effect – i.e. Fox's 'punishment versus rehabilitation' observation. The mindset argument is interesting because, experientially, there was a palpable sense of change when crossing the prison threshold, especially during the initial stages of this research. However, this cannot wholly explain the situation described here, given that the CARAT teams were technically staffed by 'civilians'. Although it was the case that prison staff may gravitate towards the prison care teams as their careers develop, the overarching CARAT mindset should have been more in line with community sentiments, which, one would speculate, might have encouraged closer working arrangements across the prison and community recovery systems. Perhaps the more likely explanation is that the internal demands (key performance indicators etc.) and hierarchical, top-down nature of the prison administrative system superseded treatment priorities. Without further investigation, it is difficult to develop this point further; the latter being a recognised weakness within this research, which is expanded upon later.

Secondly, the silo effect may have been reinforced by the nature and implementation of the respective prison and community data/monitoring systems. Prior to the Drug System Change Pilot (DSCP) the drug recovery journey was monitored by the prison side of the Drug Intervention Record Web based (DIRWeb) system, then by the community side of the DIRWeb system upon release and finally by the National Drug Treatment Monitoring System (NDTMS). Teams (and people in care

pathways) partitioned by data systems will naturally ensure or prioritise that their system correctly reports their inputs/outputs ahead of any other. The virtual barrier also creates a physical limitation within working practices. For instance, without cohesive monitoring/case management systems, people are less likely to pick up the phone to ensure the transfer from prison to community is completed.

Thirdly, and most importantly for this research, the siloed commissioning of drug recovery teams, by its very nature, may have led to the creation two distinct treatment regimes, with each focussed inward, and not necessarily over concerned prioritising integrated health care pathways.

For the purposes of this study, the PwC report was seminal. It endorsed this study's view that, after ten years of sustained and increasing investment, little progress had been made regarding the strengthening of the prisoner continuity of care journey to the community drug recovery system. They emphasised that better outcomes were associated with treatment completeness, provision of aftercare and access to wraparound services. Although reviewing the provision of the community drug services was not within the primary scope of their report, the PwC team highlighted the importance of continuity of care between prison and community systems. Their observations, which had been largely drawn from interviews with professional stakeholders, directed that post-release support should be continued after the structured throughcare and aftercare programme ended. They stressed that last-minute, unplanned releases should be avoided because they made continuity of care arrangements difficult to implement, primarily because the community recovery system was not configured to receive them. Crucially within the context of this research and evaluation was their key recommendation that the 'continuity of care of entry to and release from prison would be facilitated with the DIP and CARAT service being commissioned as one combined service' (p.22).

Their observations emphasised that all the productive treatment outcomes realised within sentence were being undone upon release as the result of a combination of poor record-keeping, dysfunctional or non-existent inter-agency communications, and questionable community service

prisoner management practices, leading to a distinct lack of continuity of care between the prison and the community drug recovery systems. Commentary regarding possible weaknesses within the research strategy noted that research attentions tended to be focussed towards the various drug treatment interventions in isolation, when perhaps reviews of the treatment journey in the round may have been more informative. Or, put another way, the effectiveness of the various discrete modalities of drug treatment were well understood, but relatively little was reported regarding the actual structure of treatment when delivered *holistically*, a systems term that had recently appeared within the drug sector's general lexicon. A focus on the latter might have helped to determine which packages of treatment and interventions worked in combination, and which were perhaps non-complementary. To paraphrase Wojick (1976), we know what treatments work; perhaps continuity of care itself should be developed as a 'modality'.

Continuity of care within a systems framework

The process linked to outcomes conceptual framework presented here (see fig. 1) draws from the ontological positions and systems concepts as described by Bertalanffy's General Systems Thinking (1969), Forrester's System's Dynamics (Forrester, 1968, 1971) and latterly Checkland's Soft Systems Methodology (SSM) (Checkland, 1999, 2012). This type of non-reductive analytical thinking can be applied to real-world managerial situations, and indeed not only facilitated the visualisation and description of this study's aims, but also served as a 'map' upon which the project metrics and outcomes can be located.

Classical scientific training normally requires that we adopt reductionist problem-solving strategies in efforts to better understand the nature of reality. Inherent within this type of scientific approach are the notions that macroscopic properties can be explained in terms of their microscopic components and that complex systems can be reduced to their component elements. On the other hand, and perhaps somewhat counter-intuitively, the systems approach perceives the nature of things as a series of interconnected hierarchical levels of systems. A key principle underpinning

systems thinking, and the subject of much philosophical debate, is that systems may display emergent, or 'whole' system properties that reductionist investigative strategies would not have predicted. Or, put another way, the whole is more than the sum of its parts.

The ontological roots of systems theory can be traced to the teachings of the great philosophers of Greek antiquity. However, the modern understanding of systems theory arises from the pioneering work and insights of individuals such as Bogdanov and Bertalanffy. The former suggested that reality might be perceived as a series or levels of interconnected organisations (Bogdanov, 2003; Midgley, 2003) and the latter proposed that that systems or wholes might display purposeful emergent properties as they developed (Bertalanffy, 1969).

As with the reductionist approach to problem-solving, the systems method allows us to, to some extent, deconstruct problems or systems into their component parts. Where it differs from the reductive style of investigation, is that it views the component elements of the problem, or system, as in some way connected; and that crucially, a study of those connections may provide us with the necessary insights to resolve, or rationalise, the problem or system under investigation. However, as has been noted by Checkland, this shift from a reductive to a systems reasoning paradigm can present us with intellectual challenges that will almost certainly require us to 'undergo a significant rearrangement of one's mental furniture' (Checkland, 2012).

2.2 Client complexity and vulnerability within the context of causality

2.2.1 Drugs, crime and causality

Drugs and crime are linked (Bennett & Holloway, 2000; Best, Sidwell, Gossop, Harris, & Strang, 2001; Goldstein, 1985; Gossop, Marsden, & Stewart, 2000; Hammersley, Forsyth, Morrison, & Davies, 1989; National Treatment Agency, 2009b), and drug treatment reduces crime (Gossop, Marsden, et al., 2000b; Jofre-Bonet & Sindelar, 2002; National Treatment Agency, 2012a). This simple but

powerful statement has increasingly underpinned the UK Government's successive anti-drug strategies, and has been a key driver supporting the expansion of the UK Department of Health's drug treatment provision into both the community and prison settings throughout England and Wales (Department of Health, 2006; National Treatment Agency, 2001).

Although some observers have identified the 1960s as the beginning of the UK's first heroin epidemic, as per increases in the number of registered addicts with the Home Office (Hickman, Seaman, & de Angelis, 2001), it is generally accepted that, when viewed in terms of exponential growth, illicit heroin misuse gained traction during the 1980s (Hayes, 2014). Therefore, for the purposes of this literature review, the lead statement to this section is expanded upon from within the context of the United Kingdom's anti-drugs policy development since 1985. This section begins with an overview of the (mainly US) historical research literature reflecting upon the causal nature of the drugs-crime nexus, and progresses to describe how the relatively recent contributions from the UK perspective have served to develop current understandings of this sometimes challenging and complex line of enquiry.

2.2.2 Three explanations

Explicit causality has been, and remains, difficult to demonstrate, but in broad terms there are three schools of thought that attempt to explain the links between drugs and crime. These are: (1) drug misuse leads to crime; (2) crime leads to drug abuse, and (3) the clustered cause model, whereby both can be mutually reinforcing, and perhaps are symptomatic of other underlying factors. The linear and deterministic explanations, i.e. drug addiction leads to predatory crime or *vice versa*, were particularly prevalent during the US experience of the mid to late twentieth century, and much of the research produced during that period reflected those explanations; i.e. the view that the 'drugs cause crime' and, as addiction took hold, more crime was committed to fund increasing drug use (Faupel & Klockars, 1987; Fernandez & Libby, 1998; Greene, 1974; Hughes, Barker, Crawford, & Jaffe, 1971). Understandings developed throughout the 1970s and 1980s (Hanlon, Nurco, Kinlock, &

K., 1990; Leukefeld, 1985; Nurco, Ball, Shaffer, & Hanlon, 1985; Nurco, Hanlon, Kinlock, & Duszynski, 1988; Parker & Newcombe, 1987), but it is only relatively recently that a third explanation, describing causality in terms of a complex clustering or multi-factorial 'nest' of associated and interacting phenomena, has emerged to take precedence.

2.2.3 Goldstein's Tripartite Conceptual Framework

This latest phase of thinking was initiated by the seminal contribution to the literature from Paul Goldstein, who in 1985 published 'The Drugs/Violence Nexus: A Tripartite Conceptual Framework' (Goldstein, 1985). Whilst it comfortably sat within the 'drugs cause crime' school of thinking, it did lay the foundations for current understandings about the complex nature of the drugs-crime linkages to be developed. Whilst his work was chiefly concerned with the associations between drug misuse and violent crime, he also observed what appeared to be a complex association between opioid users and their propensity to commit acquisitive crime to fund their expensive habits. Specifically, he suggested that a key motivator to drugs-crime linkage may be economic in nature, his so-called 'economic compulsive model' (Goldstein, 1985).

Goldstein's observations were rapidly developed. For example, Leukefeld noted that the connections between drugs and crime appeared complex, and highlighted the benefits of drug treatment (Leukefeld, 1985). Further, Nurco and co-workers, whilst reporting data suggesting linearity, also stressed the complexity of the drugs-crime interactions (Nurco et al., 1985). As this line of investigation developed, it became increasingly clear that the drug-crime causal strands were indeed much more complex than previously realised, and that many other factors appeared to influence the nature of the interaction. This view was reinforced by Faupel & Klockars, whose findings from a series of in-depth interviews with thirty-two people with entrenched addiction and offending behaviours, strongly indicated that drug use and crime were temporally and dynamically linked. Importantly, they reported that the linkages between drugs and crime may be dependent upon lifestyle, environmental and other external circumstances (Faupel & Klockars, 1987).

During this period, contributions from UK observers began to emerge; notably from Hammersley and colleagues, who suggested based on their findings that although crime and opioid use were associated with criminal behaviours, they tended to influence each other in a nonlinear fashion (Hammersley et al., 1989). This observation complemented Nurco and colleagues' findings described a year earlier in the US. The researchers recruited a random sample of 20 categories of criminal activity (N = 108). The quantitative and descriptive nature of the research methodology enabled an analysis of the statistical relationships between the dependent and independent variables. Their review of the evidence concluded that an elevated prevalence, and rates, of crime were linked with increased use of heroin and / or cocaine (Nurco et al., 1988). However, their cross sectional rather than longitudinal approach limited their ability to address the causal nature of the association

During 1996, as the UK Government introduced its second anti-drug strategy published 1995 (Lord President of the Council, 1994, 1995), Hough published his review. Building on the US evidence from Inciardi, Nurco and others (Inciardi & Martin, 1993; Inciardi & Wallace, 1993; Nurco, Hanlon, & Kinloch, 1991), it detailed the extent of drugs misuse within the UK's criminally active population (Hough, 1996). Whilst acknowledging that the majority of casual drug users did not progress to develop full blown addictions, he drew attention to the group of criminally active drug users responsible for committing disproportionate amounts of acquisitive crime to fund their addictions (Hough, 1996). This group became known as the 'problematic drug-using' (PDU) population. Although not chiefly concerned with causality, his report highlighted some of the drug-crime associations experienced within this UK drug-misusing population, and described their health and economic impacts upon individuals and communities in the wider context.

From his observations he noted that: (1) drug dependency could be entrenched before criminal activities were reported to have commenced, and that dependency increased the risk of further crime being committed; (2) some of those committing property crime were observed to have

progressed to drug dependency by way of casual misuse; (3) dependent illicit heroin and / or crack use increased the volume of crime committed, and (4) drug use and property crime might be mutually reinforcing because they both increased in an upward spiral (Hough, 1996). A subsequent study by Bennett and Holloway, whilst acknowledging that a direct explanation of causality was out of scope, reported that almost half of the arrestees in their sample perceived that their drug use and crime were connected, and that most (70%) reported that they committed crime to fund their drug addictions. The remaining 30% reported that drugs impaired their judgement or that they used the money from crime to buy drugs. Interestingly, not many arrestees thought that crime caused drug use. A total of 3,135 arrestees were selected for this study, of which 2,682 arrestees were male (86%) and 453 were females (14%) (Bennett & Holloway, 2000).

Further evidence supporting a non-linear drug-crime causal strand emerged during 2000, when White and Gormon reported from their analysis of drug-crime data collected from seventeen US cities. They observed that, although in a very general sense the positive associations between drug use and type of crime (e.g. cocaine use and violent crime) remained, there appeared to be a marked variance across sites. They noted that 'there is no uniform association between any type of drug use and any type of crime … . The fact that the associations are sometimes positive and sometimes negative … further supports the notion that the relationship between drug use and crime is complex' (White & Gormon, 2000, p. 169). Their review of the empirical research data concluded that: (1) drug users and offenders display heterogeneity in terms of their levels and patterns of drug use, and in terms of their levels of criminality and crime type; (2) that for most offending drug users, drug use does not initiate crime, and (3) that there were common causal factors associated with drug misuse and criminal activity, with 'various sub groups displaying different causal paths' (p.196).

A significant contribution to the UK understanding was introduced by Best and colleagues in 2001. In their study of a sample of drug treatment-seeking opiate misusers they reported that, whilst more than half of the group (56%) reported the committing of acquisitive crime, they could find no direct causal link between the two behaviours. They suggested that whilst early

developmental patterns involving substance misuse and criminal activity appeared to be strongly associated, they could find no evidence to suggest that drug use caused crime (Best, Man, et al., 2001). In 2002, a UK study of transitional behaviours and drug use, in which the research was directed towards the hypothesis that early-age soft drug use leads to subsequent hard drug use, Pudney implied a clustered causality model by concluding that social, economic and family circumstances influenced the risks of harm from drugs and crime in young people (Pudney, 2002).

This view was supported by MacCoun, who reported that correlation did not equal causation, but that instead drug use might cause, promote, or encourage crime and *vice versa*. He expanded on this by suggesting that situational, environmental, disposition, and / or biological variables might also influence the drug-crime nexus (MacCoun, 2003). His report suggested that drug-crime associations should be viewed in probabilistic and not deterministic terms. He concluded that the causal influences were 'contingent and not unconditional' (p.66).

In their introduction to the US National Institute Justice special report of July 2003, Brownstein and Crossland argued that a simple, direct and linear causal direction could not explain the associations between drugs and crime (Brownstein & Crossland, 2003), and that perhaps, as McBride and co-workers later summarised within the same report, the 'statistical relationship between the two activities may be a result of their common etiological origin' (McBride, 2001).

A further significant contribution to understandings in the UK was introduced by Albery and colleagues, who, in their review of the literature, observed that: (1) people who experiment with drugs were more likely than others to commit other forms of crime; (2) there was little direct evidence to suggest any causal linkage between drug use and property crime; (3) a small proportion of users (less than 5%) led chaotic lifestyles in which dependency to heroin and / or crack figured significantly, and (4) a proportion of this latter group committed crime to finance their addictions (Albery, McSweeney, & Hough, 2004).

Their report suggested that entrenched drug use and persistent offending become mutually reinforcing. They observed that these types of chaotic and chronic disorders were particularly

associated with people from disadvantaged backgrounds and whose exposure to positive lifestyle choices was restricted. They reported that many of this group had experienced unstable family backgrounds, had underachieved educationally, experienced limited employment opportunities, and had infrequently accessed good quality health and accommodation services (Albery et al., 2004). At the same time, other commentators also supported this view; for instance, Keene observed that, in cases where the drug use pattern is subjectively related to the different ways of criminal behaviour, drug use fluctuates throughout the life-course, and that the association between drugs and crime may also differ along the span of time for any individual. Hence, this is likely to be affected by other social, psychosocial, and psychosomatic aspects (Keene, 2005).

Bennett and Holloway further clarified the complexities with their review of the literature in 2005, and suggested that three broad explanations and five causal models described the nature of drug-crime association. Explanations incorporated economic theories, which suggested that more drug use leads to more crime (to finance dependency); the psychopharmacological view, which postulated that drug use affected behaviours (directly or indirectly) by way of their chemical properties; and the lifestyle argument, which directed that drug use was integral to the criminal lifestyle (Bennett & Holloway, 2005). Each explanation was described or supported in terms of a type or combination of one of five causal models which are identified as: (1) the 'drug use leads to crime' model; (2) the 'crime leads to drug use' model; (3) the reciprocal or mutually reinforcing argument; (4) the common cause model, and (5) the coincidence or non-causal model. Also in their subsequent study of the associations between poly-drug use and crime, they noted that whilst broadly supporting the economic compulsive model, their findings suggested that the non-causal, or overlapping factors, associated with problematic and excessive lifestyles, also played a significant role in the drug-crime relationship. They went further to suggest that, for an anti-drug policy response to be effective, interventions to combat drug misuse and crime needed to be tailored to, or targeted towards, specific client groups and their complex needs (Bennett, Holloway, & Farrington, 2008).

Understanding of the causal links between illicit drug use and criminal behaviours has evolved to the point where the simple linear explanations can be viewed as mainly redundant. In the UK setting, it is now recognised that causality is complex, clustered and primarily non-linear (Bennett & Holloway, 2009), a view supported by others and reinforced by subsequent studies, for example Organisation of American Studies (Organisation of American Studies, 2012). For some people the causal direction of their drugs and offending may be of a linear nature, however the evidence strongly indicates that a substantial volume of drugs misuse is not only associated with crime in complex ways, but is also linked to other factors such as environmental, socioeconomic, health and learning-related conditions, all or any of which may or can be mutually reinforcing.

The complexities of the linkages are often misunderstood, in part due to media depiction and political anti-drugs rhetoric. Both these narratives tend to over-simplify the linkages and adopt a linear causal model. Moreover, they place the emphasis increasingly on individual responsibility, thereby downplaying uncomfortable realities associated with socioeconomic inequalities. Nevertheless, the evidence is clear that drug-crime causal linkages are complex, often mutually reinforcing, and predominantly associated with vulnerability and elevated rates of reoffending. In this regard, it is imperative to understand that patients who receive more treatments show short-term benefits. Subjectively, the complex nature of drug addiction substantiates the fact that duration of integrated care is more important than the amount of care.

In a sample of more than 20,000 patients, Moos et al (2000) reciprocated that the patients receiving longer-term mental health services for drug addiction have better outcomes for risk-adjusted substance use and familial interactions. Furthermore, patients who are drug-dependent and who receive prolonged episodes of residential or outpatient treatments depict lesser incidences of re-addictive behaviours than patients with shorter regimes. This latter point has increasingly come to occupy policymakers' attentions and, for the purposes of the study described here, was the key driver underpinning the decision to introduce the strategic commissioning intervention targeted

towards prison leavers evaluated in this thesis. The main objective of the interventions was to reduce the rates of reoffending associated with these high-risk and complex groups, especially within the first twelve months of their release.

2.3 Drug treatment system(s) within the context of the UK anti-drugs strategy

2.3.1 The UK Government's drugs policy for England & Wales

To some, the 1960s are identified as the beginning of the United Kingdom's first heroin epidemic (Hickman et al., 2001), but a substantive increase in the numbers of people affected by heroin addiction occurred during the latter part of the 1970s and began to display epidemic characteristics, or growth, throughout the 1980s and 1990s. During this period, the number of addicts registered with the Home Office surged from around 3,000 or so in 1980 to almost 45,000 by 1995 (see figure 1.0).

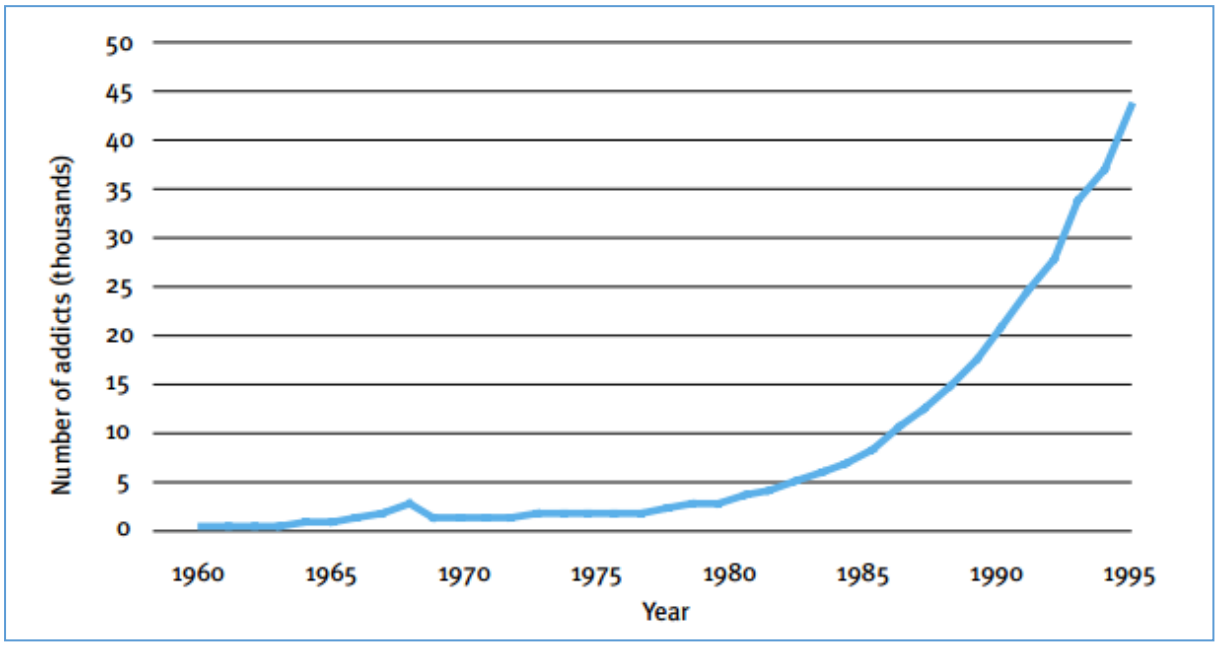

Figure 2.3: Number of addicts notified to the Home Office, 1960-96 (Reuter & Stevens, 2007)

This dramatic increase in the numbers of people affected by heroin misuse was associated with a sharp rise in the volume of drug-related offences and other harmful health behaviours. For

instance, alongside the reported increased levels of acquisitive crime, health agencies reported many more people exhibiting chaotic or harmful drug-taking behaviours such as injecting (Edmunds, May, Hearnden, & Hough, 1998). This latter type of high-risk behaviour was also understood to have contributed to the UK HIV/AIDS epidemic of the late 1990s and the early 2000s (AVERT, 2014).

Since 1985 there have been five headline UK Government-coordinated anti-drugs strategic responses (Home Office, 1985, 2008b, 2010; Lord President of the Council, 1995, 1998), two consultation exercises (Home Office, 2007b; Lord President of the Council, 1994), and three strategy updates or progress reports (Home Office, 2002, 2004b, 2013), contributing to and directing the national, regional, and local anti-drug responses.

Prior to 1985, the Misuse of Drugs Act 1971 had firmly positioned the Home Office as the lead anti-drugs department, and had established the categories of drug and associated legal penalties for possession and trafficking, etc. (HM Government, 1971). However, efforts to organise a structured set of activities to reduce and prevent the harms of illicit drugs at the national level had been limited, as evidenced by the relatively low number of government strategic and policy publication outputs during that period. The first centrally coordinated strategic response to the heroin epidemic materialised in the form of the 'Tackling Drug Misuse' strategy of 1985 (Arnull, 2007; Reuter & Stevens, 2007). Its content and policy direction, resulting from the deliberations of the then-recently convened Cabinet Ministerial Sub-Committee on Drugs Misuse, emphasised that five key areas should take precedence within any anti-drugs response: namely, supply reduction, increased enforcement and deterrence, demand reduction, and prevention and treatment with rehabilitation (Arnull, 2007). These initial five priorities laid the foundations for future policy development, and have remained, in one form or another, constant in all subsequent iterations of the UK Government's anti-drug strategy and policy response.

During this early phase of the government's anti-drugs response, and because management of heroin addicts and control of the HIV/AIDS epidemic was deemed paramount, policy in general was geared towards the public health and harm-reduction paradigms (McKeganey, 2006). However,

the transition from a predominantly public health focus, which directed that the harms of drug addiction should be contained and minimised (Monaghan, 2012), towards an increasing emphasis on crime reduction, began to manifest with the dissemination of the 1994 consultation Green Paper 'Tackling Drugs Together' (Lord President of the Council, 1994). This document was circulated to a wide variety of stakeholders with a view to soliciting their feedback regarding the government's proposed three-pronged anti-drug strategy. It clearly demonstrated the government's commitment to drive down drug-associated crime by means of enforcement, and (then) treatment. The resultant White Paper 'Tackling Drugs Together' published in 1995, whilst maintaining the five key priorities identified within the first strategy, consolidated stakeholder feedback and condensed policy into the three key themes of community safety, prevention, and public health (Lord President of the Council, 1995). Its core mission statement was to 'take effective action by vigorous law enforcement, accessible treatment, and a new emphasis on education and prevention by increasing community safety from drug-related crime, reducing acceptability and availability of drugs to young people, and reducing the health risks and other harms related to drug use'.

Moreover, of fundamental importance to the government's strategic aims was the introduction of the locality-based Drug Action Teams. Their primary roles were to champion the government's anti-drug strategic objectives and to coordinate various anti-drugs activities through collaborative and partnership work. They became directly responsible for the commissioning of drug treatment via the Pooled Treatment Budget and Drug Intervention Programme monies, and were expected to participate in a wide range of cross-departmental joint commissioning forums (Best et al., 2008; J. Seddon, 1985; T. Seddon, 2000; Skodbo et al., 2007).

The 1995 UK anti-drug strategy laid the foundations upon which all future strategies and updates have been developed. From that point to 2008, there were two iterations bridged by two updated publications, and[1] all focussed on the original five key themes to some degree. Whilst the

[1] With the exception of the 2008 document which included a communications element to its list of high level priorities. Since 1995, successive strategies have embraced this theme and policies have been developed to try and increase the numbers of drug users entering treatment in a bid to drive down crime rates.

lead policy emphasis may have fluctuated over the years – for instance, the 1998 release 'Tackling drugs to build a better Britain' prioritised young people as the key focus of attention, whereas the 2008 'Protecting Families and Communities' ten-year strategy brought protecting communities to the fore – the treatment strand has remained core to the strategic response. Importantly for this research, and as the treatment-reduced crime evidence base evolved, by the time of the 2004 Changing Lives update, not only was treatment identified as a means of reducing drug use thereby rehabilitating existing users, it was also identified as key to the policy of crime reduction, as embodied by the 'out of crime, into treatment' strapline of that time (Home Office, 2007d). A change in government heralded a change in focus and from 2010 the UK strategy has been to promote full recovery through abstinence whilst maintaining the earlier core themes (Home Office, 2010, 2013).

Whilst the policy clearly showed a commitment to the inclusion of drug treatment and its evidence base as a key element of the UK anti-drug response, there was (and still is) a strong moral tone underpinning the evolution of UK anti-drugs strategies. For example, the publication of 1995 Drug Strategy ushered in the crime phase of drug policy. In this scenario, the policy viewed addiction as less a public health concern, but rather a phenomenon strongly linked with criminality (N. Hunt & Stevens, 2004).

A major criticism of the UK anti-drug policy, and its development, is that it can be viewed as being presented as a *fait accompli* piece of legislation. Political sensitivities, combined with moral judgements, may have set the tone and direction of policy formation ahead of the science. This is a view expressed, perhaps most notably, by Professor Nutt, who, having resigned his position as chair of the Advisory Council on Misuse of Drugs (ACMD) amid concerns that government policy routinely discarded evidence, has maintained that the policy response to drugs (including alcohol) should be proportionate towards their relative health harms, and not directed by subjective, unscientific thinking. He recently reiterated this view during the course of his presentation 'From laudanum to

meow-meow: drugs, science and society', during which he highlighted a prominent government minister's quote that 'we select the evidence that best fits policy' (Rushton & Nutt, 2014).

Other critics, notably Seddon and Stimson in the UK literature, have expressed their concerns and shown scepticism towards policy formation, particularly regarding the shift in focus from health to crime (T. Seddon, 2000). Furthermore, Albery has called into question the element of the addiction model which dictates that illicit drugs lead inexorably to addiction and crime (Albery et al., 2004).

Nevertheless, for the purposes of this research, there is an evidence base that suggests that for a small (but not insignificant) number of complex and vulnerable people usually drawn from less advantaged backgrounds, once their use of heroin and or crack cocaine has progressed to dependency, the frequency – and in some cases, severity – of their criminal activities increases. Some of these people will be sentenced to prison, and some of those will return to their negative behaviour patterns upon release and will re-appear within the prison system within twelve months of release.

In summary, to strengthen the rationale underpinning this research, the literature review section has drawn from a substantial volume of 'grey' literature. Much of the 'evidence' contributing towards the delivery the UK antidrug policy is non-peer reviewed and might be academically viewed as 'substandard'. This research takes the view that, whilst acknowledging that this type of evidence based policy formation is susceptible to bias and subjective agendas, balanced with the peer reviewed clinical (e.g. NTORS) evidence, its inclusion allows for a fuller understanding of the issues addressed here. Grey literature is increasingly recognised as a rich source of information, especially for early types investigations (Adams et al., 2016) and this study does not set precedent.

If we are prepared to accept that substance misuse linked antisocial acquisitive behaviours is problematic, then policy formation, informed by grey literature that supports the case for drug treatment to improve health and reduce crime is acceptable, especially when much of that evidence

is collated by commentators established (Hough etc.) within the field and is easily accessible via Government websites.

Briefly, this section of the review has broadly described the development of the UK anti-drug strategic policy response up to the point of the drug systems change intervention evaluated here, and has established that the delivery of drug treatment was (and remains) a core element of that response. The next section details the development and implementation of standardised drug treatments into both the community and prison settings in line with policy, and increasingly focuses on the importance and delivery of continuity of care, especially when viewed from within the criminal justice to community systems context

2.3.2 Introduction of standardised drug treatment system into the UK setting

The UK anti-drug strategy of 1995 introduced a three-year drug treatment strategy. This plan detailed a range of aims and objectives, to be coordinated by the Department of Health, in an effort to expand and standardise the provision of drug treatment in both community and prison settings (Lord President of the Council, 1995). Following the recommendations of the 1996 Task Force Effectiveness Review panel, which drew upon the evidence base about drug treatment to reduce individual and community harm, the National Treatment Agency for Substance Misuse (NTA) issued guidelines to assist purchasers and providers so that they might be better enabled to commission and deliver effective drug treatments (National Treatment Agency, 2002).

The 1995 strategic document emphasised the expectation that the provision of drug treatment should be directed towards people serving prison sentences. It stressed that the Department of Health, working with Her Majesty's Prison Service, should plan for the most effective way to ensure that drug misusers had access to treatment and appropriate support during remand, sentence and release, and that this plan should be implemented in the third year (Lord President of the Council, 1995). However, by 1998 and the publication of the third anti-drugs national strategy

(Lord President of the Council, 1998), there was a growing concern that, although drug treatment was shown to be effective (Gossop, Marsden, & Stewart, 1998; Gossop et al., 1997a), its delivery appeared to be inconsistent and generally insufficient (Lord President of the Council, 1998).

In response, the government urged a renewed emphasis on delivering the recommendations of the 1996 effectiveness review (Gossop et al., 1997b), in conjunction with those detailed within the Health Advisory Service report on Children & Young People (Williams & Richardson, 1995). Of the many proposed actions, an emphasis was directed towards drug-misusing prisoners, so that their throughcare and aftercare arrangements might be better managed (Harrison et al., 2003).

Whilst the UK anti-drugs strategy from the mid-1990s advocated for the expansion of effective drug treatment into both the community and prison settings, ten years later concerns remained with regards to treatment geared towards prisoners. The next section details the delivery of drug treatment from a historical perspective during the first ten years of the anti-drug response, and identifies some of the barriers that may have contributed to the (performance related) sub-standard delivery of continuity of care.

2.3.3 The community drug treatment system response

Between 1998 and 2002, the numbers of people entering the community drug recovery system had risen to approximately 118,000, which accounted for almost half of the estimated number of PDUs (250,000) being targeted for treatment (Hickman et al., 2001). In 2001 the National Treatment Agency for Substance Misuse was created to oversee the expansion and effective delivery of drug treatment on behalf of the Department of Health and the Home Office. Their remit was to ensure that the government's increased investment was properly managed within both the health and criminal justice systems (Hayes, 2013; National Treatment Agency, 2001).

The anti-drugs strategic update document of 2002 further reinforced the government's commitment to reduce crime by way of increased treatment provision, and also placed a greater

emphasis on the role of the criminal justice agencies within the community settings. This strategy document directed attention towards the increased opportunities developing within the criminal justice system that might help to divert more drug-misusing offenders into treatment and out of crime (Home Office, 2002). In terms of numbers, the key priority at that time was to increase the capacity of the drug treatment system to 200,00 people engaging within the lifetime of the 1998-2008 strategy (Home Office, 2002).

Gaining prominence within the community drug recovery systems during this period was the expansion and rebranding of the Home Office's drug prevention activities, for a time referred to as the Drug Prevention Advisory Service (DPAS) (Home Office, 2002), into the Drug Intervention Programme (DIP) (Home Office, 2003). The DIP evolved from the Arrest Referral and the Probation Service's Drug Testing and Treatment Order (DTTO) schemes, and evidence was accruing that indicated that pre- and post-sentencing diversionary strategies directing drug-affected offenders into treatment were having a positive effect upon their subsequent re-offending rates (Bennett & Holloway, 2000; Bennett, Holloway, & Williams, 2001; Edmunds et al., 1999; Edmunds et al., 1998; Hough, Clancy, McSweeney, & Turnbull, 2003).

By the time of the 2004 anti-drugs strategic update and progress report 'Tackling Drugs: Changing Lives' (Home Office, 2004b), the community drug treatment system response was very much developed, and could be viewed as entering a phase of consolidation. For example, the workforce had grown to approximately 9,000; the number of treatment contacts per annum had increased to 50,000; waiting times to treatment were at their lowest recorded; more than 15,000 DTTOs had been made; and the DIP was operating in sixty-six high crime areas, with approximately 5,000 people per month being tested for illicit Class A drug use, of which almost 1,500 were engaged with the treatment services (Home Office, 2004b).

However, illicit heroin use, as reported by the Glasgow prevalence estimates, continued to increase. Applying a counting methodology developed from earlier work, notably from and with Frischer and Hickman (Frischer, Hickman, Kraus, Mariani, & Wiessing, 2001; Hickman et al., 2002),

Hay's team estimated from their first sweep of 2004-2005 data that there were approximately 325,000 opiate and / or crack users throughout England and Wales (Hay et al., 2006b). According to their estimates, the peak period for illicit heroin use was approached during 2005 to 2006, and from that time onwards its use appeared to stabilise, so that by the time of the release of the second ten-year anti-drugs strategy during 2008, the epidemic appeared to be in decline (see figure 2.3.3). This is important in the context of this study because with the heroin epidemic in apparent decline, in conjunction with a stable and experienced workforce, there presented an opportunity to direct resources towards prisoner continuity of care, when, perhaps in a more challenging environment, this vulnerable group may not have been prioritised.

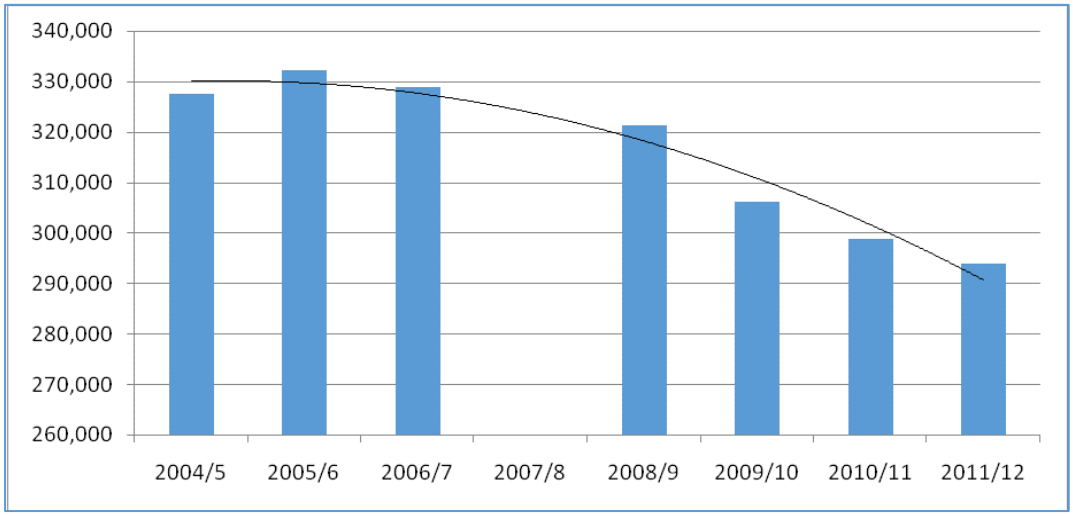

Figure 2.3.3: Prevalence of opiate and or crack use (OCU) in England and Wales

Note: as per the Hay counting method. From (Hay, Gannon, Casy, & Millar, 2010, 2011; Hay et al., 2008; Hay et al., 2006a, 2007; Hay, Rael dos Santos, & Millar, 2012; Hay, Rael dos Santos, & Worsley, 2013). Decreasing OCU prevalence is indicated by the trend line of best fit.

The 2008 'Drugs: protecting families and communities' strategy (Home Office, 2008b) perhaps marked the beginnings of the move away from a reliance upon the treatment maintenance model as the key to reducing drug-related crime and health harms. It laid the foundations for a more recovery-focussed response which is geared towards helping more people enjoy their lives free from drug misuse, and encourages re-integration back into mainstream society (Home Office,

2008b). Full and long-lasting recovery from drug misuse had always been a key element of successive governments' anti-drugs response (Lord President of the Council, 1995, 1998), and with the treatment system reporting as consolidated and functioning effectively (195,000 people engaging with average waiting times reduced to two and a half from nine weeks (Home Office, 2008b)), the emphasis shifted towards recovery case management delivery in conjunction with personalised budgets, and moved away from the predominant 'one size fits all' approach (Home Office, 2008a).

Whilst retaining the three key themes of reducing demand, restricting supply and building recovery, the 2010 UK drugs strategy, and its 2013 update, further devolved commissioning responsibility to the Local Authorities (Home Office, 2010, 2013). Treatment monies were allocated via a Public Health grant who, in partnership with the Police and Crime Commissioners, were now felt to be better equipped to meet the demands of substance misusers (Home Office, 2013). Importantly, the policy acknowledged that prisons were perhaps not the best places for individuals to overcome their addictive and offending behaviours but nevertheless did recommend the introduction of the second tranche of drug recovery wings in order to create the drug free environments conducive to achieving full recovery. Continuity of care from the custody to the community setting remained a key priority and the strategy recommended that greater use of mentors be made, especially at the point of release.

Prior to these relatively recent prison drug treatment system developments, the criminal justice system had been responding to the prior strategic demands in a variety of settings and the next sections detail those activities.

2.3.4 The prison treatment system response

In 1999, the (CARAT) service was established to provide non-clinical drug treatment to drug-affected prisoners (Gravett, 2000; McSweeney, Turnbull, & Hough, 2008). The services offered included assessment of drug usage, counselling and advice on how to cease taking drugs, treatment and

supportive care services (Home Office, 2005). According to Roberts et al (Roberts, Hayes, Carlisle, & Shaw, 2007) (p. 17), the CARAT service was a prison-centred initiative that played a vital role within the HM Prison Service's response to UK anti-drugs strategy.

The Home Office recommended that the prison setting presents an ideal opportunity for the delivery of drug treatment (Home Office, 2007c) (p. 7) and the CARAT provision is well positioned to augment the clinical services. The CARAT services were primarily offered to prisoners in conjunction with other prison-based therapies, e.g. opiate substitution, so that effective treatment delivery was provided to all offenders who require it (May, 2005). For the purposes of this study, it is important to mention that the CARAT intervention was originally conceived to deliver support and counselling services to the prisoner during their sentence and after their release (Harman & Paylor, 2004, 2005) and a primary contention within the Essex context is that post-release support was rare, or if it was occurring, there was no evidence to support it.

A key responsibility for the CARAT was to organise client movement within and between prison systems, from prisons to community agencies so that the delivery of care was perceived as seamless (Biggs, 2011). To ensure that CARAT services were effectively and efficiently delivered to offenders, the Prisons Service Order outlined the minimum requirements and standards that CARAT workers should adhere to and that their role was instrumental in ensuring that prisoners recover from drug abuse and were integrated back into society (HM Prison Service, 1999, 2001, 2002). However, the effectiveness of CARAT provision was difficult to assess, because of the lack of empirical studies describing client outcomes post-CARAT intervention (Harman & Paylor, 2005; Harrison et al., 2003; McSweeney et al., 2008).

Numerous challenges and obstacles faced the CARAT intervention. For instance, client confidentiality, the lack of follow-up work (Farrell & Marsden, 2005), poor assessment, monitoring and evaluation methods to determine the impact of CARAT on offenders, and lack of funds (Malloch, McIvor, Schinkel, & Armstrong, 2013) all played a part in diluting service effects. MacDonald

observed that CARAT objectives were further hampered by factors associated with prisoner release back into the community. For instance, lack of stable housing made it nearly impossible to track and monitor client progress and movements, and so when clients did relapse, it was often the case that CARAT team would only become aware at the point of reincarceration (MacDonald et al., 2012).

However, the Home Office (2007c) showed that numerous initiatives had been implemented to ameliorate some of the underlying challenges. For instance, CARAT was encouraged to work closely with the Criminal Justice Intervention Teams (CJITs) so that the client might be more successfully integrated back into society following the end of his or her sentence. In addition, CARAT workers had established strong working partnerships with prison resettlement teams to facilitate offenders' transition from supported living to independent living.

Although a response to the mainly non-clinical needs of drug-affected prisoners had begun with the introduction of the CARAT, the systematic delivery of clinical drug-related health care needs within the prison environment was not formally introduced until 2006. In the summer of that year, the release of the Department of Health's 'Clinical Management of Drug Dependence in the Prison Setting' (Department of Health, 2006) document served to support the implementation of the first wave of the Integrated Drug Treatment System (IDTS) into the prison setting (Shaw, Senior, & McDonnell, 2008).

In a concerted effort to expand and improve the quality of prison-based treatment and rehabilitation services, and to support the introduction of the IDTS into the prison system, the UK government committed to increasing the annual prison treatment budget to £80 million by 2008, which in 1998 had stood at £7 million (BMA Board of Science, 2013). This increased investment would support the drive to implement the health care standards as prescribed within the NTA Models of Care guidance (National Treatment Agency, 2002, 2006) throughout the prison estate. It was envisaged that, alongside those serving longer sentences, prison treatment would be expanded to include and support those serving shorter sentences (less than twelve months), the so-called

'non-statutory' offenders. It was also announced at this point that the prisons service would review the CARAT provision with a view to strengthening its links to the community recovery systems, and attentions would be drawn as how to best prepare prisoners for their release into the community/recovery system. Responsibility for managing the full implementation of the IDTS programme was passed to the NTA during 2008, and in that year more than 25,000 people across 76 sites received a structured treatment intervention (National Treatment Agency, 2009b).

Thus, whilst the implementation and development of a community treatment response gained momentum, and by the time of the second ten-year strategy in 2008 could be viewed as largely successful and effective, concerns and reservations remained about the pace of policy adoption within the prison setting. The PricewaterhouseCoopers prison drug treatment report of 2008 succinctly commented that 'any strategy needs to span community and prison provision [and] remove barriers to coordination on entry and release from prison' (PriceWaterhouseCoopers, 2008, p. 14).

Ten years into the UK's anti-drug strategy, and it was evident that key barriers to the effective delivery of continuity of care from the prison to the community drug recovery systems remained. The complexity and vulnerability of the target client group, the staggered introduction of delivery (community then prison) of drug treatment into two rigidly defined and siloed systems, all interacted and contributed towards the observed (poor) rates of continuity of care. This posterior knowledge, combined with an extensive managerial experience, lay behind the decision to reorganise the delivery of the local prison-to-community continuity of care pathway. During the period leading up to the system change reported here, a particular frustration was the apparent inadequacy of the system's ability to prevent people from re-appearing on the HMP Chelmsford system within the first twelve months of their release (Home Office, 2010).

Furthermore, there were barriers to overcome to in linking the different parts of the criminal justice system: therapeutic compliance, treatment success and housing providers from the social and private sectors at all levels of the community framework. Also, many substance misusers in

treatment have reported problems with stigmatisation, and this exclusionary factor may be a reason contributing towards relapse (Home Office, 2010).

2.3.5 Bridging the prison and community treatment systems – InsideOut

According to National Treatment Agency for Substance Misuse (2009b, p. 3), prisons lagged in respect of the provision of quality drug treatment care as compared to the community based treatment services. This observation, combined with extensive experience, led to the commissioning of Essex Drug and Alcohol Partnership's (EDAP) strategic review (EDAP, 2009). The review suggested and developed a treatment mechanism, focussed within the criminal justice setting, with a view to commissioning and delivering a combined prison/community drug recovery provision. This resulted in a service known as 'InsideOut', essentially a merge of the prison CARAT and community DIP teams. By spanning both the prison and community domains, InsideOut ensures that there is continuity of care or recovery journey for those drug misusing offenders exiting the prison estate into the local community.

At the core of this restructuring exercise was a desire to implement an enhanced continuity of care for service users. In particular, it aimed to improve the transition from prison to the community for substance-misusing offenders, which has been identified as a time of risk and vulnerability (Lord Patel, 2010; Merrall et al., 2010). A key element supporting the InsideOut service in the prison setting was the introduction of National Drug Treatment Monitoring Systems (NDTMS) to facilitate information sharing (National Treatment Agency, 2009h). As a result of this pioneering approach, all drug and alcohol recovery partnerships can potentially access the CARAT prison drug treatment funding stream (National Treatment Agency, 2010), and the NDTMS has been deployed nationwide throughout the prison estate, as evidenced by the introduction of the prison-to-community continuity of care performance line as per the NDTMS Diagnostic Outcomes Monitoring Executive Summary reports.

According to EDAP (2009, p. 7) and the Westminster Drug Project, (WDP) (2010), InsideOut was to provide a continuum of treatment services to clients both when serving their sentences in prison and when in the community setting. Therefore, all prison-based stakeholders, such as police, drug workers and probation officers, should go beyond their traditional roles to ensure that a client breaks the chains of drug dependency and drug-related offending behaviours and lives a healthy lifestyle (WDP, 2010).

InsideOut care established various mechanisms to ensure reduced relapse and reoffending. And specifically, the role of the InsideOut practitioner was to "contact, assess, refer and support substance misusers in criminal justice settings (including courts, police stations, prisons, probation offices), treatment agencies, the community and other appropriate settings in order to maximise their uptake of treatment services and access re integration", (see appendix 6.0). Under the InsideOut programme, clients who were high-risk drug substance misusing (re-)offenders were offered robust aftercare support which may have included both clinical and non-clinical interventions, such as housing and employment opportunities, in order to promote continuity of care and improved quality of life.

Delivering the InsideOut intervention led to the introduction of the National Drug Treatment Monitoring System (NTDMS) into the local prison. Outside of overarching strategic gains, primarily, the decision to do so was to strengthen local information sharing protocols. This would facilitate the transition of a prisoner from prison to the community setting. For instance, when a substance misusing inmate was released from prison, information relating to his needs should be relayed to community services to ensure smooth continuity of treatment (EDAP, 2008, p. 18). In addition, information can be shared at the time incarceration to ensure that where a prisoner was under treatment prior to arrest, there is continued provision of care via CARATs (EDAP, 2008, p. 18).

InsideOut also facilitated the creation and maintenance of secondary partnerships among peripheral stakeholder agencies. For example, Essex InsideOut was partnered with NHS Mental

Health, Essex Police, HMP Chelmsford, SOVA and Essex Drug and Alcohol Partnerships (WDP, 2010). These partnerships ensure that drug offenders were provided with the holistic care package, which is instrumental in the reintegration process.

Advantages & disadvantages of InsideOut

The InsideOut integrated the CARAT and community DIP services and aimed to bring the best of both into a single provision. A key administrative advantage that was anticipated with the InsideOut intervention was the reduction in bureaucracy (EDAP, 2009, p.26). Now that the two diverse, and perhaps sometimes disparate, services were brought together under a single management framework, quick decision-making and effective treatment planning were promoted, at least in theory. Secondly, the use of the National Drug Treatment Monitoring System (NTDMS) as an information sharing platform for both prison and community drug treatment services ensured that there was close monitoring and evaluation of clients' psychological health, social development, physical health, criminal record and drug use record, which would chart clients' potential to relapse – and facilitate effective support if they do relapse.

Thirdly, previous prison-based drug treatment initiatives ceased with the prisoner's release, which meant that drug offenders were vulnerable to relapse, particularly offenders who resettled in high-crime or drug areas or failed to secure continued community treatment care. However, InsideOut aimed to ensure that offenders even after release are accorded necessary treatment and support in the form of community care until they are fully independent.

The aim was that through provision of non-drug essentials such as education, employment and housing to prisoners exiting the prison setting, ex-prisoners would more easily recover and integrate with society. According to Buchanan (2004) the biggest contributor to relapse among drug offenders is the inability to re-establish, reintegrate and resume normal life. Buchanan (p.5) further states that drug treatment services should concentrate more on reintegration and reorientation of a drug user than on drug habits. This view is exemplified by InsideOut, which primarily attempts to

reintegrate the client to normal routine life. Overall, InsideOut aims to support drug offenders to live drug-free lives, reduce re-offending and help them contribute to social development.

The InsideOut service delivery model may have some drawbacks, not all within its gift, which potentially undermine its effectiveness. According to Best et al., (2010) surplus demand of aftercare will outstrip resources currently available, which will result in inadequate structured treatment care. InsideOut operates under the premise of monitoring, evaluating and controlling released drug offenders, which, studies have shown, may be counterproductive. According to Chanhatasilpa et al (2009), drug offenders who are continuously supervised or controlled are at high risk of relapse, suggesting that a sensible case by case approach is required, ensuring that people are encouraged to interact with the treatment, care and support services without said encouragement being perceived as overbearing or coercive. The use of peer mentors or 'champions' may help in this regard.

Chapter 3 - Methods

3.1 Key elements

The primary research question/hypothesis posed by this study was, from within the context of prison-to-community transitions, does continuity of care improve rates of referral and waiting times to community drug treatments, and did a reconfiguration of a twin service to a single service delivery model improve upon said measures? The literature suggests that rates of prison-to-continuity continuity of care have remained suboptimal and that inherent system factors may be contributing towards a systems dysfunction at this critical juncture within the drug recovery care pathway.

To answer the research question(s), this study adopted a 'systems' perspective. This approach facilitated a deeper understanding of how the prison-to-community continuity of care transition point is linked to an extensive process-outcome drug recovery system. To answer the research hypothesis, a quasi-experimental before and after comparative cohort approach was adopted. Although subject to limitations, this type of research enquiry and its findings when applied to small data sets, may be supportive of further, scientifically more robust interrogations, e.g. randomised sampling of larger data sets.

The findings presented here are targeted towards two audiences. For Public Health commissioners located within the Local Authority setting, data are presented in the form of counts and percentage rates, in line with established national reporting standards, for example the PHE DOMES performance reports. With respect to academic publications, the analyses of survival rates will predominate because this type of statistical approach incorporates the modelling of time to event (return to prison, engagement with treatment etc.) and is able to factor in variables or characteristics that may influence survival times. In other words, a scientifically more robust interpretation of the data.

3.2 Setting

People recorded as entering a local prison and engaging with prison drug treatment via the substance misuse team during the period April 1st 2008 to March 31st 2012 were followed up for twelve months after their first release to the local drug and alcohol recovery Partnership. At the midway point, April 1st 2010, the prison-to-community continuity of care pathway was reconfigured into a single service provision (InsideOut) and this study tests whether that model of service delivery improved upon the twin service model it superseded.

3.3 Context and timeline

We understand that drug treatment is associated with crime reduction (National Treatment Agency, 2012a, 2012b, 2012c), and that continuity of care is a key element of any successful treatment intervention that requires client transitions, both within and across systems (National Institute for Health Care Excellence, 2014). Whilst the InsideOut intervention was conceived during a period in which the local drug recovery system was maturing into an effective delivery mechanism, obstacles or barriers to optimum system performance remained. Of prime concern at that time was the observation that communications and client movements between the prison and community settings remained problematic, as reflected by the relatively poor prison-to-community performance outputs (see tables 4.6.1, 4.6.2. page 123). Taking advantage of the opportunity to acquire 'systems change' status, the Partnership committed to undertake a series of activities that were targeted towards improving this situation.

Beginning in 2008, the foundation work that comprised acquiring systems change status, delivering the InsideOut intervention, and undertaking the research and evaluation activities reported here, took place over the course of a six-year period to 2014 (see *Figure 3.2* below).

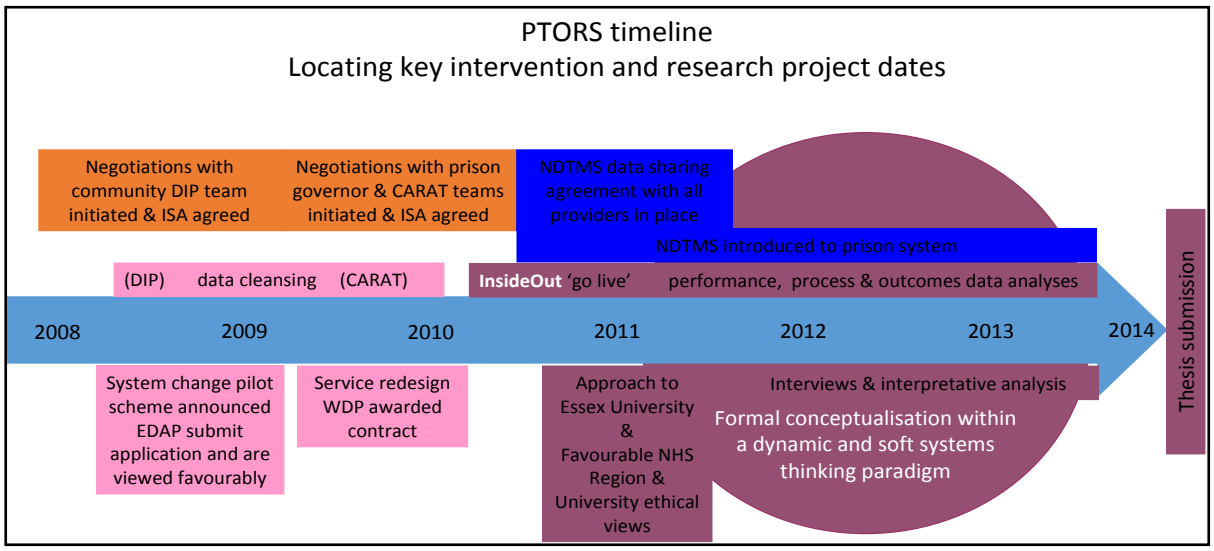

Figure 3.3: PTORS timeline with key project milestones

Throughout this time several key milestones or objectives were achieved. For instance, during the early stages, and prior to the Systems Change Programme, the Partnership's contractual and financial obligations with its service providers, which hitherto were confused and somewhat tangled, were clarified. Alongside ongoing work with providers to bring the drug recovery system in line with the NTA Models of Care Guidance and policies, these systematising activities fostered a clearer and simpler understanding of the local drug recovery commissioning landscape and providers' responsibilities within that framework. As the DAAT Commissioning Team's operational activities progressed, so did the strengthening of its strategic relationships with its statutorily designated co-commissioners. Commissioning decisions, which had often been made in isolation, now required input from many partners, whether internally based, that is, within the Local Authority structures, for example the Children's Service, or externally located within for instance, the Police, Probation, and Prison Services. Progress with relationship-building, and consolidation of the commissioning understandings and practices, helped create the environment required to facilitate the introduction of the InsideOut service.

Running parallel with and complementing these early commissioning activities, concerted efforts were directed towards generating a suite of comprehensive information sharing agreements (ISA). These ISA activities were initiated between the service providers themselves, and were subsequently developed to incorporate the DAAT Commissioning Team. The introduction of the ISAs allowed the DAAT to initiate a series of data quality and audit exercises that were undertaken prior to and during the roll out of the InsideOut service. This work not only improved the quality of the statutory performance returns, but also maximised the number of matched statistical entities, and their associated care pathway data, that have been made available for the quantitative research analysis reported here.

3.4 The Process and Treatment Outcomes Study (PTORS) design

Figure 3.4 below describes the overarching PTORS study design. The research was a cohort study that followed people for a particular time period. Within this study design, the quantitative research arm within that schematic is located (see *Figure 3.2*). The combined amber and blue area represents the CJIS strategic entity, spanning the prison and community drug recovery systems, and locates the primary quantitative metrics. At point (1) the number of releases were counted; at point (2) the number of those released who engaged with community treatment as recorded by the NDTMS/TOP triage were counted, and at point (3) the number of those who relapsed to prison within 12 months of their first release were measured. The green block arrows indicate client flow within and between Partnerships and the prison system, and the green broken arrow indicates a reducing number of clients re-entering prison. The black block arrows describe client level data flow from the recovery system to the research team in order to construct the quantitative contextual framework. The short form antecedent client data were extracted from the Home Office's DIRWeb and the Department of Health's NDTMS systems. The process and outcome points (1, 2 and 3) also served as the 'anchor'

points on which the NTA's self-reported treatment outcomes data (TOP) were linked. These are explained in more detail in the final section of this Chapter.

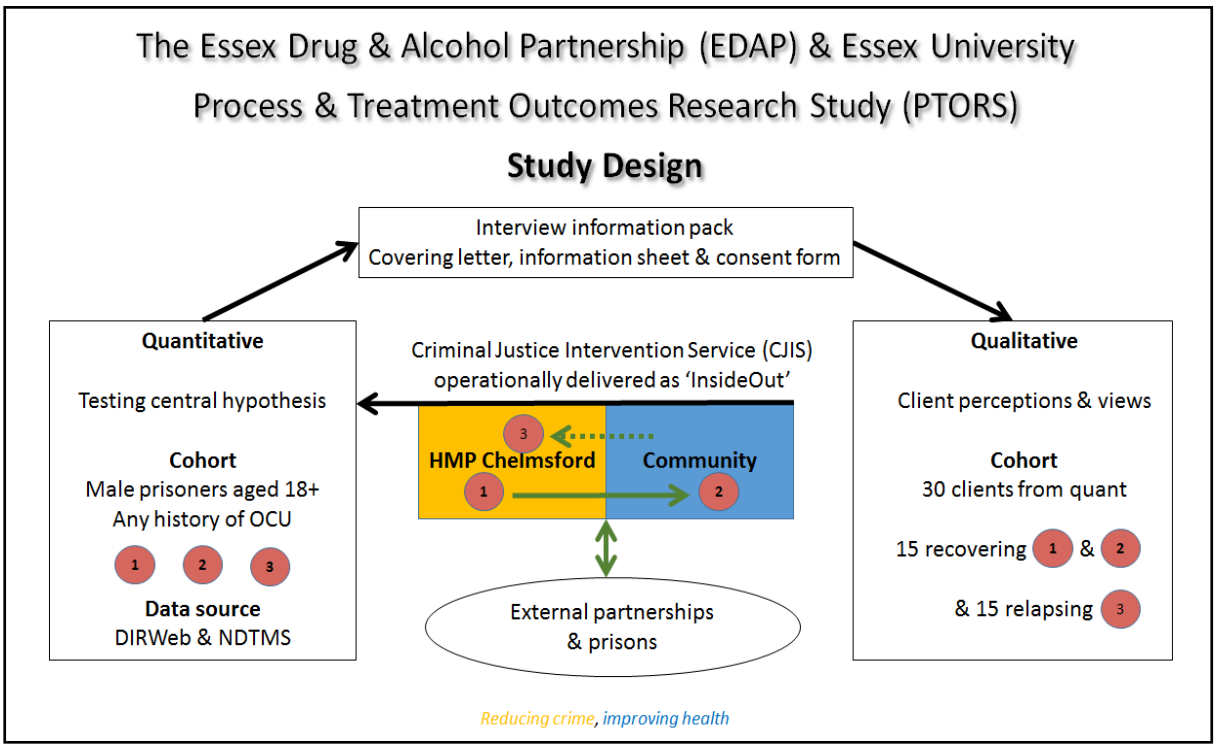

Figure 3.4: PTORS study design

Note: Qualitative data not reported within this thesis.

The commissioning perspective as described in Chapter 2 driving the intervention evaluated here was perhaps paramount. Certainly, during the initial stages of the Systems Change period, observations as viewed through a data and performance lens, encouraged early motivations. The following section details the location of the data sources and the steps taken to produce a suite of quality assured data sets.

3.5 Research ethics and information governance structure

During the period leading up to InsideOut 'go live' date, (April 2010), the research project conceptualisation was finalised, and by the winter of that year, academic colleagues based at the School of Health and Human Sciences, University of Essex, were approached with a view to

formalising a programme of research and evaluation activity. During the period 2011 to 2012, the quantitative (author) and qualitative researchers were recruited, the Academic Project Steering Board membership identified and convened, and favourable NHS and academic ethical opinions secured (see appendices 1.0, 1.1). Quantitative and qualitative research data collection began in early 2012, and the quantitative relational data modelling and analysis was undertaken and finalised throughout the period 2012 to 2014.

For the purposes of this study, the research team were incorporated into the strategic commissioning and research hub (safe-haven) to facilitate access to the attributable data. Lists of statistical entities, comprised of initials and birth dates were identified, and were either matched/analysed within the hub for the quantitative analysis reported here or transmitted, via secure mailing, to the source agency for the purposes of arranging the interviews as per the qualitative arm of the PTORS project. From those data, service managers arranged for their administrators to locate and clarify client suitability and availability. The qualitative researcher was contacted by the service provider to arrange interviews. Verbal client consent was arranged by the service provider, and full written permissions were obtained at point of interview.

The data sharing structures indicated in *Figure 3.5* below incorporate a principal, or strategic and Partnership wide overarching agreement, and several operational, organisational Information Sharing Agreements (ISA). A strategic or Partnership document exists which sets out the terms of reference, and the rationale and the principles for the sharing of data (Essex County Council, 2017). This agreement was signed off by Chief Officers representing the Local Authority, Police, Probation, Prison, and Health Trusts. The strategic agreement was underpinned by a series of operational agreements which detail the governance and processes of safe data sharing between contributing health and criminal justice agencies, and between those agencies and the research/commissioning hub (see appendices 3.0, 3.1, 3.2 and 3.3). All data/information sharing agreements complied to the

governance and standards as per the UK Government's policy and guideline documents (UK Government, 1998, 2006).

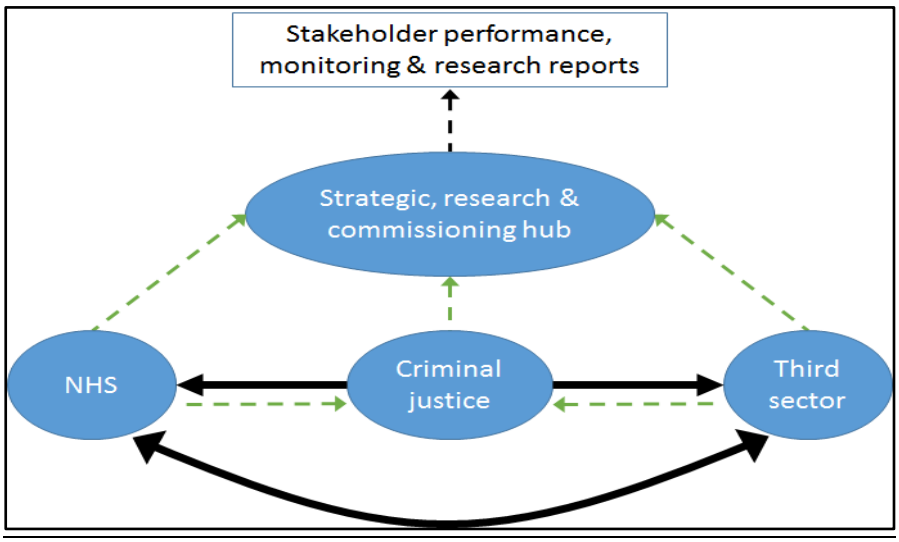

Figure 3.5: Essex Drug & Alcohol Recovery Partnership information governance & data sharing structures

Note: Solid arrows indicate case or patient level information flows. Broken arrows indicate aggregate level (black) and/or desensitised (green) information flows. In this context desensitised = the NDTMS extract (short form antecedent with partial post code).

Data sharing agreements between the hub and health service providers were embodied within the ongoing contractual arrangements, and were signed off by senior commissioners and service managers. Criminal justice data were shared as directed by guidance set out within the Criminal Justice Act 1993 (HM Government, 2003), and arranged via bespoke sharing agreements between Public Health Essex, Police, and the Prison Services. It should be noted that health data was not shared if the client had opted out of the consenting agreement. Consent for health (NDTMS) data to be used for research, and performance monitoring identification was acquired at the point of the first triage. Two refusals for consent were received in a ten-year period (>5,000 triages).

The subsequent introductions of a Partnership-wide case management information system and the NDTMS into the local prison to replace the DIRWeb system, commissioner calls for

performance reports requiring analyses of the NDTMS extract became infrequent. The data sharing model described here preceded those developments and was implemented primarily to eliminate double counting, improve data quality, and facilitate this program of research, all of which involved data matching exercises. The centrally managed NDTMS.net system currently produces a suite of reports, for example the Diagnostic Outcomes Monitoring Executive Summary (DOMES), and the monthly Community Criminal Justice Report, to inform commissioning strategy.

3.6 Data sources

The data analysed in this study were drawn from a number of local sources, for example, HMP Chelmsford, and from the drug treatment agencies operating within the Essex County Drug Recovery Partnership. Although deemed as 'local' these data sets contributed towards a set of databases that had been configured to monitor and report trends in drugs misuse and treatment performance at the national level. In line with policy developments, for example, the introduction of structured care pathways, supported with evidence based treatment modalities, and to better capture and report system progress/performance, three national drug data systems have been introduced to the drug recovery system. Not in chronological order, these are: (1) the Home Office's Drug Intervention Record web based system, (DIRWeb) (National Treatment Agency, 2009a), (2) the Department of Health's (and subsequently the NTA's), National Drug Treatment Monitoring System, (NDTMS) (National Treatment Agency, 2008a), and (3) the NTA's Treatment Outcome Profile (TOP) date set (National Treatment Agency, 2008b). Data collected via the DIRWeb system were collated and reported by the now defunct Home Office's Drugs Intervention Management Information System, (DIMIS) (defunct). The outputs generated from the NDTMS data are reported by the National Drugs Evidence Centre, (NDEC), based at the University of Manchester (University of Manchester, 2003), and the TOPs data is collated and analysed within the Drugs, Alcohol and Tobacco Directorate, based at Public Health England, London (Public Health England, 2015a).

In the subsequent sections, the developments, locations, and architectures of those national databases are briefly described to provide: (1) this study's quantitative analytical context, and (2) provide an insight into, and draw attention to, the data transition points where data attrition tends to occur. Data attrition leads to under-reporting and poor data quality, and this latter point underscores the rationale supporting the decision to undertake a forensic data audit prior to the analytical phase of this research study. Included also is a short report describing the remedial steps, and their outputs, undertaken to ameliorate data attrition to improve the quantity and quality of the analytical outputs. The strengths and operational limitations observed within the local criminal justice drugs data systems, and how those observations informed the decision to pilot the NDTMS within HMP Chelmsford are discussed. The prison data collection strategy reported was later adopted by the national monitoring team.

3.7 Participants

All study participants were adult, male substance misusing prisoners (N = 808) transitioning from the prison system to a local community drug partnership between April 1st 2008 and March 31st 2012. All participants were male, aged eighteen years and older. Age was calculated from date of birth to date of first release (DIRWeb). Each case was tracked for the first twelve-month period from the date of first prison release (one-year outcomes). Data collection ceased on 31st March 2013. Time to treatment was calculated from date of first prison release to date of first community drug treatment triage. Length of time to return to prison was calculated from date of first release to date of first prison assessment (after date of first release). Subsequent releases, treatment engagements and returns to prisons were excluded from this analysis. Whilst important, Partnership level mortality rates for this cohort were not addressed within this analysis but are discussed in detail within the context of clinical relevance.

3.8 Process/outcome measures and other variables

The quantitative evaluation of system performance at the heart of this research study began with the identification and location of the key intra- and inter-system process/outcomes points of measure. In this study, three national and two project-specific process counts were identified as key measures and variables, which, in conjunction with an analysis of TOP data and supported with a bespoke interpretation of local rates return to prison, were utilised to assess the performance of the system in general and compare the prison-to-community activities of the CARAT and InsideOut teams.

3.8.1 Process and outcome measures

The primary process and outcome indicator developed by this study was the **prison-to-community** continuity of care measure. This tier 2 measure recorded the number and percentage rate of prison clients referred from the Prison (Prison DIRWeb, **date case closed, case closed reason**), and engaged by the community DIP team (Community DIRWeb, **date of assessment** within 28 days of and = to or > than **date of release)**. People identified as returned to prison before their community assessment were excluded.

To calculate the study specific tier 3 treatment engagement rates, the client antecedents and first **case closed date**, as recorded by the prison side of the DIRWeb, were matched to the client antecedents and the **date of first triage** (greater than or equal to the DIRWeb prison side case closed date), as recorded by the NDTMS. Cases were excluded from this count if a **date of (re) assessment** was found to be recorded between the **case closed** and **triage dates.**

The length of time (process) between the two was labelled as this study's '**waiting time to treatment**' measure. **Length of time in treatment** (outcome) was calculated from (1) the date of **first triage** to **date of first discharge** as recorded by the NDTMS or (2) the **date of first triage** (NDTMS) to **date of (re) assessment** as per the prison DIRWeb system, if that date preceded an NDTMS **discharge date.**

The two 'new' measures introduced within by study were the rate of '**returns to prison**' (RTP) within the first twelve months of release from prison and the '**length of time'** spent in the community prior to the **RTP** event. The percentage rates of and length of time in the community (survival) **RTP** were calculated from the prison side of the DIRWeb system by simply interrogating the system for the next date of **(re) assessment** after the first recoded instance.

All cases were followed for twelve months only therefore, cases associated with an NDTMS **triage date** and reporting no other event data were deemed to be in treatment for 364 days and cases associated with a DIRWeb case **closed date** and no other event data were deemed to have 'survived' for 364 days after their first release from prison.

Throughout the analysis described here, and for the purposes of comparison, records were assigned to the following groups. The process and outcome activities of those people having received the continuity of care, as reported by the DIRWeb system, were flagged as '**with cc**', and those having not received the intervention as '**without cc**'. The activities of those people having been transitioned from **HMP Chelmsford**, (with or without continuity of care), into the Essex community during the two periods prior to the introduction of the InsideOut service, were flagged as '**CARAT'** clients. Those data were compared to the activities of those people transitioned from HMP Chelmsford during the two-year period after the introduction of the **InsideOut** service, who were labelled accordingly. To strengthen the overall 'system' count, those people released from prisons external to the Essex County Partnership, during the entire four-year study period, were included and labelled as '**HMP Other**'.

3.8.2 Other variables

For the purposes of contextualisation, study participants were described by age, ethnicity and drug profile as compared to the national and regional outputs. Age was calculated from **date of birth** to first **date of case closed,** as recorded by the prison side of the DIRWeb system. Cases recorded as

not 'White British' were allocated to the **BME** group and client drug profiling followed the NTA's (now Public Health England) **OCU** business and technical definitions (Public Health England, 2015b).

Regarding the analysis of the TOP data and for the purposes of this study, the term 'recovered' is defined as exiting the Essex treatment system either drug-free or not using opiates and/or crack cocaine. And the term 'relapsed' is defined as having been sentenced to HMP Chelmsford for drug-related offending. For ease of interpretation, people appearing in both data sets were excluded from the analysis. It is also important to note that the analysis of those in prison included non-Essex residents who were sentenced to HMP Chelmsford.

The system described in this TOP context is comprised of Essex residents having reported their data to the community NDTMS/TOP database at their last contact with treatment and those who completed an initial TOP form at triage in HMP Chelmsford. Because the TOP questionnaire collects twenty data items covering four domains, for the purposes of Illustration and ease of interpretation, the TOP items are reported within two pairs of domains. The NDTMS **triage date** is linked to TOP **start**, **review**, and **exit dates,** and hence, the fields required to calculate ad hoc analysis of the wider system TOP data. The TOP variables used for the outcomes analysis were the use of: **alcohol**, **illicit opiate**, **crack**, **cocaine**, **amphetamines**, **cannabis,** and **other drugs** during the previous twenty-eight days (substance misuse). The total number of days of **injecting** during the previous twenty-eight days, plus any activity of **sharing of injecting equipment,** and **other drug paraphernalia,** were calculated to indicate levels of risk. Criminal activity was captured via the total number of days of **shop lifting**, **selling drugs**, the committing of **other acquisitive crime**, and whether **assault or violence** had taken place within the last twenty-eight days. Health and social functioning were captured as a rating of **psychological health** on a sliding scale of 0 to 20 (20 indicating good), total number of **paid work days**, **days attended education**, **physical health rating**, presence of **acute housing problem**, and **risk of eviction.** Lastly, the client's rating of overall **quality of life** was measured, again on a sliding scale of 0 to 20, (20 representing good). For each client recorded as engaged with the TOP system, a change in their outcome status was calculated by comparing their

score or activity for each item from base line to last available TOP within that episode. Clients with a start TOP only, were not included in the outcomes analysis.

3.9 Data collection

Integral to the analytical success of this quantitative programme of research, and the monitoring of system-wide performance in general, was the ability to quickly locate and access the required data, which had not always been the case. Interrogation of client-identifiable crime and health records was particularly challenging at the onset of systems change. This was mainly due to the inherent sensitivities associated with the client record being located within both the criminal justice and health domains, and because, in the absence of a generic, non-identifiable client attributer, strict data governance protocols were in place that tended to create substantive barriers to the dynamic movement of data within and across systems. Both issues were redressed with the introduction of a Partnership wide, all-encompassing information sharing agreement (see previous section).

Within the context of this research study, the ISA permitted record level access to the NDTMS and TOP data extracts, the local community DIRWeb data, and the in-house prison data system. A bespoke system change pilot, 'freedom and flexibility', providing access to the HMP Chelmsford side of the DIRWeb system, was negotiated with the national team (National Treatment Agency, 2010), and proved crucial to the success of the analysis reported here. Access to the patient identifiable data (initials, date of birth and gender), allowed the construction of the 'unique' client key field, which not only prompted the pre-analytical audit exercise phase, but was crucial to the development of the counting model deployed throughout the analytical phase described in this research. The EDAP ISA permitted a level of formal access to client 'attributable' data which, up to that point (experientially), had rarely been achieved at the locality level.

3.9.1 Sanitising the data via audit

Prior to, and during the early stages of the system change intervention circa 2008, the CARAT team based at HMP Chelmsford, and several of the community drug recovery providers, were reliant upon paper-based processes when administering client transfers between, and sometimes within, their respective systems. Because systems performance was reported in the round, but data were siloed within the DIRWeb and NDTMS systems, special attention was devoted by this study to ensuring that the client attributer, with its associated key performance dates, corresponded throughout the local recovery system.

Although data compliance work is, in practice, a continuous aspect of day to day data management, there were two special or distinct phases during the early stages of the EDAP drug system change. Efforts to improve the quality of the data, so as to increase the number of statistical entities available for the research analysis and to improve the veracity of the associated key date information, were particularly heightened. During the twelve-month period leading up to the InsideOut 'go live' date, and developing work already undertaken to support the community DIP reporting stream, an intra-prison DIRWeb system audit was undertaken. This was followed with an inter-prison-community client attributer audit exercise, finalised prior to the 1st April, 2010 InsideOut service commencement date. Forensic audits of this type are labour–intensive, and so to assist with the administrative burden, an automated software routine, utilising ACCESS database query and macro technologies, was developed to support the manual aspects of the exercise.

The software developed for this data cleansing exercise was based on the work developed by Winkler (1995), but for this study applied a less mathematical approach. Instead of applying predictive statistical algorithms to text strings, in this study the positions of each of the characters on the client attributer were compared for similarity. Suspect or near-match records were manually checked via a process of triangulation involving the in-house prison, DIRWeb, and the NDTMS systems. Final corrections or amendments to the client attributer located within the DIRWeb and

NDTMS system were only undertaken after the identity of the record was verified by all three systems. *Figure 3.9.1* below identifies the complete data cleansing process.

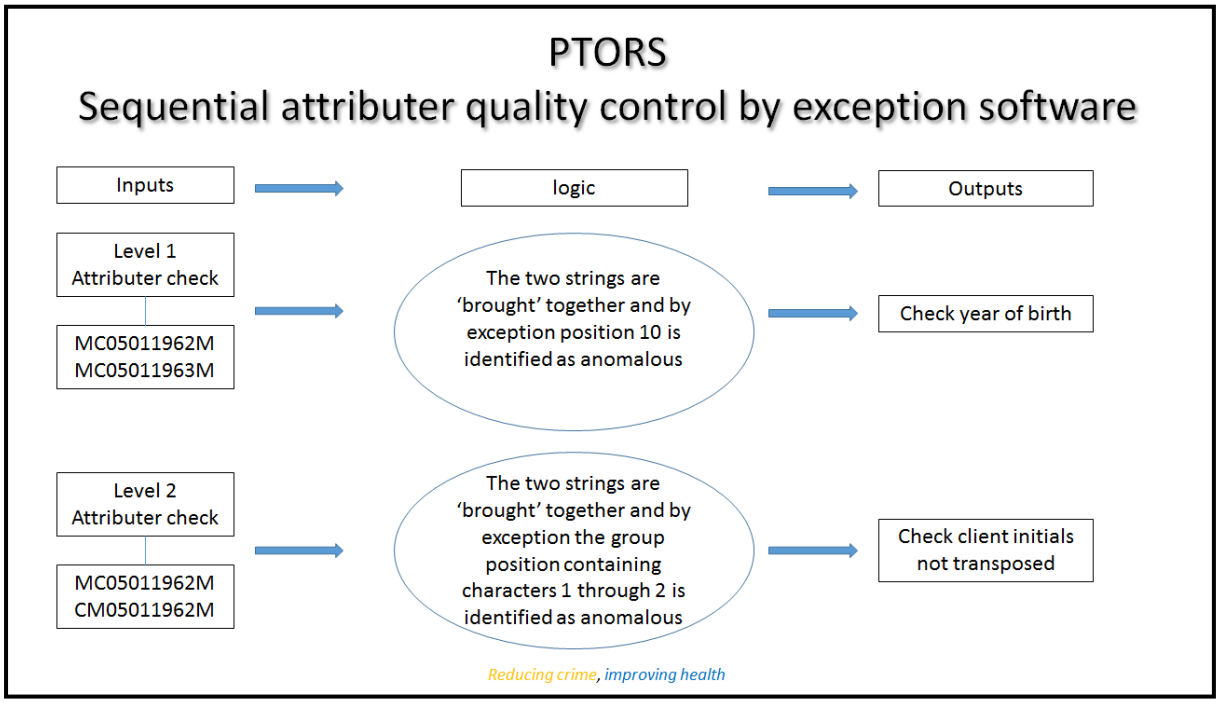

Figure 3.9.1: Attributer matching and data cleansing

For this audit exercise, the 'unique' key is generated in the concatenated form of first and last name initials, date of birth, and the first letter of gender, and notated in the alphanumeric structure, XXDDMMYYYYG for example MC05011962M (*Figure 3.9.1* above). The first stage of the data checking software brought all the attributers together (grouped in database terms), to produce an initial set of 'unique' attributers. In this example, during the first level of the comparison process, attributers that appeared similar, but contained different characters at position ten on the string (year of birth), were identified for manual audit. This process is repeated for all positions on the string. During the second level comparison, the iterative checking process is repeated, but instead of interrogating single positions, clusters of characters are compared. In this example, the client's initials comprise the first cluster and are isolated, allowing the remainder of the string to be 'paired'. In other words, two attributers have been identified as a possible match by their dates of birth, but the initial in both records needs to be checked. The outputs from both levels of comparison were

reported in an ascending list format, assigned with an appropriate system generated text recommendation, and were transmitted to the respective administrative teams for action.

Counts of the attributers, and matched entities, were taken before and after the data audit, and those outputs are reported in Table 3.9.2a below. Prior to data cleansing, 1,720 unique attributers were recorded within the community DIRWeb system, and 3,534 attributers were observed within the prison side DIRWeb database. The audit reduced those counts by 4% and 10% to 1,659 and 3,179, respectively.

Table 3.9.2a: Number of Prison Data Entities before and after Data Audit

DOMAIN	*Attributers*		% Δ ↕
	Base line	30/06/2009	
Community	1,720	1,659	4%
Prison	3,534	3,179	10%

The number of people being reported as transferred from the Essex DAAT to other prisons (or DAATs), was improved by 8%, from 594 to 645, and the number of client transitions into the DAAT from external prisons (or DAATs), was improved by 29%, from 769 to 989 (see Table 3.9.2b below).

Table 3.9.2b: Referrals between the Community and Prison DIP Teams

Matched attributers			
Transfer direction	Counts		% Δ ↕
	Base line	As at 30/06/2009	
From Essex	594	645	↑ 8%
To Essex	769	989	↑ 29%

Within the drug recovery system, data attrition is particularly prevalent when people transition from one system to another, for example from the criminal justice system to the health care system. The forensic audit exercise reported here brought the nature and scale of the problem to local strategic attention, and from both the research and operational perspectives, proved crucial in terms of the improvement, veracity, and robustness of the data for analytical and performance

reporting purposes. Outputs from this audit reinforced local concerns regarding the quality of the data management within HMP Chelmsford and, alongside the recommendations made within the PwC Report, seeded the notion to pilot the NDTMS/TOP data collection systems within HMP Chelmsford. Introducing the community data capture system into the prison environment not only complemented local strategic commissioning and information management intentions, but also provided the data, (TOP), that confirmed the nature and extent of the chaotic lifestyles experienced by this vulnerable group of people prior to being sentenced to prison.

In 2012 the NDTMS/TOP data collection system replaced DIRWeb in prisons throughout England and Wales, and has been largely responsible for the step change in drug treatment service delivery within prisons. Since the Essex Partnership chose to introduce its community case management system into HMP Chelmsford, the administrative burden historically associated with the management of two, often disparate data sets and incongruous service delivery models has been greatly reduced and has strengthened the case to move towards further rationalisations within the local NDTMS/TOP system. For instance, at the time of writing, there has been a move away from the many agency-specific NDTMS codes towards a handful of organisational codes. The goal is to reach a position where partnership wide NDTMS data will be transmitted to the regional NDTMS team via a single Partnership system code.

3.9.3 Data attrition

During the audit phase, it was observed that several prison records reported a case closed date after the community triage date, which would have excluded them from the research analytical outputs. On closer inspection, the main cause of those misaligned dates appeared to be associated with a system-wide, community and prison, administrative misunderstanding of the importance of verifying each prison case closure and the linked community treatment start and discharge dates. When records with this type of error could be verified through audit, they were amended

accordingly and assigned to the PTORS study cohort for analysis. However, in a number of cases the incongruous dates remained unresolved, and therefore, those records (n = 22), could not be included.

3.9.4 Data domains and relational modelling

An understanding of where and how the drugs data system is located and modelled, and the identification of the rate-limiting steps or 'pinch points' within the systems, was fundamental to the development of the counting strategy developed in this research. In broad terms, the type of care pathway modelling described here is reliant upon certain data fields being linked to each other in such a way throughout the system's component tables, as to reflect a person's recovery journey as it progresses. Unlike many other forms of health intervention, people in recovery from substance misuse tend to experience multi-episodes of treatment, incorporating a number of treatment modalities, within relatively short periods of time. Relational, entity database modelling succinctly captures these types of patient journeys and can be viewed as a group of tables or spread-sheets, being joined together by a series of so-called 'one-to-many' relationships.

The thought processes involved when developing these types of care pathways, and their data storage systems, are similar to those applied when differentiating and integrating in the mathematical context. For instance, the care pathway modelling described by the NDTMS can be regarded as an unfolding or differentiating series of treatment events which generate many lines of two-dimensional data. The integrative aspect relates to the production of the algorithms required to reverse engineering or 'refit' those two-dimensional data outputs, into a multi-dimensional storage array or database, from which client activities can be recorded and reported.

The care pathway models developed by the Home Office and the NTA teams, were/are predominantly performance-focussed, and as such, are reliant on a number of key pieces of information. In the model described here, the data are located in what are termed 'data entities' or

tables. Specifically, these are the client, episode, and modality/TOP tables within the NDTMS, and the DIR and Activity tables within the DIRWeb system. In both systems, each table is linked via a number of key data fields. Of these, first and foremost and common to all tables, is the short form client antecedent, or 'unique' record identifier, without which records cannot be matched either within or across the NDTMS/TOP and DIRWeb systems.

During the early phase of database development, it was realised that due to the chaotic lifestyles led by many of the target client group, the system-wide collection of the NHS number would be too problematic. In response, a 'unique' identifier, abstracted from the client's antecedent information was created, so that client records could be followed within and between the DIRWeb and NDTMS systems. In this example, the client entity is joined to the episode entity via the client attributer, which in turn is connected to the modality and TOP entities via the attributer in conjunction with the triage dates, the episodic key variable. The DIR and Activity tables are similarly linked. The combining, or concatenation of the attributer and various date information confers the 'uniqueness' of each record.

Figure 3.9.4 below describes the drugs data collection model/system in its entirety. In 2005, the NDTMS system was augmented with the introduction of NTA's Treatment Outcome Profile (TOP) system, and whilst both datasets are collected via the same virtual portal, and are clearly associated within the entity modelling schema, they are treated as separate data systems. The prison and community domains are represented in the upper section of the Figure with the bi-directional arrows indicating client flow or data flux. In this representation, the DIRWeb system spans both the prison and community domains, incorporating the CARAT and DIP data sets, but in practice the data is effectively partitioned by the prison gate. The DIRWeb and NDTMS monitoring systems described by the lower section of *Figure 3.8.4* are depicted within a relational, data entity modelling framework.

Although in practice each database will hold its own client table, in this schematic, the database systems are connected to a single client entity in such a way as to draw attention to the importance of those data in terms of their 'linking' qualities. Each component entity or data table is connected via the Martin or Crow's Foot Cardinal Notation System (ConceptDraw, 2015).

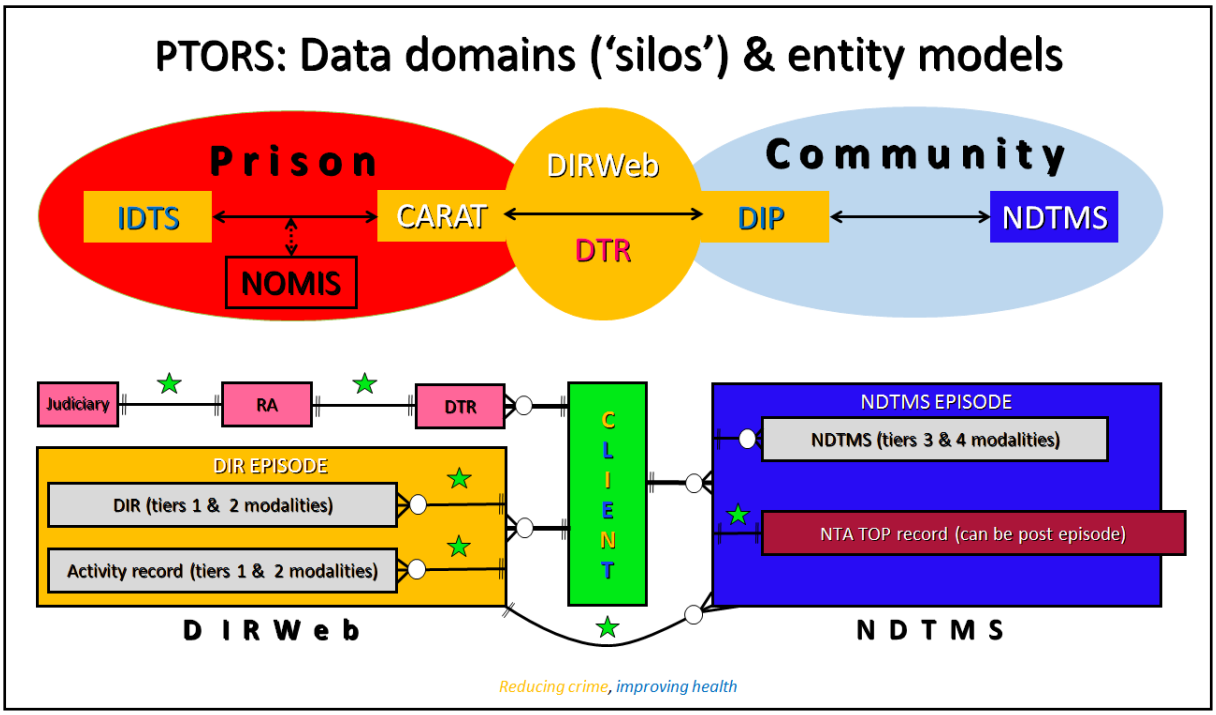

Figure 3.9.4: Drug data collection systems domains and their respective relational associations

Note: The National Offender Management Information System, (NOMIS), is incorporated here for the purposes of locating the reference data utilised for triangulation as per the data audit exercise. Also, the inclusion of the DTR and RA pathway acknowledges the Essex Recovery Partnership's recent progression towards Drug Testing on Arrest, and completes the drugs data collection picture circa 2012.

For example, the relationships between the client (green), the DIR (orange), and the NDTMS (blue) (Compton et al.), episodic entities, are of the one-to-many type, that is, a client or individual may have numerous episodes of treatment. As such, they are represented by the zero, one or many, (crow's foot), on the right-hand side of the relationship, and the one and only one, (denoted by the two-bar gate), on the left-hand side of the connection. Within the NDTMS episode, there may be a number of modalities or treatment interventions (same notation), but in the instance of a Required Assessment (RA) record being opened, there can only be one and only one type of relationship on

each side of the connection. TOP data is collected at least three times during a successful drug treatment episode and can be collected post exit. Each TOP data collection is associated with a particular episode, the relationship between the episode and the TOP is of the one and only one variety, which is also the case within the drug testing pathway. Each positive drug test is associated with a single required assessment process which is comprised of two elements. The green stars are located between tables and stress the crucial 'pinch points', where data attrition is most likely to occur when client records are transferred.

3.9.5 Study specific data modelling

In 2011, and complementing the formalisation of the conceptual framework described earlier, four 'clean' data sets were available for the quantitative analytical phase. Specifically, these were DIRWeb prison and community databases and the community NDTMS and TOP data sets. The prison NDTMS and TOP data sets were made available during 2013. In the first instance, these datasets were linked to create the relational data entity model described in *Figure 3.9.5* below. Located at the hub of this framework is the client entity, (one record per client), which is linked via a series of one-to-many relational connections, to the downstream data entities, (DIRWeb, NDTMS-TOP), each of which may contain multiple lines of data per client. The Crow's Feet Notation System describes the nature of the relationship or joins that connects each of the tables or entities.

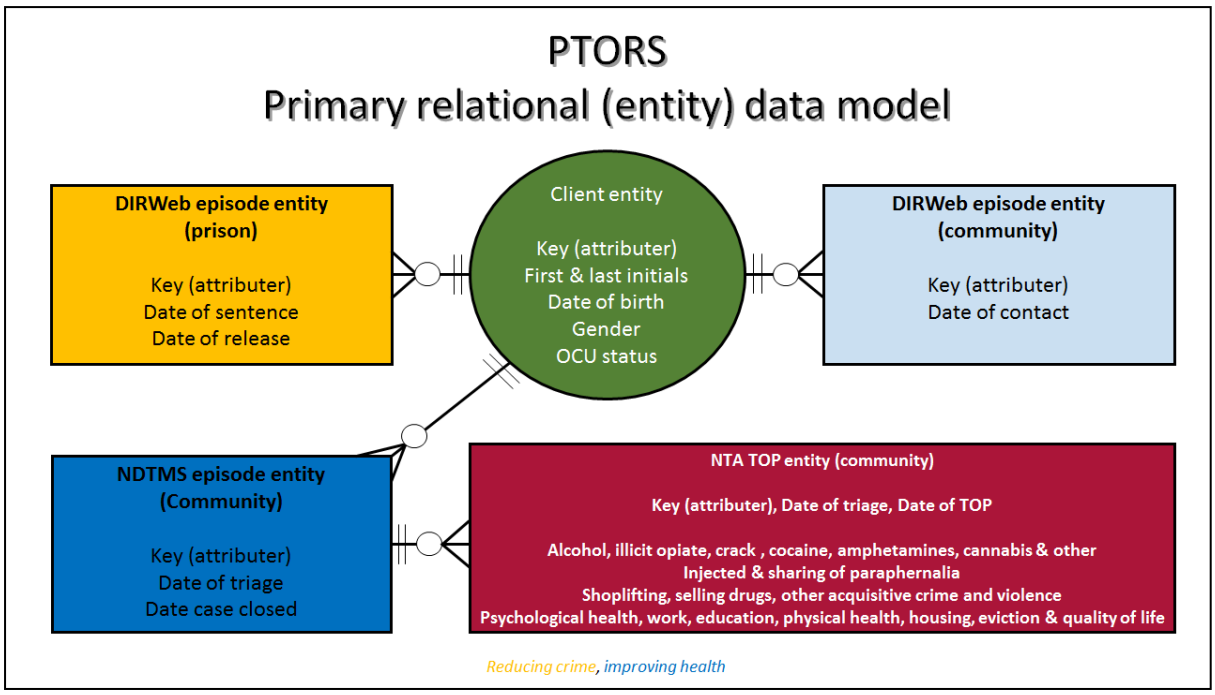

Figure 3.9.5: The study's entity relational diagram

The schematic presented here describes the end-product of the entity data modelling work, which began during the data cleansing phase of the project. Each entity or table was attached sequentially in the order: (1) prison DIRWeb to client, (2) community DIRWeb to client, (3) community NDTMS to client, and (4) TOP to community NDTMS. The client entity held the 'unique' attributer, (short form antecedent), which was originally drawn from all the records held on DIRWeb and NDTMS systems, and downstream entities held the data items required for the research analysis.

The notion that people seeking recovery from substance misuse may well experience one or more episodes of treatment, each of which will involve one or more modalities or type of intervention, is a relatively simple one to convey. Describing the technical aspects associated with relational entity modelling and the mechanisms required to house the data generated by this type of care pathway, is perhaps less so. However, once grasped, an understanding promotes a sophisticated approach towards research and monitoring data investigations. Within a relational model, the data associated with people's recovery journeys are collected, stored, and reported in

such a way as to reflect their health care journeys and needs. These data contribute towards the enhancement of local service delivery and ultimately improve system performance in the broader context. The introduction of the NDTMS, and to some extent the DIRWeb, data system to support the delivery of the NTA's programme of Models of Care, has standardised the delivery of drug recovery to an evidence-based paradigm, and is now recognised internationally as an exemplar of a national healthcare data collection system.

However, their siloed natures, both internally and between systems, especially prior to the emergence of local case management information systems, could have led to increased data attrition and under reporting. In the absence of a non-identifiable client key variable, common to all data systems, for example the NHS or NI numbers, the use of the client attributer may have compounded the problem because of: (1) the sensitivities associated with the sharing of patient identifiable information, and (2) the stringent governance required to do so. Within DAAT or Partnership areas where data and administrative resources are underdeveloped, poor reported system performance may result. Thus, relational care pathway modelling allows for people's recovery journeys to be better reflected. Yet applying this type of data model to a system that strives to incorporate as broad a spectrum of understandings as possible, but which at some point is limited, requires a level of local administrative expertise and data compliance that is not always available.

3.10 Sample size

Collating data from the community and prison DIRWeb datasets identified a 'system' cohort of 808 Essex individuals as having had contact with the prison drug recovery system (HMP Chelmsford and HMP Other), and as being managed and released by either the CARAT or the InsideOut teams. This system cohort was comprised of: 255 CARAT, 278 InsideOut and 275 cases recorded as entering the Essex drug recovery system via other HMP non-Essex establishments, but managed by the WDP

service (see *Figure 3.10* below). This latter group were included within the research question testing or study contextualising stage because, at the system level, they contributed to and strengthened the process and outcome counting. They were not included within the hypothesis testing stage.

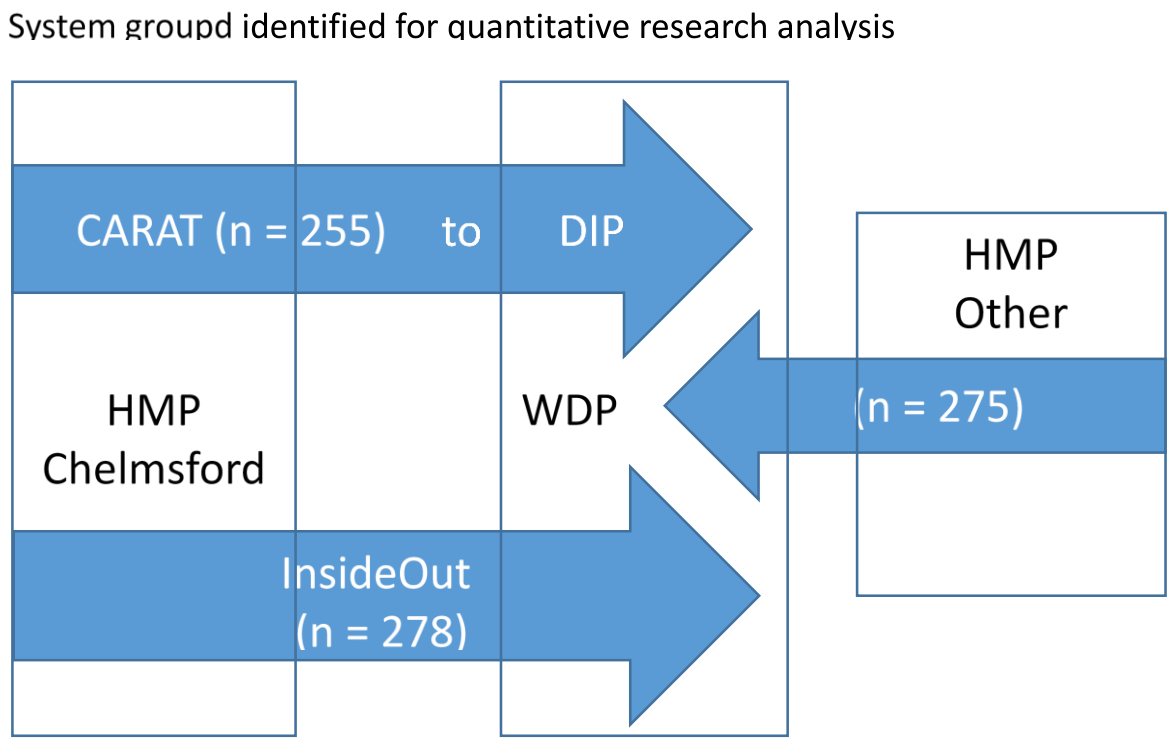

Figure 3.10: System cohort identified for quantitative research analysis

Note. Prior to the launch of the InsideOut service in 2010, WDP had managed the community DIP provision throughout Essex (from 2006). Thus, for the purposes of the analysis described here, all clients entering the recovery system from other prisons are labelled HMP Other to differentiate them from those people receiving the InsideOut service.

3.11 Analytical strategy

In order to maximise the volume of quantitative research data available for analytical purposes, the analytical strategy adopted here was to: (1) develop a counting or continuity of care data (person) flow model, in line with national guidelines, with a view to generating the process and outcome

variables required to answer the study hypothesis and supporting research question; (2) locate and describe the study sample within national and regional contexts; (3) test the study assumptions via a combination of univariate, survival and size effect statistical analyses at the 'system' level; (4) test the study hypothesis by comparing the CARAT and InsideOut prison-to-community continuity of care, treatment engagement/waiting times and return-to-prison; (5) compare the CARAT and InsideOut continuity of care performance outputs with those generated by the statutory reporting mechanisms with a view to strengthening this study's findings, and (6) compare the self-reported crime and health outcomes of those engaging with the community recovery system with those people being returned to prison within the first year of their release.

Schematically, the data (people) flow is represented in *Figure 3.11* below. People are released to the community with or without continuity of care and they may engage with drug recovery or otherwise. People may remain healthy and crime-free (in treatment or not), or they can relapse to prison within twelve months of release.

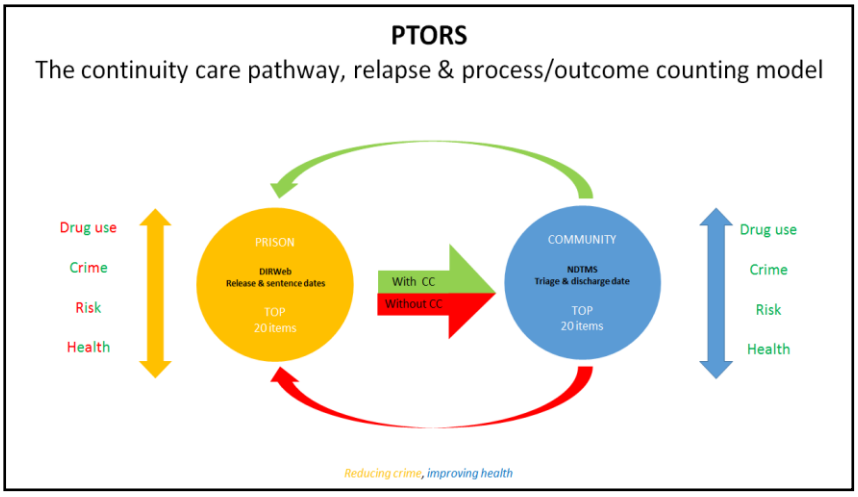

Figure 3.11: People flow and points of process and outcomes data capture

3.12 Statistical methods

The study data were described within the context of the National and Regional age, ethnicity and drug profile estimates utilising student *t* (for age, section 4.4.1) and Chi squared tests (for ethnicity and drug profile). For pragmatic reasons, associated with audience type and performance reporting, the study specific process and outcomes outputs namely; prison-to-community continuity of care (within twelve months of first release from prison), waiting times to community treatment (within twelve months of first release from prison) and return to prison (within the first twelve months of first release from prison), were compared utilising three types of statistical tests. In the first instance, Chi squared tests (see *figure 3.12a* below) were used to assess levels of significance between the observed and expected frequencies of the cases assigned to the process outputs (categorical data), namely the number and rate of treatment engagements.

Chi square groupings	Outcome 1 (observed) (**With** continuity of care)	Outcome 2 (observed) (**Without** continuity of care)
Group 1 (**into** treatment)	a	b
Group 2 (**not** into treatment)	c	d

Figure 3.12a: Example 2*2 contingency table

In the second instance, because the continuous data were right censored (post twelve outcomes were not recorded), Kaplan Meier survival analyses (Mantel Cox log rank tests included) were applied to assess differences associated with the time dependent outcomes data. And in the third instance, where there appeared to be between (discrete) group differences, analyses of effect size were undertaken to assess the 'strength' of the effect (see Figure 3.12b below). Importantly, in all instances the analyses were seeking to identify relationships between variables rather than making inferences about causality.

	Data type		Statistical test (*p* alpha set at 0.01)			
Variable (units)	Continuous	Categorical	Descriptive (mean, min, max & StDev)	Chi (X^2)	student t	(*) Effect size (Cohen's *d*, Glass' Delta or Hedges' *G)*
Age (years)	✓		✓		✓	
Time to treatment (days)	✓		✓			✓
Time in treatment (days)	✓		✓			✓

Time to return to prison (days)	✓		✓			✓
Continuity of care (yes/no)		✓	✓	✓		
Treatment engagement (yes/no)		✓	✓	✓		
Return to prison (yes/no)		✓	✓	✓		
TOP items (days & yes/no)	✓	✓	✓	✓	✓	

Figure 3.12b: Study variables, type, units and statistical tests applied.

The survival analysis was conducted using the variables defined in Figure 3.12c below and where appropriate, supported with effect size testing.

Variable	Measures
Length of Time in Drug Treatment	Days
Continuity of Care	0 = No; 1 = Yes
Drug Treatment Engagement	0 = No; 1 = Yes
Waiting Time to Drug Treatment	Days
Return to Prison	0 = No; 1 = Yes
Time to Return to Prison	Days
Age	Years
Ethnic Background	0 = White-British; 1 = BME
Type of Substance Misuse	0 = Other; 1 = OCU
Service Delivery Model	1 = CARAT; 2 = InsideOut; 3 = HMP Other

Figure 3.12c: Study variables processed within the Survival and Mantel/Cox log rank analyses.

Notably, the introduction of the TOP system to HMP Chelmsford took place towards the end of the systems change period reported here, thereby restricting this study's analytical options regarding being able to report the study cohort's entire 'outcome journey' in full. However, its introduction into the prison as part of this local systems change programme, allowed for an early and unique quantitative (Chi squared and Student t) insight into the levels of harm reported by those relapsing to prison, compared to those more established on their recovery journeys, and is therefore worthy of note.

The TOP system collects twenty data items which are grouped into four domains namely: substance misuse, injecting risk, crime and health/social functioning, and reports these outcomes at

both the individual and cohort levels. The self-completed TOP form is administered at treatment baseline, at the point of recovery care plan review and upon treatment completion.

3.13 Missing data

Missing data because of attrition has been dealt with earlier, and whilst every effort to reduce missing data within the analytical phase of the research was made, several records were excluded from the descriptive analysis of the system level cohort. Specifically, the ethnicity status of n = 31 (n = 30, HMP other and n = 1, InsideOut) could not be identified. No attempt to impute these records was made.

3.14 Bias

Whilst an attempt to limit study bias was made via a comparison of the 'system' cohort with the national and regional level demographical profiles, this study's non-random design has inherently led to biases both known and unknown. As examples, the proportion of OCU clients engaging with continuity of care increased over time, and the number of people leaving prison drug free, in other words not requiring the services of the community drug treatment system, could not be accounted for. In the first instance, increased rates of OCU penetration might reflect a maturing system as the InsideOut intervention progressively adopted DIP overarching policy/guidelines, and might be argued pragmatically as a 'good' bias, whilst in the second, the unknown status of some of the prison leavers has detracted from the validity of this study's findings. Future work in this area will need to factor this source of bias into its design protocol.

To clarify, when the client attributers and associated date information were not aligned within and across the DIRWeb and NDTMS/TOP systems, then those data were 'lost' to the system, and as such were excluded from the statutory and study counting mechanisms. In response to operational need, a regime of data monitoring and auditing exercises was introduced by the

commissioning team with the treatment providers, as a substantive element of their performance and contractual obligation; however, this proved to be of little value to the needs of the research analysis for several reasons.

First, the quality control mechanisms introduced at that juncture were mainly targeted towards the current and future data collections, and so some of the data required for the research analysis would not have benefitted from that attention. Second, although improving the quality of the data would be positively reflected within the real time national reporting outputs, it would have little effect on the historical reports, even in those cases where older data could be included within the quality exercises, because those reports are not rerun. In other words, the statutory reports, especially those managed by the DIMIS/DIRWeb system, are fixed; refreshing the data would not have generated the outputs required to satisfy research and evaluation expectations. Third, a key factor taken into consideration when planning for the analytical phase was that the level of stringency applied to the data regarding the statutory reporting parameters, might prejudice records that might otherwise be included.

3.15 Summary

Chapter 3 has focussed on the methods employed in this research. It has detailed the nature of the intervention; the timeline of key events and project milestones; the groundwork undertaken to ensure the legal sharing of data; the audit process used to maximise the 'cleanliness' and volume for the purposes of this research; the principles of relational or entity data modelling, supporting the development of the care pathway data flow or process model; the sampling and analytical strategies including which variables were selected for analysis; the choice of statistical tests to be applied, and an innovative way of collecting and describing the TOP outcomes data operational at the time. Chapter 4 explains the descriptive and statistical analyses of the primary process and secondary outcome outputs.

Chapter 4 - Results

4.0 Introduction

This study's results are presented in seven sections. Firstly, this research is contextualised by describing the Essex Drug Recovery Partnership in terms of age, ethnicity and drugs misuse status as compared to the regional and national profiles (table 4.1, p. 102). In the second section, the 'system' cohort, comprised of people engaged with the CARAT, InsideOut, and people returning to the Partnership via externally located prisons (HMP Other), (figure 3.10, p. 95) is described as per the profiles detailed in section one (table 4.2, p. 104). ***It is important to reiterate that the HMP Other organisational activities were included simply to strengthen the 'system' level process and outcome metrics relating to the study's research questions, and as such are excluded from the hypothesis testing stage.***

Utilising univariate/covariate statistical techniques, supported with effect size calculations where possible, section three is devoted to answering the study research questions, namely:

Is (CC) associated with increased rates of drug treatment engagement? (table 4.3.1, p. 104)

Is CC associated with reduced waiting times to drug treatment? (table 4.3.2, p. 105)

Is CC associated with increased length of time in drug treatment? (table 4.3.3, p. 107)

Is CC associated with reduced rates of return to prison (RTP)? (table 4.3.4, p. 109)

Is drug treatment engagement associated with reduced rates of RTP? (table 4.3.5, p. 109)

Is CC and drug treatment engagement associated with reduced rates of RTP? (table 4.3.6, p. 111)

And in section four analyses some of the possible confounding variables (tables 4.4.1, 4.4.2 & 4.4.3, pages 112, 116 & 117 respectively).

Section five tests the study hypotheses, which are threefold. Firstly, that the InsideOut service was associated with increased rates of continuity of care within the first twelve months of first release from prison (table 4.5.1, p. 119). Secondly, that the InsideOut service was associated with increased the rates of community drug treatment engagement within twelve months of the first release from prison (table 4.5.1, p. 119). Thirdly, that the InsideOut service reduced the waiting times for ex-prisoners engaging with the community drug treatment system within the first twelve months of their first release from prison (table 4.5.2, p. 120). And fourthly, the InsideOut service was associated with reduced rates of return-to-prison. The first, second and fourth hypotheses were described by way of percentage rates, supported with chi-squared (contingency table) computations and the mean waiting times to community drug treatment, as recorded by the CARAT and InsideOut teams, are compared by way of Kaplan Meier survival curves complemented with a Log Rank (Mantel Cox) test for statistical significance. The rates of return to prison are included within the hypothesis testing section to help inform this element of the discussion (Chapter 5), and with a view to developing further investigations.

Section six locates the continuity of care performance outputs generated by this research within the context of the national performance reporting systems. In the first instance, tier two (prison DIRWeb to community DIRWeb) outputs covering the four-year period 2008-12 are described (table 4.6.1, p. 122). Secondly, tier three (prison NDTMS to community NDTMS) outputs covering the two-year period 2014-16 are described (table 4.6.2, p. 123). It is important to note that, due to a period of reconfiguration and systems testing, nationally collated continuity of care performance reports were not available for the two-year period 2012-14. The chapter is finalised, section 7, with *ad hoc* analysis of the local prison TOP data that became available during the later stages of this research (tables 4.7.1, 4.7.2, pages 126 and 128 respectively). These data have been included mainly for the purposes of interest and discussion, and its claims are neither definitive nor scientifically robust.

4.1 The Essex Partnership described

Census 2015 estimates that in the region of 850,000 adults aged between 18 to 64 years of age are resident within the county of Essex (ESSEX County 2016), (Table 4.1). Compared to the National estimates, the Essex adult population is slightly older, especially in the 35 to 64 age groups (63% and 67%, National and Essex, respectively). The proportion of people identifying themselves as being from a Black Minority or other Ethnic backgrounds (BME) is slightly under-represented (14% and 12%, National and Essex, respectively). As per the last available Opiate Cocaine Use (OCU) prevalence estimates, the mean number of OCUs resident within the county stands at approximately 4,329, which, expressed as a percentage, represents 0.5% of the total adult population. This suggests that when compared with the National profile (0.9%), the County may be relatively less affected by the harms associated with opiate and crack cocaine misuse.

Table 4.1: Contextual demographic information.

Note: Age and ethnicity data were drawn from the ONS census 2015 and 2011 outputs, respectively (Office of National Statistics, 2015). Estimated mean OCU counts as per the Glasgow 2012 prevalence estimates (Public Health England, 2016)

Demographic	England		East of England		Essex	
	N	% total	n	% total	n	% total
Age band						
18 - 24	4,920,128	15	487,927	14	113,368	13
25 - 34	7,485,996	22	764,386	21	168,923	20
35 - 64	20,990,775	63	2,360,286	65	566,597	67
Total	33396899	100	3612599	100	848888	100
Ethnicity						
White British	28721333	86	3076851	85	743286	88
BME	4675566	14	535748	15	105602	12
Total	33396899	100	3612599	100	848888	100
Drug profile *		% population		% population		% population

OCU	293,879	0.9	21,952	0.6	4,329	0.5

4.2 The study 'system' described

For the purposes of this research, the 'system' cohort (N = 808) was comprised of three groups of clients:

(1) People receiving care from the CARAT team within HMP Chelmsford between April 1st, 2008 and March 31st, 2010 (n = 255, 32%).

(2) People transferring back to the county from prisons located elsewhere between April 1st, 2008 and March 31st, 2012 via the community DIP team (HMP Other, n = 275, 34%).

(3) People receiving care from the InsideOut service between April 1st, 2010 and March 31st, 2012 (n = 278, 34%) see Table 4.2.

People transferring back to the county drug recovery system from HMP Other tended to be older, particularly within the 25 to 34 age range (50% HMP Other compared to 40% and 41%, CARAT and InsideOut, respectively). Furthermore, individuals within the InsideOut cohort were older in general (42% aged 35 to 64 compared to 30% and 31%, CARAT and HMP Other respectively). In total, the BME groups were slightly under-represented (9%), but less so within the InsideOut group (11%). The total number of OCUs (n = 602, 75%) were disproportionately represented in favour of the InsideOut service both in terms of organisational representation (88% compared to 69% and 67%, CARAT and HMP Other, respectively) and as a proportion of the system cohort (41%, 29% and 30%, InsideOut, CARAT and HMP Other, respectively).

Table 4.2: Study cohort described by age, ethnicity, and drug use profile.

Demographic	CARAT			HMP Other			InsideOut			Total	
	n	% org total	% row total	n	% org total	% row total	n	% org total	% row total	n	% cohort total
Age band											
18 - 24	76	30	42	53	19	29	51	18	28	180	22
25 - 34	103	40	29	138	50	39	113	41	32	354	44

35 - 64	76	30	28	84	31	31	114	41	42	274	34
Total	255	100	32	275	100	34	278	100	34	808	100
Ethnicity *											
White British	236	93	33	224	91	32	247	89	35	707	91
BME	19	7	27	21	9	30	30	11	43	70	9
Total	255	100	33	245	100	32	277	100	36	777	100
Drug profile											
OCU	175	69	29	183	67	30	244	88	41	602	75
Non-OCU	80	31	39	92	33	45	34	12	17	206	25
Total	255	100	32	275	100	34	278	100	34	808	100

Note: * 31 BME cases missing (30 HMP Other and 1 InsideOut)

4.3 'System' level activities

This section sets the context within which the study's central hypothesis is tested. An analysis of the whole system data is undertaken to answer the study's research questions and to address potential confounding.

4.3.1 Is CC associated with increased rates of drug treatment engagement?

Descriptive and chi-squared (2*2 contingency table) analysis of the study cohort determined that of the 363 (45%) people having received continuity of care, 100 (28%) subsequently engaged with the community drug treatment system within 12 months of their first release from prison. Of those not having received continuity of care (n = 445), 11% (n = 51) subsequently engaged with drug treatment within twelve months of their first release from prison (Table 4.3.1). The conclusion is that the null hypothesis was rejected at the 0.01 level of significance ($\chi^2 = 34.94$, $p < 0.01$) and that there was a statistically significant association between receiving continuity care and rates of treatment engagement within twelve months of the first release from prison event.

Table 4.3.1: Continuity of care cross-tabulated with engagement with structured drug treatment

Outcome Engaged with treatment	Continuity of care					Statistical test
	Yes		No		Total	2 *2 Contingency
	n	Column %	N	Column %	n	
Yes	100	28	51	11	151	$\chi^2 = 34.94$
No	263	72	394	89	657	$p < 0.01$
Total	363		445		808	

4.3.2 Is CC associated with reduced waiting times to drug treatment?

A Kaplan Meier survival analysis (SA) was conducted by entering the following variables:

1. Time: Time to treatment
2. Status: Engaged with treatment
3. Factor: Continuity of care

The descriptive statistics are summarised in Table 4.3.2. The cumulative longest estimated mean waiting times for people engaging with treatment within twelve months of their first release from prison were recorded by those not receiving continuity of care (n = 51, mean = 337 days, 95% CI [329, 345]). The cumulative shortest estimated waiting times for people engaging with treatment within twelve months of their first release from prison were recorded by those receiving continuity of care (n = 100, mean = 280 days, 95% CI [265, 295]).

Table 4.3.2: Survival times to treatment, with and without continuity of care

	Summary				Means			
			Censored		Estimate	SE	95% CI	
Continuity of care	N	n of Events	n	%			Lower Bound	Upper Bound
No	445	51	394	89	337	4.1	329	345
Yes	363	100	263	73	280	7.7	265	295
Overall	808	151	657	81	311	4.2	303	320

A Log Rank (Mantel Cox) test indicated that there was a statistical difference at the 0.01 level between the cumulative longest estimated mean waiting times of people not receiving continuity of care and the cumulative shortest estimated mean waiting times of people receiving continuity of care ($\chi^2 = 37.4$, $p < 0.01$). This analysis concludes, therefore, that continuity of care was associated with shorter waiting times to treatment within twelve months of first release from prison and that the null hypothesis can be rejected (see figure 4.3.2 below). Interrogation of the mean waiting times to treatment (see supplementary table 3.0) via Hedges' test for effect size ($g = 0.65$) suggests that there are medium to strong, perhaps 'observable' differences between the two groups.

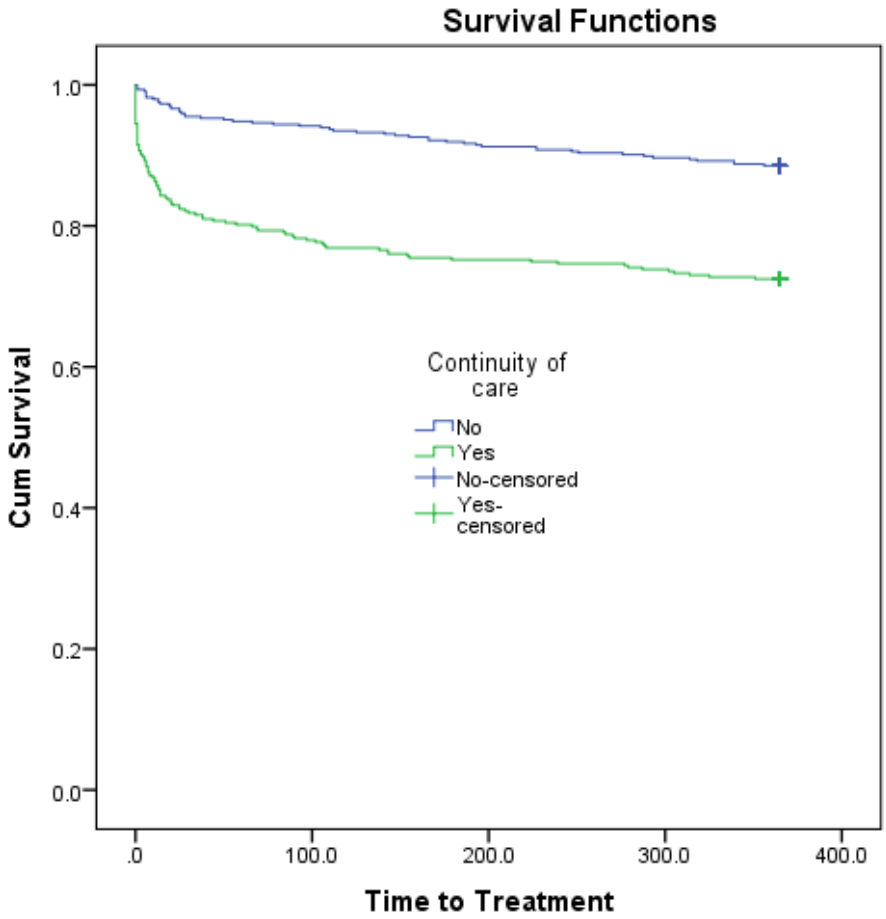

Figure 4.3.2: Kaplan Meier SA for time to treatment, with and without continuity of care

4.3.3 Is CC associated with increased length of time in drug treatment?

A Kaplan Meier survival analysis (SA) was conducted by entering the following variables:

1. Time: Time in treatment
2. Status: Engaged with treatment
3. Factor: Continuity of care

The descriptive statistics are summarised in Table 4.3.3. The cumulative longest estimated mean times spent in treatment were reported by those people receiving continuity of care (n = 363, mean = 194 days, 95% CI [171, 220]) and the cumulative shortest estimated mean times spent in treatment were recorded by those not receiving continuity of care (n = 445, mean = 146 days, 95% CI [114, 179]).

Table 4.3.3: Survival times in treatment, with and without continuity of care

	Summary				Means			
			Censored		Estimate	SE	95% CI	
Continuity of care	N	n of Events	n	%			Lower Bound	Upper Bound
No	445	51	394	89	146	16.7	114	179
Yes	363	100	263	73	195	12.6	171	220
Overall	808	151	657	81	179	19.2	159	199

However, the 95% confidence intervals overlapped and a Log Rank (Mantel Cox) test indicated that there was no statistically significant difference at the 0.01 level between the cumulative treatment times of people not receiving continuity of care and the cumulative treatment times of people receiving continuity of care ($\chi^2 = 3.74$, $p > 0.01$). This analysis concludes, therefore, that continuity of care was not associated with increased times in treatment and that the null hypothesis is accepted (see figure 4.3.3 below). Interrogation of the means length of times in treatment (see supplementary table 4.0) via Hedges' test for effect size ($g = 0.31$) suggests that there may be weak but 'unobservable' differences between the two groups.

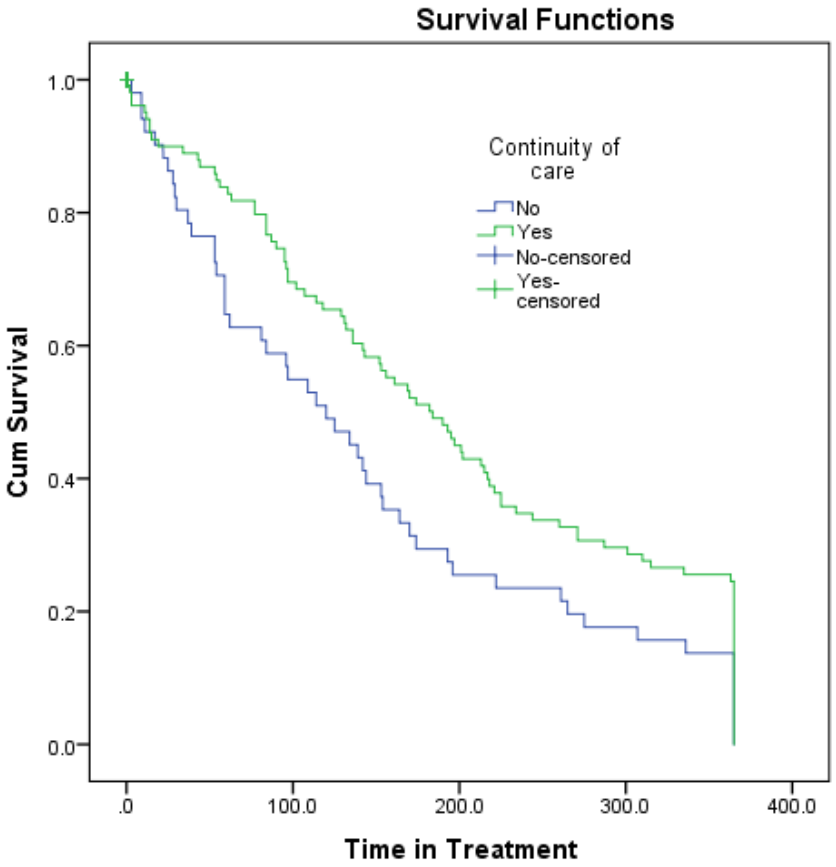

Figure 4.3.3: Kaplan Meier SA for time in treatment, with and without continuity of care

4.3.4 Is CC associated with reduced rates of RTP?

Descriptive and chi-squared (2*2 contingency table) analysis of the study cohort determined that of the 363 (45%) people having received continuity of care, 69 (19%) subsequently returned to prison within 12 months of their first release from prison. Of those not having received continuity of care (n = 445), 25% (n = 110) were subsequently returned to prison within the first twelve months of their first release (Table 4.3.1). The conclusion is that the null hypothesis was accepted at the 0.01 level of significance (χ^2 = 3.78, p > 0.01). There was no statistically significant association between the proportions of participants who were returned to prison within 12 months of their first release, with or without continuity of care.

Table 4.3.4: Rates of return to prison, with and without continuity of care

Outcome Returned to prison	Continuity of care: Yes			Continuity of care: No			Total		Statistical test
									2 * 2 Contingency
	n	% column total	% row total	n	% column total	% row total	n	% column total	
Yes	69	19	39	110	25	61	179	22	$\chi^2 = 3.78$
No	294	81	47	335	75	53	629	78	$p > 0.01$
Total	363		45	445		55	808		

4.3.5 Is drug treatment engagement associated with reduced rates of RTP?

A Kaplan Meier survival analysis (SA) was conducted by entering the following variables:

1. Time: Time to RTP
2. Status: RTP
3. Factor: Engaged with treatment

The descriptive statistics are summarised in Table 4.3.5. The cumulative longest estimated mean survival times for people returning to prison within twelve months of their first release from prison were recorded by those in treatment (n = 151, mean = 334 days, 95% CI [323, 346]). The cumulative shortest estimated mean survival times for people returning to prison within twelve months of their first release from prison were recorded by those not in treatment (n = 657, mean = 312 days, 95% CI [304, 320]).

Table 4.3.5: Survival times to return to prison, with and without treatment

	Summary				Means			
			Censored		Estimate	SE	95% CI	
Engaged with Treatment	N	n of Events	n	%			Lower Bound	Upper Bound
No	657	147	510	78	312	4.3	304	320
Yes	151	32	119	79	334	6.0	323	346
Overall	808	179	629	78	316	3.7	309	324

Although the 95% CIs did not overlap, a Log Rank (Mantel Cox) test indicated that there was no statistically significant difference at the 0.01 level between the cumulative estimated survival of people returning to prison in treatment and the cumulative estimated survival of people not in treatment (χ^2 = 0.38 and p > 0.01). This analysis concludes, therefore, that treatment was not statistically significantly associated with increased survival times of those returned to prison within twelve months of their first release from prison. However, interrogation of the mean length of times of return to prison (see supplementary table 5.0) via Hedges' test for effect size (g = 0.92) suggests that there may be a strong and observable differences between the two groups.

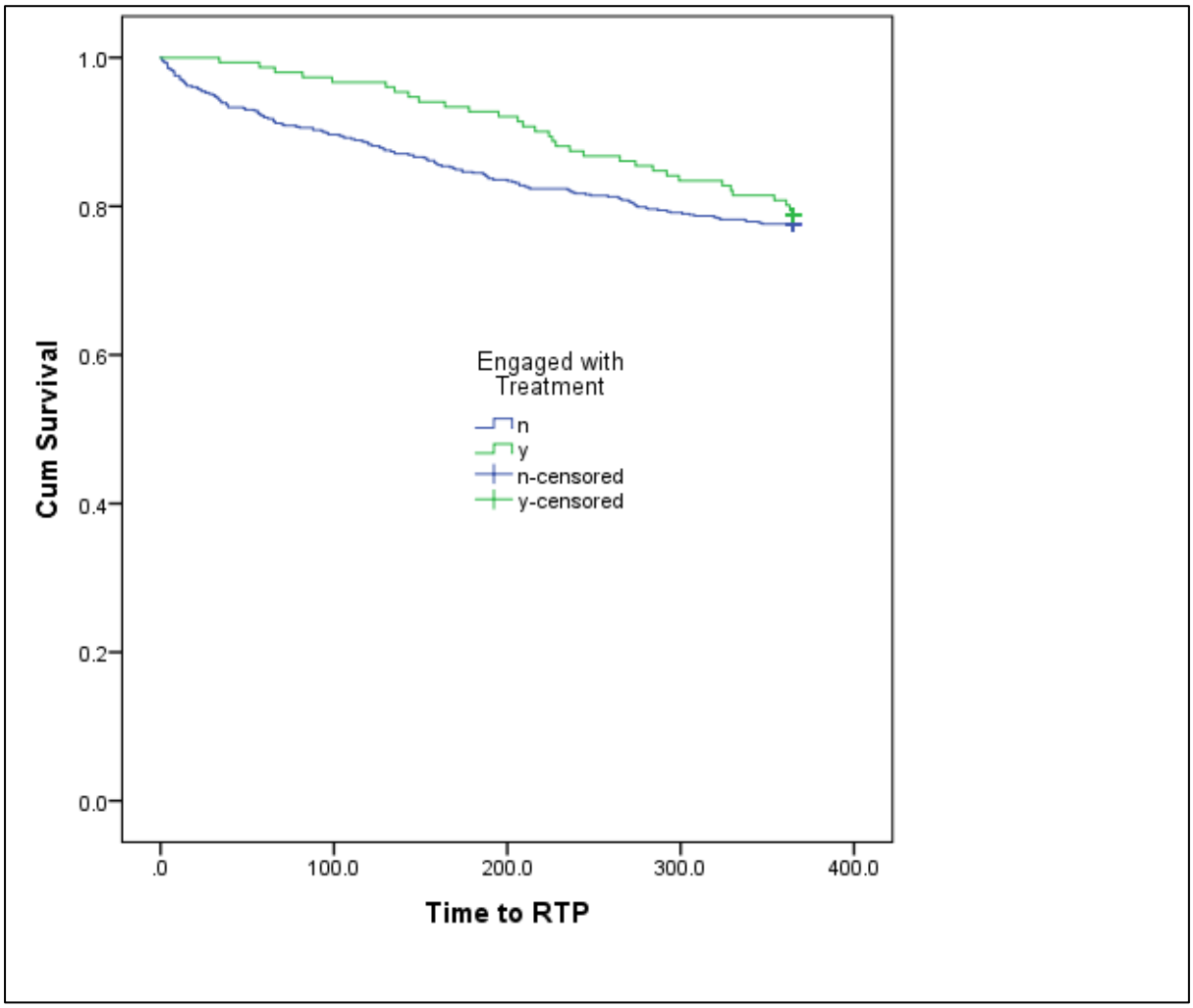

Figure 4.3.5: Kaplan Meier SA for those RTP, with and without treatment

4.3.6 Is CC and treatment engagement associated with reduced rates of RTP?

A Kaplan Meier analysis was conducted by entering the following variables:

1. Time: Time to RTP
2. Status: RTP
3. Factor: CC or not, with and without treatment

The descriptive statistics are summarised in Table 4.3.6. Individuals receiving continuity of care and engaging with treatment within the first twelve months of their first release recorded the cumulative longest estimated survival times before being returned to prison within the first twelve months of their first release (n = 14, mean = 346, 95% CI [335, 357]). The shortest cumulative estimated survival times were recorded by those has having received continuity of car but did not engage with treatment within the first twelve months of their first release from prison (n = 55, mean = 310 days, 95% CI [296, 324]).

Table 4.3.6: Survival times to return to prison, with CC or not, with and without treatment

	Summary				Means			
Engaged with Treatment	N	n of Events	Censored		Estimate	SE	95% CI	
			n	%			Lower Bound	Upper Bound
CC with treatment	100	14	86	86	346	5.6	335	357
CC no treatment	263	55	208	79	310	7.1	296	324
No CC with treatment	51	18	33	65	311	13.3	285	337
No CC no treatment	394	92	302	77	313	5.3	303	324
Overall	808	179	629	78	316	3.7	309	324

Except for the 'CC with treatment' group, the 95% CIs of the remaining groups overlapped and Log Rank (Mantel Cox) test indicated that there was no statistically significant association at the 0.01 level between the cumulative estimated survival times of people returning to prison, receiving CC with and without treatment, and those not receiving CC with and without treatment ($\chi^2 = 8.67$ and $p > 0.01$). Thus, it can be concluded that continuity of care and treatment did not increase the cumulative survival times of those returned to prison.

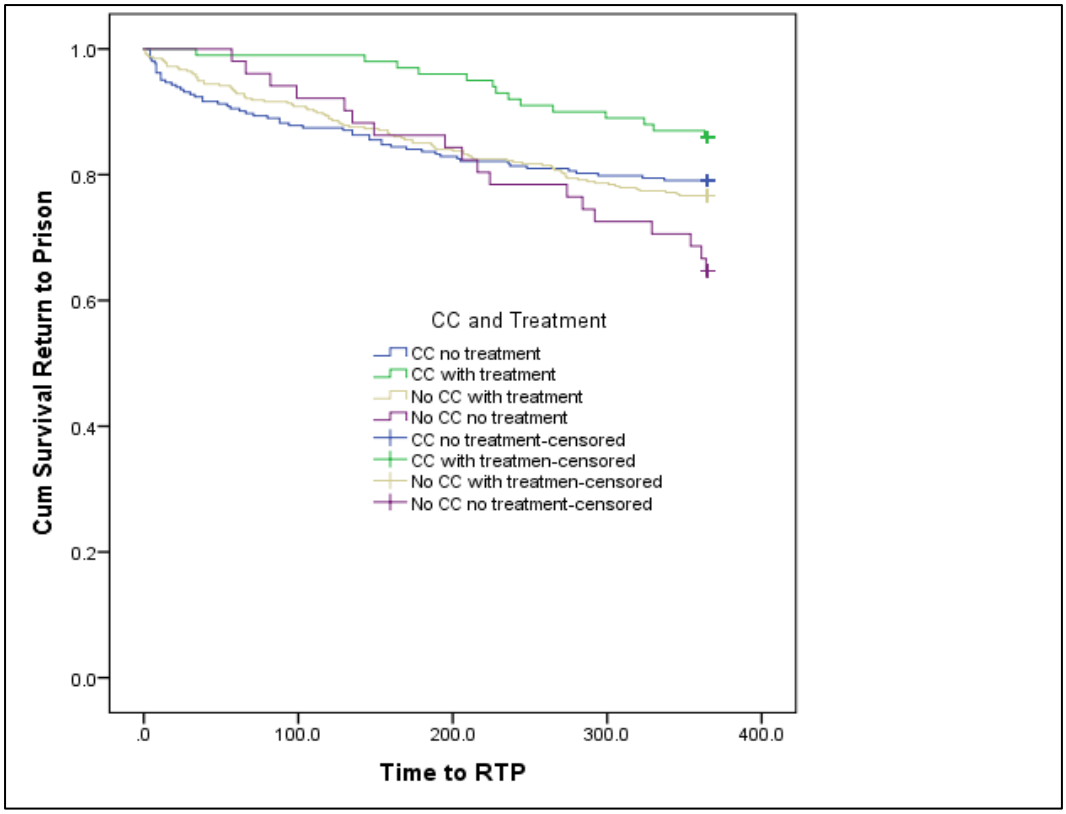

Figure 4.3.6: Kaplan Meier SA those RTP, with and without CC, with and without treatment

4.4 Confounding (predictors)

The study's primary process and outcomes, namely CC, engagement with drug treatment, and RTP, were cross-tabulated with the potential confounders of age, ethnicity, and drug using profiles.

4.4.1 Age

The mean ages were elevated for people receiving CC, engaging with treatment, and RTP. People were statistically significantly older within the engaged with treatment cohort ($t = 3.33$, $p < 0.01$), as demonstrated in Table 4.4.1.

Table 4.4.1: Age as a predictor of receiving CC, engaging with treatment and RTP

Process	Outcome	Age	Statistical	Significance

		n	M	min	max	SD	test Student *t*	
Continuity of care	Y	363	31.2	18.3	49.9	7.3		
	N	445	30.7	18.0	50.4	7.9	‡*t* = 0.98	*p* > 0.01
	Total	808	30.9	18.0	50.4	7.6		
Engaged in drug treatment	Y	151	32.6	18.7	49.1	6.7		
	N	657	30.5	18.0	50.4	7.8	‡*t* = 3.33	*p* < 0.01
	Total	808	30.9	18.0	50.4	7.6		
Returned to prison	Y	179	31.2	18.4	50.1	7.1		
	N	629	30.9	18.0	50.4	7.8	*t* = 0.61	*p* > 0.01
	Total	808	30.9	18.0	50.4	7.6		

Note: ‡ = adjusted for Levene's test of equality of variances

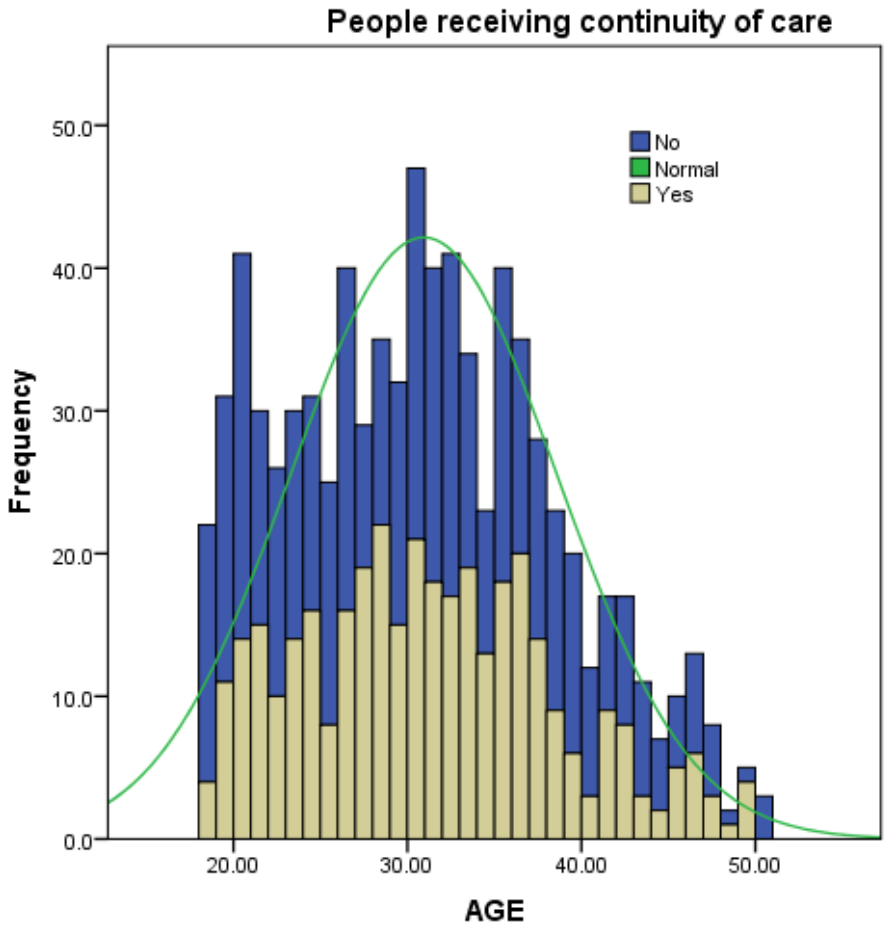

Figure 4.4.2a: Frequency distribution age vs receiving continuity of care

Note: Both distributions displaying right skewness and the group not receiving continuity of care displaying bimodality

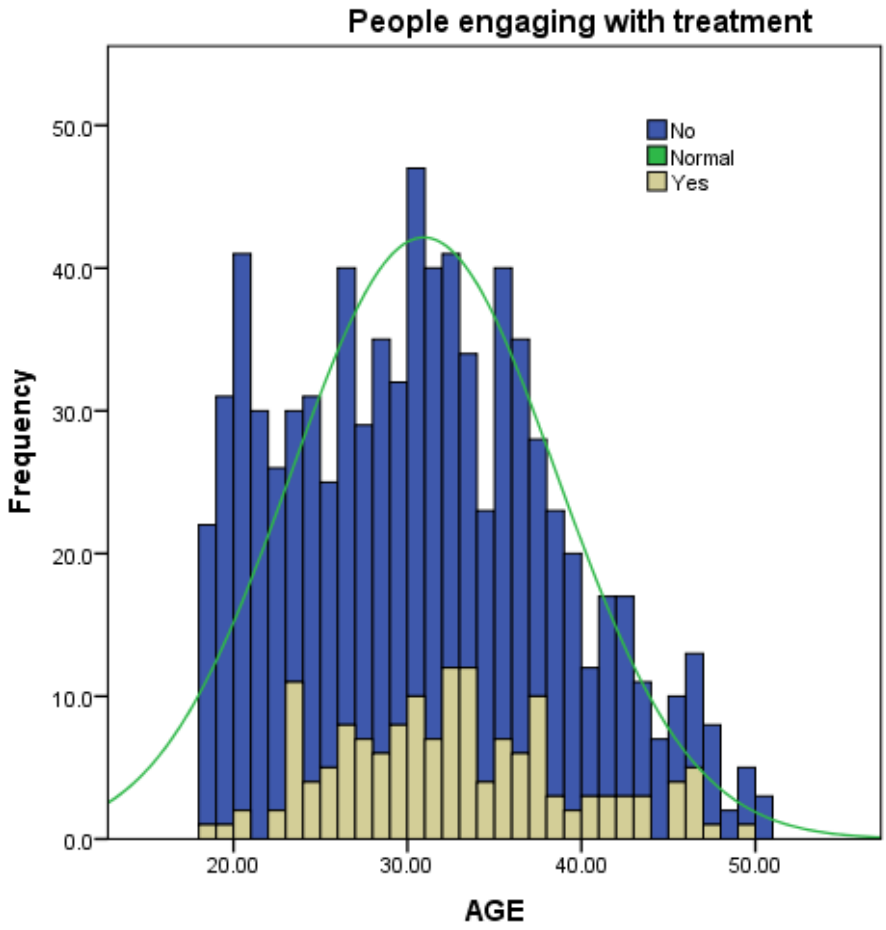

Figure 4.4.3b: Frequency distribution age vs engaged with treatment

Note: Both distributions displaying right skewness and bimodality

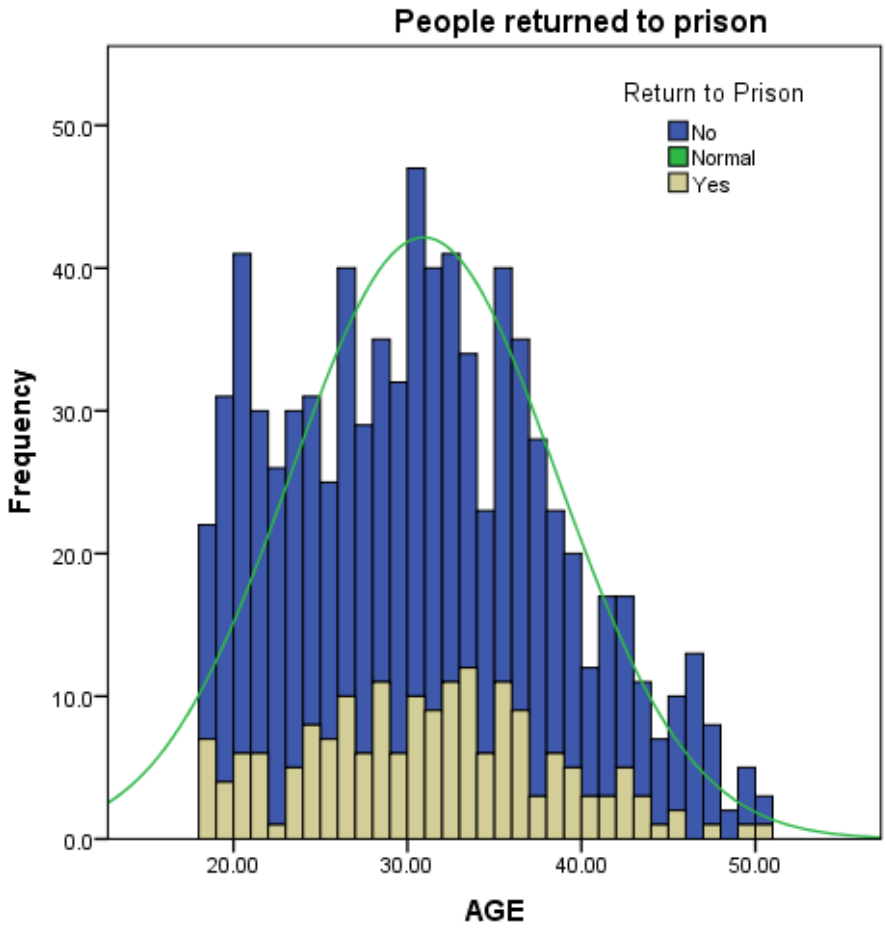

Figure 4.4.4c: Frequency distribution age vs returned to prison

Note: Both distributions displaying right skewness bimodality

4.4.2 Ethnicity

People recorded as 'White British' were associated with higher rates of treatment engagement and RTP, compared to those recorded as BME. Specifically, as a proportion of the entire group that were receiving and not receiving treatment, 21% of the White British group engaged with drug treatment compared to 7% of the BME group. This finding was found to be statistically significant at the 0.01 level (χ^2 = 15.06, p < 0.01), as seen in Table 4.4.2. Those in the White British group also reported to be associated higher rates of RTP than individuals from the BME group. Indeed, 24% of the White British group were RTP within twelve months of their first release from prison compared to 17% BME, and this finding was statistically significant at the 0.01 level (χ^2 = 10.73, p < 0.01).

Table 4.4.2: Ethnicity as a predictor of receiving CC, engaging with treatment, and RTP

		Ethnic profile						Statistical test	
Process	Outcome	White British	% column	BME	% column	Missing	% column	2*3 Contingency	Significance
Continuity of care	Y	327	46	26	37	10	32		
	N	380	54	44	63	21	68	χ^2 = 4.23	p > 0.01
	Total	707		70		31			
Engaged in drug treatment	Y	146	21	5	7	0	0		
	N	561	79	65	93	31	100	χ^2 = 15.06	p < 0.01
	Total	707		70		31			
Returned to prison	Y	167	24	12	17	0	0		
	N	540	76	58	83	31	100	χ^2 = 10.73	p < 0.01
	Total	707		70		31			

4.4.3 Drug profile

People recorded as OCU were associated with higher rates of treatment engagement and RTP compared to those recorded as BME. As a proportion of the group total engaging or not engaging with treatment, 28% of the OCU group were engaged with treatment compared to 2% of the non-OCU group, and this finding was statistically significant at the 0.01 level ($\chi 2$ = 48.11, p < 0.01), as

seen in Table 4.4.3. Individuals in the OCU group also reported higher rates of RTP than those from the BME group. Specifically, 28% of the OCU group were RTP within twelve months of their first release from prison, compared to 6% non-OCU group, and this finding was statistically significant at the 0.01 level ($\chi^2 = 42.74$, $p < 0.01$).

Table 4.4.3: Drug profile as a predictor of receiving CC, engaging with treatment and RTP

Process	Outcome	Drug profile				Statistical test	Significance
		OCU	% column	Non-OCU	% column	2*2 Contingency	
Continuity of care	Y	278	46	85	41		
	N	324	54	121	59	$\chi^2 = 1.50$	$p > 0.01$
	Total	602		206			
Engaged in drug treatment	Y	146	24	5	2		
	N	456	76	201	98	$\chi^2 = 48.11$	$p < 0.01$
	Total	602		206			
Returned to prison	Y	167	28	12	6		
	N	435	72	194	94	$\chi^2 = 42.74$	$p < 0.01$
	Total	602		206			

4.5 Testing the study hypothesis - CARAT vs. InsideOut service delivery models

4.5.1 Rates of continuity of care, treatment engagement, and return to prison

During the 4-year period between April 1st, 2008 and March 31st, 2012 inclusive, 533 drug affected clients were referred to the Essex community drug treatment system via HMP Chelmsford (Table 4.5.1). Between April 1st, 2008 and March 31st, 2010, 255 (48%) people were released via the CARAT team, and between April 1st, 2010 and March 31st, 2012, 278 (42%) people were released via the InsideOut team.

Continuity of care

Applying descriptive and chi-squared 2 * 2 contingency tables determined that, of those released, 186 (35%), and 347 (65%), were recorded as having received and not received continuity of care, respectively. Of those having received the continuity of care intervention, 70 people (27% within and 38% of the total), were managed by the CARAT team and 116 people (42% within and 62% of the total), were managed by the InsideOut team. Of those having not received the continuity of care intervention, (n = 347, 65%), 185 people, (73% within, 53% of the total), were released during the CARAT tenure and 162 people (58% within, 47% of the total), were released during within the first two years of the InsideOut service delivery. These findings indicated that there was a statistically significant association between the different rates of continuity of care delivered via the two services ($\chi^2 = 17.52$, $p < 0.01$), (Table 4.5.1).

Treatment engagement

With and without continuity of care, 82 people (15%) were found to have engaged in community drug treatment (Table 4.5.1). Out of these 82 individuals, 26 were engaged in treatment during the CARAT tenure (10% within, 32% of the total), and 56 people were engaged with treatment during

the InsideOut tenure (20% within, 68% of the total). These findings indicated that the rates of treatment engagement were statistically significantly associated with type of service delivery (χ^2 = 15.44, $p < 0.01$), (Table 4.5.1).

Return to prison

Applying a two-tailed chi-squared 2 * 2 contingency test determined that the rate people returned to prison was 29% (n = 152). Of those who returned to prison, 93 people (36% within, 61% of the total) were released during the CARAT tenure, and 59 (21% within, 39% of the total) were released during the InsideOut service tenure. Of those not returned to prison (n = 381, 71%), 162 people were released during the CARAT tenure (64% within, 43% of the total), and 219 people (79% within, 57% of the total), were released within the first two years of implementation of the InsideOut service. These findings indicate that the rates of returns to prison within the first twelve months of release were statistically significantly associated with type of service delivery (χ^2 = 21.14, $p < 0.01$), (Table 4.5.1).

Table 4.5.1: CARAT vs. InsideOut HMP Chelmsford activities.

Count of people released to the Essex County Drug Recover Partnership from HMP Chelmsford via the CARAT & InsideOut Teams between 01/04/2008 & 31/03/2012

Organisational level activities

	n			% activity				Test
				Within organisation		Of the total		2 *2 Contingency
	CARAT	InsideOut	Total	CARAT	InsideOut	CARAT	InsideOut	a vs. b
Total people released	255	278	533	n/a	n/a	48	52	n/a
With continuity of care (a)	70	116	186	27	42	38	62	χ^2 = 17.52
No continuity of care (b)	185	162	347	73	58	53	47	$p < 0.01$
Into treatment (a)	26	56	82	10	20	32	68	χ^2 = 15.44
Not into treatment (b)	229	222	451	90	80	51	49	$p < 0.01$

Return to prison (a)	93	59	152	36	21	61	39	$\chi^2 = 21.14$
Not return to prison (b)	162	219	381	64	79	43	57	$p < 0.01$

Note: Process and outcome activities reported as; (1) within, as a % proportion of the total number of people released by each organisation, and (2) between, as a % proportion of the total number of events per activity i.e. the row total.

4.5.2 Waiting times

A Kaplan Meier analysis was conducted by entering the following variables:

1. Time: Waiting Time to Treatment
2. Status: Engaged with Treatment
3. Factor: Service Delivery Model

The descriptive statistics are summarised in Table 4.5.2. The cumulative longest estimated mean survival (waiting) times for drug treatment were recorded by prisoners managed by the CARAT service (n = 26, mean = 143 days 95% CI [87, 181]) and the cumulative shortest estimated mean (waiting) times for treatment were recorded by prisoners managed by the InsideOut service (n = 56, *m* = 99 days, 95% CI [68, 130).

However, the 95% CI overlapped and a Log Rank (Mantel Cox) test indicated that there was no statistically significant association at the .01 level between the cumulative estimated survival (waiting) times for drug treatment within the first twelve months of release from prison and type of service delivery ($\chi^2 = 3.04$, $p > 0.01$). The conclusion that can be drawn from this analysis is that the InsideOut service model did not reduce waiting times to community drug treatment when compared to the CARAT service model. However, an interrogation of the mean length of waiting times (see supplementary table 6.0) via Hedges' test ($d = 0.28$) suggests there may be a weak or 'unobservable' difference between the two groups.

Table 4.5.2: Waiting times to drug treatment

Service delivery model	Summary N	n of Events	Censored n	Censored %	Means Estimate	SE	95% CI Lower Bound	95% CI Upper Bound
CARAT	255	26	229	90	134	24.1	87	181
InsideOut	278	56	222	80	99	15.8	68	130
Overall	533	82	451	85	111	13.3	84	137

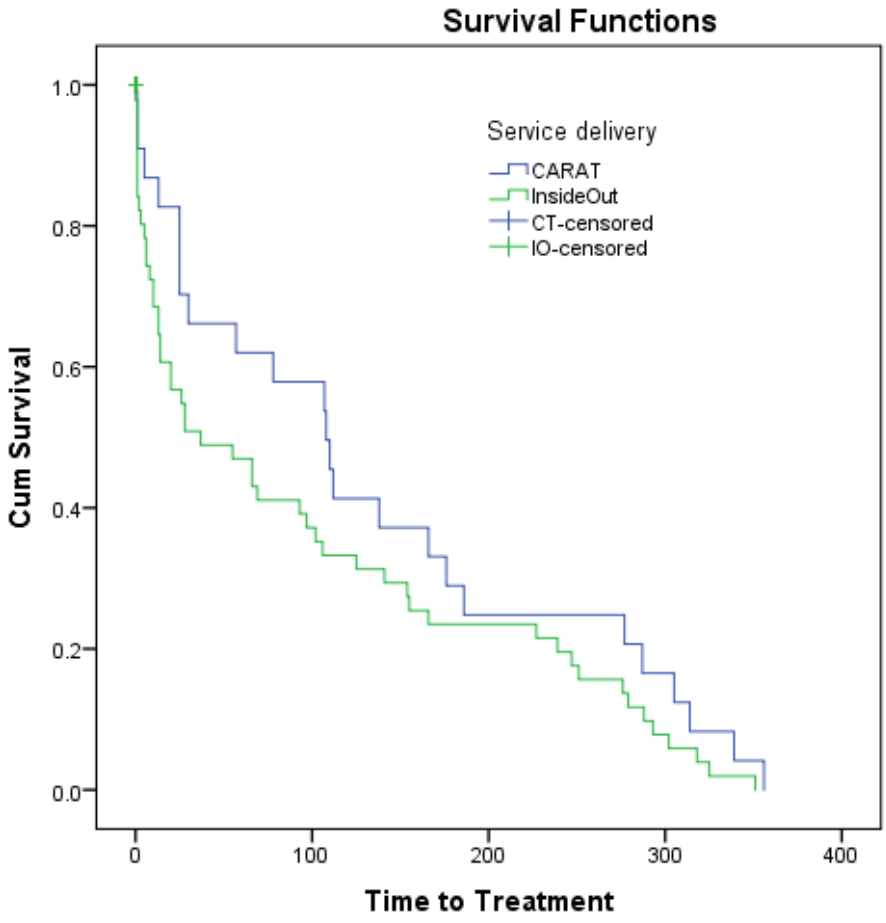

Figure 4.5.2: Kaplan Meier SA for waiting times to treatment, CARAT and InsideOut compared.

4.6 CARAT and InsideOut continuity of care performance within the national context

In this section, the study and subsequent continuity of care performance outputs are contextualised within the national performance frameworks. During the period of study data collection period, the prison to community continuity of care transition was measured as a tier 2 (prison DIRWeb to community DIRWeb) transition, and during the full two-year period prior to thesis submission date, the transition was recorded as a tier 3 (structured) treatment journey.

4.6.1 2008-12 Home Office DIMIS/DIRWeb reports

The Essex Partnership's continuity of care performance returns improved year on year. Between April 1st 2008 and 31st March 2009, 113 people (27% of the total) leaving prison were recorded as having engaged with the community DIP team within twenty-eight days of release. This rate of engagement improved on a yearly basis so that by 2012, 68% (n = 169) of those released were involved with the community system, as seen in Table 4.6.1.

A similar pattern was reported by the Leicester/Leicestershire drug recovery partnership who, having also introduced a single service delivery model by 2012, could report that 77% (n = 95) of people released were engaged with the community DIP team. Higher levels of engagement with these respective programmes is linked to the work of five of the seven Drug System Change Pilot areas (Essex and Leicester included), which submitted bids detailing a focus on their criminal justice drug treatment care pathways. Combined, the continuity care performance returns improved from 23% (n = 265) during 2008 to 74% (n = 405) during 2012. In comparison, their matched control areas reported an improvement to 45% (n = 197) in 2012 from 24% (n = 295) by 2012 and in line with national returns of 24% and 47%, respectively.

Table 4.6.1: Tier 2 continuity of care performance rate returns.

Prison to community continuity of care tier 2 (DIR to DIR) activity between 2008 and 2012. Performance activities of the two systems change areas testing integrated service provision, five of the seven Drug System Change Pilots focussed towards criminal justice care pathways and their matched controls, within the context of the national returns as reported by the UK Home Office DIMIS (DIRWeb) reporting system.

Area/status	2008 - 09			2009 - 10			2010 - 11			2011 - 12		
	Prison referrals	Community engagements	%	Prison referrals	Community engagements	%	Prison referrals	Community engagements	%	Prison referrals	Community engagements	%
Essex	416	113	27	377	171	45	403	238	59	248	169	68
Leicester	327	99	30	337	73	22	267	161	60	123	95	77
DSCP areas (n = 5)	1143	265	23	1088	310	28	1009	594	59	547	405	74
Control areas (n = 5)	1223	295	24	1054	388	37	986	478	48	437	196	45
National returns (n = 149)	26926	6544	24	23052	7894	34	24162	10159	42	13722	6396	47

Note: quarter 4, the year 2011-12 missing.

4.6.2 2014-16 Public Health England NDEC/NDTMS reports

After a two-year hiatus between 2012 and 2014, during which time the NDTMS replaced the prison DIRWeb data collection system, responsibility for the reporting of the prison to continuity of care transition was transferred to Public Health England. Whilst the national, role and regional continuity of care performance has remained steady at approximately 25%, the InsideOut service has delivered year on year performance rate improvements of 37% (n = 162) and 55% (n = 250) in 2015 and 2016, respectively.

Table 4.6.2: Tier 3 continuity of care performance rate returns

Performance contexts	% prisoners released commencing a treatment episode in the community within 3 weeks of release			
	2014 - 15		2015 - 16	
	Engaged	%	Engaged	%
National	7385	25	7114	24
Local (role)	6240	26	5965	24
Midlands & East of England (region)	2407	25	2950	24
HMP Chelmsford (establishment)	162	37	250	55

4.7 Treatment outcome profile

This section of the data analysis compares and reports the outcomes data of those people recovering and relapsing (to prison).

4.7.1 TOP alcohol consumption and drug use

In the community treatment system (the 'recovered' group for the purposes of this study), 3,691 Essex residents were reported to have exited the Partnership's drug and alcohol treatment system as recovered. In the prison treatment system (the 'relapsed' group), 1,628 people were reported to have engaged (Table 4.7.1). Consumption of alcohol was reported by 47% of those recovered and 42% of those relapsed at a statistically significant level ($p < 0.01$), and mean daily consumption was 11.0 and 18.2 days, recovered and relapsed, respectively ($t = 17.72$, $p < 0.01$).

Opiate use was reported by 22 (1%) of people recovered and by 667 (41%) of those relapsed ($p < 0.01$), with means daily use reported as 11.8 and 18.9 days, recovered and relapsed, respectively ($t = 3.39$, $p < 0.01$). Crack cocaine use was reported by 23 (1%) of individuals in the recovered group and by 614 (38%) of those who had relapsed ($p < 0.01$), with mean daily use reported as 8.4 and 16.5 days, recovered and relapsed, respectively ($t = 3.79$, $p < 0.01$). Powder cocaine use was reported by 206 (6%) of recovered people and by 318 (20%) of those who had relapsed ($p < 0.01$), with mean daily use reported as 5.5 and 13.2 days, recovered and relapsed, respectively ($t = 9.73$, $p < 0.01$). Amphetamine use was reported by 32 (1%) of those who had recovered and by 50 (3%), of those who had relapsed ($p < 0.01$), with mean daily use reported as 9.0 and 10.5 days, recovered and relapsed, respectively ($t = 0.68$, $p > 0.01$). Cannabis use was reported by 710 (19%), of people who had recovered and by 564 (35%) of those who had relapsed ($p < 0.01$), with mean daily use reported as 14.7 and 19.5 days, recovered and relapsed, respectively ($t = 8.89$, $p < 0.01$). Use of other drugs was reported by 74 (2%) of people recovered and by 249 (15%) of those relapsed ($p < 0.01$), with mean daily use reported as 12.4 and 18.5 days, recovered and relapsed, respectively ($t = 4.61$, $p < 0.01$).

4.7.2 TOP offending

As illustrated in Table 4.7.1, shoplifting activity was reported by 13 (< 1%) people recovered and by 317 (19%) of those relapsed (p < 0.01), with mean daily activity reported as 4.2 and 13.9 days recovered and relapsed, respectively (t = 3.28, p < 0.01). The dealing of illicit drugs was reported by 8 (< 1%) people recovered and by 84 (5%) of those relapsed (p < 0.01), with mean daily use reported as 6.3 and 17.9 days, recovered and relapsed, respectively (t = 3.48, p < 0.01). Other acquisitive crime was reported by 21 (1%) individuals who had recovered and by 375 (23%) of those who had relapsed (p < 0.01). Furthermore, instances of assault were reported by 26 (1%) people and by 223 (14%) of those who had recovered and relapsed, respectively (p < 0.01).

Table 4.7.1: Self-reported drug use and criminal activity

TOP		System data collected from NDTMS/TOP between 01/04/2008 & 31/03/2013													
		Recovered (n = 3691)						Relapsed (n = 1628)						Statistical test	
Domain	Item	n	%	M	Range		SD	n	%	M	Range		SD	Student's t	Fisher's exact (two tailed)
					Min	Max					Min	Max			
Drug use	Alcohol	1731	47	11	1	28	8.7	684	42	18.2	1	28	9.7	*t* = 17.72 *p < 0.01*	*p < 0.01*
	Opiate	22	1	11.8	1	28	11.4	667	41	18.9	1	28	9.6	*t* = 3.39 *p < 0.01*	*p < 0.01*
	Crack	23	1	8.4	1	28	10.7	614	38	16.5	1	28	10.1	*t* = 3.79 *p < 0.01*	*p < 0.01*
	Cocaine	206	6	5.5	1	28	6.2	318	20	13.2	1	28	10.2	*t* = 9.73 *p < 0.01*	*p < 0.01*
	Amphetamine	32	1	9	1	28	9	50	3	10.5	1	28	10.1	*t* = 0.68 *p > 0.01*	*p < 0.01*
	Cannabis	710	19	14.7	1	28	9.7	564	35	19.5	1	28	9.4	*t* = 8.89 *p < 0.01*	*p < 0.01*
	Other drug	74	2	12.5	1	28	10.5	249	15	18.4	1	28	9.4	*t* = 4.61 *p < 0.01*	*p < 0.01*
Crime	Shop lifting	13	0	4.2	1	20	5.2	317	19	13.9	1	28	10.6	*t* = 3.28 *p < 0.01*	*p < 0.01*
	Dealing	8	0	6.3	1	20	6.5	84	5	17.9	1	28	9.2	*t* = 3.47 *p < 0.01*	*p < 0.01*
	Other theft	21	1	n/a	n/a	n/a	n/a	375	23	n/a	n/a	n/a	n/a	n/a	*p < 0.01*
	Assault	26	1	n/a	n/a	n/a	n/a	223	14	n/a	n/a	n/a	n/a	n/a	*p < 0.01*

4.7.3 TOP risky health behaviours

Injecting behaviour, as seen in Table 4.7.2, was reported by 12 (< 1%) people who were recovered and by 283 (17%), of those who had relapsed ($p < 0.01$), with mean daily activity reported as 8.5 and 18.2 days, recovered and relapsed, respectively ($t = 3.48$, $p < 0.01$). Sharing of equipment was reported by 5 (< 1%) individuals who were in the recovered group, and by 42 (3%) of those in the relapsed group ($p < 0.01$).

4.7.4 TOP health and social functioning

Those who had recovered reported an average psychological wellbeing score of 14.3 (range = 0 to 20), and people who had relapsed reported a mean score of 11.3 ($t = 23.67$, $p < 0.01$), (Table 4.7.2)**.** The mean number of days worked for those recovered (n = 1232, 33%) was higher at 17.9 days than for those who had relapsed, 15.9 days (n = 179, 11%), ($t = 4.35$, $p < 0.01$). The mean number of days spent in education was 13.0 and 15.5, recovered (n = 25, 7%) and relapsed (25, (2%), $p < 0.01$), respectively ($t = 1.88$, $p = 0.06$). The presence of an acute housing need was reported by 139 (4%), of people who had recovered, but this need was significantly higher at 681 (42%) for those who had relapsed ($p < 0.01$). Furthermore, 75 of those recovered (2%), and 208 (13%) of those relapsing reported their housing situation was at risk ($p < 0.01$). In terms of overall health, the mean physical health scores reported by both groups were 14.9 and 13.0 days, recovered and relapsed, respectively ($t = 15.89$, $p < 0.01$), and the mean quality of life scores were 14.8 and 11.7 days, recovered and relapsed, respectively ($t = 23.73$, $p < 0.01$).

Table 4.7.2: Self-reported risk behaviours and health and social functioning

TOP		System data collected from NDTMS/TOP between 01/04/2008 & 31/03/2013													
		Recovered (N = 3691)						Relapsed (N = 1628)						Statistical test	
Domain	Item	n	%	M	Range		SD	n	%	M	Range		SD	Student's t	Fisher's exact (two tailed)
					Min	Max					Min	Max			
Risk behaviours	Injecting	12	0	8.5	1	28	10.7	283	17	18.2	1	28	9.4	$t = 3.48$ $p < 0.01$	$p < 0.01$
	Sharing equipment	5	0					42	3						$p < 0.01$
Health & social functioning	Psychological wellbeing	3669	99	14.3	1	20	3.9	1598	98	11.3	1	20	4.9	$t = 23.67$	$p < 0.01$
	Paid work	1232	33	17.9	1	28	5.5	179	11	15.9	1	28	7.2	$t = 4.35$ $p < 0.01$	$p < 0.01$
	Education	254	7	13	1	28	6.1	25	2	15.5	2	28	8.5	$t = 1.88$ $p > 0.01$	$p > 0.01$
	Acute housing need	139	4					681	42						$p < 0.01$
	Housing at risk	75	2					208	13						$p < 0.01$
	Physical health	3670	99	14.9	1	20	3.7	1606	99	13	1	20	4.6	$t = 15.89$	$p < 0.01$
	Quality of life	3671	99	14.8	1	20	3.9	1569	96	11.7	1	20	5.2	$t = 23.73$	$p < 0.01$

Chapter 5 – Discussion

5.1 Key findings

In categorical terms, at both the system and organisational levels of enquiry, the findings presented here are mainly supportive of the study's assumptions/primary hypotheses and justify the strategic commissioning decision to restructure service delivery around the prison-to-community continuity of care key transition point. However, the findings generated from the continuous data reported here are less convincing, especially regarding the waiting times to treatment recorded at the organisational level. Importantly, unexplored confounding factors are likely to be affecting these initial interpretations (see fig 5.1 below).

Figure 5.1: Study findings tabulated

	Strength of study findings			
Research questions/hypotheses	System level (study assumptions)		Organisational level (hypothesis testing)	
	Positive	Negative	Positive	Negative
Continuity of care[a] & engagement with drug treatment[b] [(1)]	✓		✓[a]✓[b]	
Continuity of care & waiting times to drug treatment [(2)]	✓‡			✓†
Continuity of care & length of time in drug treatment [(2)]		✓†		
Continuity of care & relapse to prison[c] [(1)]		✓	✓[c]	
Drug treatment & relapse to prison [(2)]		✓‡		
Continuity of care/treatment & relapse to prison[d] [(2)]		✓	✓[d]	

Note: [(alpha)] = discrete measurement, [(1)] = categorical, [(2)] = continuous, † = weak effect & ‡= strong effect

At the system level, continuity of care was shown to be significantly associated with improved rates of treatment engagement (table 4.3.1, p 105) and reduced estimated mean waiting times for

treatment (figure 4.3.2, p 107). Individuals in contact with the prison-to-community continuity of care pathway were almost three times more likely to receive drug treatment and waited for more than half as long to do so compared to those outside of the care pathway. Those receiving continuity of care reported longer estimated mean times in treatment (table 4.3.3, p 108), and in terms of percentage rates, were less likely to be returned to prison (table 4.3.4, p 110), but in both instances, not statistically significantly so. Although this study could not demonstrate that drug treatment was significantly associated with longer survival times in respect of returns to prison (table 4.3.5, p 110), a calculation of effect size is suggestive of a small but unobservable treatment effect (p 110). And although people engaging with treatment via continuity of care reported longer stays in treatment, there was no evidence to support that the effect was statistically significant (table 4.3.6, p 112).

This study has demonstrated that single service delivery (InsideOut)-directed prison-to-community continuity of care was significantly associated with improved rates of continuity of care, treatment engagements and reduced rates of returns to prison when compared to the twin service (CARAT to Community DIP) delivery model (table 4.5.1, p 120). In relative terms, and against a backdrop of increased system activity, people managed by the InsideOut team were more likely to receive continuity of care and more than twice as likely to engage with community treatment. People managed by the InsideOut service were almost half as likely to be returned to prison within the first twelve months of their first recorded release. However, whilst reduced estimated mean waiting times to treatment were recorded by people managed by the InsideOut service, this finding was not statistically significant (table 4.5.2, p 121).

Confounding factors likely to be affecting this study's findings include; selection bias and differing baseline characteristics between the comparison groups e.g. drug profile, age. For example, this study could not account for all the people returning to prison (selection bias) due to cross boundary information sharing limitations. At the organisational level, due to limited sample size, the type of drugs misuse and

the increasing age of the OCU cohort has clouded this study's interpretations of the intervention's effects because the effects of these base line characteristics were not factored into the comparative analyses.

This study's attention to quality control (QC) of the data has undoubtedly contributed towards the reported elevated rates of prison-to-community community of care, especially within the context of the national reporting frameworks. Increasing the number of matched statistical entities within the local environment will have artificially improved the rates of CC in comparison to other localities, simply because other partnerships will most likely not have undertaken similar QC exercises. In other words, the performance environments were not equal.

The introduction and use of volunteers at an unrecorded point within the study's time frame, perhaps represents this study's main concern, especially in respect of its findings and interpretations of the effect of the InsideOut intervention. The 'chaperoning' of people upon their release from prison to their first community drug treatment appointment was not factored into the study design and is likely to have contributed markedly towards the reported improvement in the rates of treatment engagement. This development warrants further investigation because it may conceivably emerge that commissioning models that utilise volunteers in this way might prove to be a better use of resource as compared to the wholesale change of service delivery models as researched by this study.

5.1.1 Prison-to-community continuity of care

Treatments and therapies in both the prison and community settings continue to demonstrate an important role in achieving positive health and crime outcomes (Aspinall et al., 2016; Evans et al., 2016; Garnick et al., 2014; Yang et al., 2013). Nevertheless, connecting the two systems by way of delivering effective prison-to-community continuity of care journeys remains problematic and shows little sign of improving (HM Inspectorate of Probation, 2016). With the effects of austerity now being realised, particularly within the prison system (Chief Inspector of Prisons, 2015; The Full Fact Organisation, 2017),

and with attentions in part focussed towards other priorities within the prison service (BBC, 2017) and the NHS (Cambell, 2016), the opportunities and incentives to promote further development and testing of the service delivery model reported here may be limited.

National policy strategists and commissioners remain focussed on encouraging integrated commissioning models (Bailie & Elliot, 2016). From the local perspective, however, pressures associated with the reductions in the Public Health grant (A. Davies, 2015) may mean that prison-to-community initiatives, and offender health issues in general, become increasingly deprioritised. This is unfortunate because, given current economic restraints and the recent focus on 'transforming rehabilitation' (UK Government, 2013), it could be argued that now is an opportune moment to further explore the feasibility of the single service delivery model presented here. This is important, because this research would call into question the developing clinical trend described below if it were given the opportunity to set a precedent.

Driven by persistently high rates of relapse from treatment and recidivism, certain recent research is focussed towards developing and testing mechanisms of drug delivery amongst the criminal justice population in order to improve treatment compliance, vis-a-vis prisoner continuity of care (Lee et al., 2015; Lee et al., 2016). *Prima facie*, the results reported by this research are encouraging. Nevertheless, whilst this study makes no moral judgement with respect to substance misuse and wholly supports developments that aim to improve the health and crime outcomes associated with this complex and vulnerable demographic, it does subscribe to the notion that avenues of non-clinical intervention ought to be pursued in order to support cases where the primary goal for full recovery from substance misuse is abstinence. Otherwise it is foreseeable that, albeit in a distant scenario, the solutions that are presently being promoted have the potential to lead to instances of 'approved chemical dependence'.

5.1.2 Return to prison

During the early stages of this study, particularly at the data modelling stage, there was a temptation to view the relapse to prison (RTP) measure as a local proxy for rates of reoffending. In light of examiner feedback, however, and with a better understanding of the causes and reasons for the event, RTP within the context of this research is treated as a local 'system' outcome. Such a view does not set a precedent, and may be of use. Within the national reporting structure, a comparable outcome measure is the 'in treatment' count, as per the DOMES outputs, and as per client engagement via the Drug Testing on Arrest intervention. This is a useful measure because, to some extent, it provides an insight into how effective the community drug treatment system is with regard to crime reduction. A possible performance line of enquiry might be, "If drug treatment reduces crime, why are people in treatment appearing on the police Drug Test Recording (DTR)?". As a standalone challenge, this line of enquiry is not particularly helpful; nevertheless, when asked about a drug recovery system that reports static or increasing rates of the event in question, and particularly if re-offending continues to take place with the same individuals, then it can be argued that it begins to gain credence. With that view in mind, this study advocates for the future inclusion of RTP count in the DOMES reporting mechanism.

5.1.3 TOP

The ad hoc analysis of the prison TOP data has raised some interesting points. Within the context of this study, the findings were interesting for two reasons. Firstly, they appear to confirm our experiential (perhaps obvious) understandings about the levels of 'chaos' in people's lives (within 28 days of incarceration). And secondly, this study would suggest that the TOP data in prison might be operationalised, if it is not already the case, in order to more fully describe the drug recovery journey. As previously emphasised, no claims are made re the scientific rigour of this analysis but this study would

suggest that if the findings reported here might be replicated via a more robust approach (Marsden et al., 2011) and an interesting line of research might be developed.

For example, if we are able to 'connect' the recovery journey, especially regarding those returning to prison (relapsing) within twelve months of their release, we might more formally (quantitatively) test assumptions/hypotheses. For example, aside from testing the obvious assumption that failure to engage with the drug treatment (recovery) system upon release leads to relapsing behaviours, we might sensitise the analyses of the post release TOP to explore and approximate the cause and extent of the deteriorations prior to reincarceration so that the extent of the deterioration might be quantified. Again, a somewhat obvious hypothesis to test would be that changes in circumstances, e.g. loss of stable accommodation, leads to increased criminal activity and increased likelihood of incarceration.

Such an approach may produce secondary, 'real time', benefits. For example, it might encourage the incorporation of the TOP fields into locality case management systems to act as 'early warning' markers thereby assisting care and case managers with their client management strategies thereby helping people to stay healthier and crime free. Operationalisation of the TOP in such a way presents many opportunities and this study advocates for such developments.

5.2 Study limitations.

This study was subject to several limitations. It was relatively small, non-randomised, confined to a single locality and reported adult male prison-to-community process and outcomes only. Importantly, the univariate approach appears to have confounded the interpretation of the outcome analyses re continuity of care at the system level which, due to limited sample size, was not investigated during the hypothesis (CARAT vs InsideOut) testing stage. Importantly, the differences between the groups re baseline drug profile (OCU status) may have biased the findings in favour of continuity of care irrespective of the

commission intervention reported here. Future investigations might target survival analyses towards discrete groups e.g. OCU only in order to address this issue.

For pragmatic reasons associated with audience type (in this case commissioners) a univariate approach was initially adopted. However, upon reflection the application of survival analyses combined with cox regression statistics throughout this study would have been more appropriate and made the study scientifically more robust in that much of the confounding may have been better understood. Also, where t tests have been reported re the TOP data, underlying assumptions associated with normal distributions were not investigated and the likelihood is that these data are bi-modal and left skewed requiring that other types of statistics be applied. Finally, the underlying comparative analytical strategy re the TOP data is flawed given that it will be subject to selection biased. In other words, offending behaviour leads to incarceration whilst successfully recovering tends not to.

5.2.1 Sample size

Although a relatively small sample for quantitative analyses and comparisons (N = 533, CARAT (n = 255) vs. InsideOut (n = 278), a post-hoc power calculation (ClinCalc, 2017) determined that the study findings were reasonably powerful when setting alpha to 0.05, but less so when alpha was set to 0.01 (see supplementary table 1.0).

5.2.2 Randomisation

Whilst random sampling to minimise bias would have been the preferred strategy prior to analysis, the known and experientially expected low number of study outputs directed that this was not practicable. A preliminary interrogation of the continuity of care tier 2 performance data indicated that the approximately 10% (n= 20 or so) of the CARAT sample might engage with community drug treatment, and

the best hoped for 'expected' effect of delivering continuity of care via the InsideOut service might have increased this rate to approximately 50% (n = 130 or so). It can be argued that because this study is the first of its type, it can be viewed as a 'pilot', and as such, random sampling may have diluted its findings thereby undermining or weakening the case for future investigations. A retrospective interrogation of the regional or national datasets might accommodate a random sampling strategy, and access to the wider network of drug recovery partnerships might allow for a prospective randomised intervention design to be tested.

5.2.3 Low crime area

Essex reports below national average overall acquisitive and drugs-related rates of crime, and is reasonably affluent (sourced from (Flatley, 2017)). This study cannot provide definitive insights as to how these conditions may have influenced the findings presented here, but might speculate that people returning to this type of environment might be at reduced risk of relapse and recidivism. Following that line of reasoning, it is worth considering given that the InsideOut intervention (or the prison-to-community continuity of care process in general) might yield different results in areas with less conducive environments.

5.2.4 Study demographic

This study was limited to adult males released from a local prison, but given that adult female prison leavers are reported to relapse and recidivate in 45% of cases, there is little to suggest that the InsideOut intervention, tailored to women's needs, would be less effective with that group. Perhaps the location of the prison, i.e. logistical challenges, might be a more significant factor in success rates than gender per se.

5.2.5 Weak study design

An important oversight during the design phase of this research was the failure to take more account of potentially confounding factors. For example, the use of volunteers at an (unknown) point during the implementation of the InsideOut intervention. This has two possible consequences. From a quantitative perspective, there was an early assumption that we were testing like-for-like in terms of general care, but the introduction of volunteers to meet ex-prisoners at the gate upon their release has more than likely (positively) influenced the improved rates of continuity of care. From the care perspective, this is obviously a good thing; however, not being able to measure the impact of such an intervention during the CARAT period of operations may somewhat dilute the study's findings in terms of its assertion that single service provision was preferred to a twin service delivery model. Future research into service delivery models will need to take this into consideration.

5.2.6 Sources of potential bias or imprecision

An early concern, realised during the development of the ethical approval document, was the proximity of the quantitative researcher to the commissioning and performance team who had oversight of the InsideOut service, and this might have influenced the results reported in this study. In other words, there may have been a vested interest to report the evaluation of the intervention in a favourable light, given the quantitative researchers' inputs during the early design and commissioning phase of the InsideOut service.

Of course, from a performance perspective, the desire to see the new service succeeding was paramount. However, my own responsibilities with regard to the design and operation of InsideOut were devolved upon the 'go live' date of April 1st, 2010, and from that point on, the research activities reported here took precedence. At no point was I involved in the delivery of the service. Furthermore, during the early stages of the study design it was made clear, via lengthy discussions conducted with the lead

recovery commissioner, that the evaluation might report that the introduction of InsideOut had no positive impact on the delivery of continuity of care.

5.2.7 Direction and magnitude of any potential bias

As well as the possibility of subjective (researcher) bias influencing the findings reported here, the number of matched statistical entities generated for study counting purposes was maximised via the data audit which has undoubtedly biased this research (and the performance) outputs in its favour. The audit reduced the number of statistical entities in both the prison and community DIRWeb systems, and consequently improved the number of matched records at the system level by as much as 29% in one direction. An exact percentage improvement figure caused by the audit in relation to this research cannot be provided, but a cautious estimate of the impact of the quality control exercise would be in the region of a 10% to 20% increase in the number of matches.

5.3 Context

In order to contextualise this study, three demographic variables were selected for comparison with the local, regional and national profiles.

5.3.1 Age

The study variable age was grouped into three bands, namely 18–24, 25–34 and 35–64 years of age. Although not coterminous, these groupings best fit the published ONS, OCU prevalence, and prison population statistical outputs, and were sufficiently comparable to allow an interpretation of trends in broad terms. In terms of age, the Essex population was broadly representative in comparison to the regional and national profiles, albeit slightly older; however, the study group was not. Compared to the general population, individuals in the study group tended to be younger and were indicative of the prison

population during the period of data collection (2008/9 – 2011/12) (Ministry of Justice, 2016). However, there was considerable variation within the study group. For instance, people cared for by the CARAT team tended to be younger than those cared for by the InsideOut team (see table 4.2) and the mid-age range group was over-represented within 'HMP Other' population.

There are several possible interpretations. Firstly, when comparing the CARAT and InsideOut groups, the differing age profiles might be explained by way of the standardised introduction of the Home Office's DIP policy and guidelines (Home Office, 2007a, 2011). Prior to the InsideOut intervention, the local prison CARAT team appears to have operated within an 'assess all' (OCU and non-OCU) process-driven management model, as perhaps evidenced by the drug profiling section discussed later; whereas the InsideOut team, which was experienced in a targeted, outcomes-orientated approach, primarily focussed their attention on prisoners with OCU drug profiles, who tended to be older than the non-OCU group (see table 4.2). Secondly, the local sentencing policy may have directed that younger people were less likely to be sent to prison. According to a senior commissioner in private correspondence, this was not the case, and given that during the data collection period the prisoner age profile remained fairly constant (Ministry of Justice, 2016), it seems unlikely. However, this latter scenario cannot be ruled out because – certainly at the national level – a trend for fewer sentences for younger people appears to have emerged (Ministry of Justice, 2016).

5.3.2 Ethnicity

According to the ONS outputs, the BME communities were slightly under-represented within the general population, and also within the study group; but as with the age profiling, there was a noticeable within-cohort variation (see table 4.2). In terms of comparison with the Essex demographic, the BME groups were more fairly represented by the InsideOut team than by the CARAT intervention, with the 'HMP Other' group falling roughly in-between. This may be largely explained as a reflection of the Essex

Partnership's emerging diversity (EssexInsight, 2012) and suggests that the InsideOut intervention might readily transfer to other ethnically diverse areas.

5.3.3 Drug profile

In terms of percentage representation (mean number of estimated OCUs/adult population estimate), the Essex Partnership is not representative (almost half) of the national picture, but it is broadly in line with regional estimates. This is reflected by the observation that the Partnership was not included within the first three waves of the UK Home Office's Drug Testing on Arrest (DToA) initiative, because it was not viewed as a 'high crime' area (Public Health Institute, 2003).

However, there was considerable disparity within the study group. Almost nine out of ten people cared for by the InsideOut team reported OCU misuse, compared to almost seven out of ten people seen by the CARAT and community DIP teams (HMP Other). Whilst the disparity reported within 'HMP Other' group is not fully explained by this research, in terms of the 'success' associated with the introduction of the InsideOut intervention, the rebalancing of the drug profile in favour of those people seeking treatment for OCU misuse is perhaps second only to the reportedly improved rates of continuity of care and the associated reduction in waiting times, which warrants special mention.

Throughout the course of this study and within a 'commissioning for outcomes' framework, prioritising the OCU-misusing cohort was of paramount importance. This complex and high-risk group of people has been (and to some extent remains) a focus of attention since the earliest anti-drug policy outputs. While leaving for later discussion the significant cost benefits to be realised from targeting the harms associated with OCU misuse, the InsideOut's intervention has facilitated an increase of more than double the number of ex-prisoner OCUs into drug treatment, and this alone is a significant achievement in light of the greater complexity and vulnerability associated with this high-risk group.

5.4 Confounding (or predicting) variables

5.4.1 Considered within study design

This study is primarily concerned with transitioning people from the prison to community drug recovery within a systems orientated ('whole' person) and non-reductionist paradigm. And from that perspective issues such as age, ethnic and drug profiling, and their possible influences were a secondary concern.

However, that said, an analysis of the age of people engaging with treatment found that older people were statistically significantly more likely to engage with community drug treatment and this is important strategically delivery perspective. The opiate-misusing cohort is ageing and as they older they present with increasingly complex needs, and recent research has voiced concerns that the drug recovery and wider healthcare systems are properly prepared (Pirona, Guarita, Montanari, & Noor, 2014).

5.4.2 Not explored

Other confounders not explored fell into one of two categories: those that can be addressed via an interrogation of the national datasets, and those that may be investigated in further research via improved study designs. Firstly, of the people re-entering the community drug recovery system (from all prisons), it was not known how many were returned to prisons external to the partnership. As mentioned previously, it was thought that sentencing policy remained standard throughout the study period; however, an analysis of the wider datasets will be required to improve our understanding in that area.

Perhaps of greater importance in terms of the veracity of this study's findings, were the two observations that emerged (one 'positive' and the other not) regarding the completion of the data collection phase. From the data reported here, it is not possible to estimate the number of people who left the prison drug-free and fully rehabilitated. Within the context of this study, this may potentially be viewed as a positive finding, since knowing such information may have led to an adjusted (lowered)

denominator regarding the rate of return prison metric, with and without continuity of care, thereby producing a statistically significant difference for that research question (currently reported as $p > 0.01$).

5.5 Significance

This study's findings have both clinical and non-clinical significance, and whilst the work reported here was predominantly focused on non-clinical/administrative aspects, the clinical relevance is discussed first because the overarching aim of the intervention was to contribute to improving the negative health and crime outcomes associated with this complex and vulnerable group of people.

5.5.1 Clinical

Relapse to substance misuse, overdose, and mortality

Although this study did not directly concern itself the with high mortality rates associated with substance-misusing prisoners shortly after their release (Binswanger, Blatchford, Mueller, & Stern, 2013), recent research indicates that the risk of early death for ex-prisoners is acute, and persists long after release (Chang, Lichtenstein, Larsson, & Fazel, 2015; Pierce et al., 2016). This research stresses the importance of prison-to-community transitional arrangements and, in addition, highlighted that the substance misuse treatment itself might benefit from a shift in focus from the acute to a chronic disease management model. Interestingly, the Scottish Naxelone project has recently published findings suggesting that the mortality rate of injecting drug-misusing prisoners decreased during the first two years of their intervention (Bird, McAuley, Perry, & Hunter, 2016).

A persuasive case for targeting prisoners at the point of their release in order to minimise their risk of death has been put forward by Zhlodre and Fazel (2012), who highlighted that almost one in five reported ex-prisoner deaths can be attributed directly to substance misuse. From this study's

perspective, it would be interesting to reframe the research questions presented here with mortality rates in mind. For example, how do waiting times, engagement with/duration of treatment (type), and access/lack of access to prison-to-community continuity of care, impact on the rates of mortality within the ex-prisoner population in both the short and long term?

Infectious diseases

Prison-to-community continuity of care is important in terms of other, not unrelated, treatment contexts. Binswanger et al. (2013) have reported that post-release prisoners that report infectious diseases may have up to four times greater risk of death than the general population.

Although new incidences of HIV have stabilised, and there is a trend towards decreasing infection rates (Kirwanm, Chau, Brown, Gill, & Delpech, 2016), HIV prevalence within the prison population remains problematic, especially within the injecting drug-using cohort (Dolan et al., 2015).

For instance, a recent Scottish study, comparing prison to community HCV treatment outcomes, observed that because outcomes were negatively impacted by transfer and release policies within the prison system, people should be placed on medical hold rather than have their treatment interrupted (Aspinall et al., 2016).

5.5.2 Non-clinical

Care

Whilst not statistically significant, there is a trend suggesting continuity of care, independent of treatment, may be associated with length of time in treatment and return to prison ($p = 0.070$ and 0.052, respectively). Whilst somewhat speculative at this stage, this may suggest the presence of a qualitative

dimension not envisaged within the original PTORS design. As mentioned earlier, the use of volunteers (Foundation66, 2017) to assist with prison leavers, especially at the point of release, evolved during the latter stages of the data collection phase (2011) and this study was unable to quantify its effect. However, this highlights another area of interesting research with a view to investigating exactly which types of non-clinical care are delivered by the voluntary sector involved with prison-to-community transitions.

Systems thinking within the healthcare context

At the time, this study was conceived (2008-9), whilst the language of systems appeared to be ubiquitous within the health and criminal justice domains, the theoretical drivers underpinning this type of thinking when applied to problem-solving or 'untangling messes' were perhaps less evident. During the intervening period, this type of problem-solving approach, which is geared toward individual- (Daddow & Broome, 2010) and place-based situations (Ham & Alderwick, 2015), has emerged and continues to gain traction (Adam, 2014; Cordon, 2013).

By making certain assumptions – for example, that drug treatment works in the sense that it improves health and reduces crime – this study adopted a person-centred system thinking approach (Kabir Sheikh, George, & Gilson, 2014; K. Sheikh et al., 2011), and located the point of release from prison as the crucial 'pinch point' within a process-linked-to-outcomes systems conceptual framework. This type of 'harder' problem-solving approach, which tends to appeal to those with of a more positivistic epistemological outlook, may have particular use within the field of public health, where lines of enquiry involve the use of data-driven policy and decision making (Carey et al., 2015).

In an environment of increasing demand and shrinking resources (The KingsFund, 2017), the systems thinking (hard and soft) approach, which is targeted towards integrated service delivery, may contribute to the desired health outcomes linked to expenditure policy outcomes currently in focus (The Telegraph, 2017).

Integrated commissioning

Locally, the integrated prison and community care offender health care pathways have been further integrated to incorporate people with mental health issues, learning difficulties, etc. into a new service provision called Full Circle (Pheonix Futures, 2016). In other words, all complex and vulnerable individuals in contact with the local criminal justice system (irrespective of substance misuse) will potentially benefit from contact with this service. Also, the introduction of the Drug Testing on Arrest (DToA) scheme into the partnership (Office of the Police and Crime Commissioner for Essex, 2014) may have uncovered a group of 'hidden' or treatment-naive substance-misusing offenders (report pending), who will fall within the remit of the Full Circle provision. This suggests that, from a value-for-money standpoint alone, this type of strategic commissioning model is effectively delivering service.

Performance

Viewed through the (local) lenses of strategic commissioning, data and performance management, the findings presented here have vindicated our *a priori* decision to reconfigure (integrate) service delivery around the prison-to-community continuity of care transition point. However, as emphasised earlier, without being able to definitively attribute cause and effect, we have been cautious with our interpretations, and recommend that future research should investigate the qualitative aspects associated with the transition point within this care pathway. With that said, and applying the caveats associated with system maturation and 'machine learning', from the performance perspective it is gratifying to report that by the NHS year end in 2016, the InsideOut team recorded a 55% (tier 3) prison-to-community continuity of care performance rate. At that point in the reporting cycle, excluding a return of 100% (n = 1), the InsideOut team had reached the pinnacle of the prison-to-community continuity of care performance tables within the England/Wales context.

Cost benefit and value for money considerations

Aside from the beneficial individual and societal harm reductions associated with treatment engagement amongst drug misusers, there are significant short- and long-term economic implications. The annual and lifetime costs associated with an out-of-treatment OCU misuser range from £37K to £65K and from £550 to £956K respectively (Frontier Economics, 2009). In addition, the costs of housing people in prison are estimated to be £33,102 per person, per year (UK Government, 2014). Whilst a detailed unit-costing exercise was beyond the scope of this research, we can draw some tentative conclusions, especially in respect of value for money, about the financial impact associated with the introduction of the InsideOut service.

For instance, for the same contract value, and in actual terms, the InsideOut team placed more than twice as many people into structured treatment compared with the CARAT team, and contributed towards an approximate 30% reduction in the numbers of people being returned to prison within the first twelve months of their first release. In other words, for no extra investment (apart from the resources required to manage the recommissioning exercise and fund this research), the single service delivery model appears to be a more productive (in terms of value for money) commissioning arrangement. Without knowing the exact amount of treatment time and time spent in prison after first recall, it is difficult to be exact. Nevertheless, according to this study's findings, there appears to be some quite significant cost benefits and value for money gains associated with this particular intervention.

5.6 Generalisability

To what extent might the findings reported here be applicable to other groups and other settings? If the intervention had been targeted towards adult female substance misusers, as previously discussed, there is

a reasonable level of confidence that the improved rates of prison-to-community continuity of care, structured treatment engagements and reduced rates of return to prison reported here would have been observed with that group also. However, we are less confident that this type of intervention is applicable to the Young Offender (<18 years) age group and institutional setting, having limited operational experience with that group. In terms of different settings, we are reasonably confident that this type of intervention could be replicated within Partnerships that host local category B prisons. This assertion is supported with the knowledge that, having influenced their commissioning strategy to adopt a single service delivery model, the Leicester/Leicestershire/Rutland Drug Recovery Partnership made similar prison-to-community continuity of care gains (National Treatment Agency, 2009e), as per the tier 2 statutory reporting mechanism. If the system-level findings reported here can be verified and strengthened by an interrogation of the national datasets, there is no reason to suppose that this intervention would not transfer. The problem may be that, given the diminishing influence of the commissioning and performance frameworks originally introduced by the NTA, the opportunity to further integrate commissioning streams to support these types of interventions may have been missed (Jones, Donmall, & Millar, 2015).

5.7 Conclusions and future research

Viewed in the round, the conclusion is drawn that the Essex Partnership was correct to reconfigure the prison-to-community continuity of care pathway by introducing the InsideOut intervention. Furthermore, this research would argue that a case is developing for introducing the rate of relapse to prison as a system measure of performance. Extending this research to incorporate an analysis of the factors contributing to the RTP event might strengthen this case and contribute to our understanding of the rates of reoffending. And, whilst the findings presented by this research are generally supportive of the single service delivery model, more work is required if the confounding influences are to be apportioned and

fully understood, particularly in respect of the use of peer mentors at the point of release as 'chaperones' to the community drug recovery system.

Outside of these confounding factors, at the system level there appears to be a relationship between prison-to-community continuity of care and improved rates of and reduced waiting times to community drug treatment engagement. And whilst the evidence is less convincing with regards to the relationship between treatment engagement and return-to-prison, this study suggests that there is enough of an effect to warrant further investigations. Perhaps initially, the research challenge is to generate more robust 'scientific' evidence that supports the importance of prison-to-community continuity of care and its relationship with treatment engagement (and thus return-to-prison), and the role it plays in reducing health and crime harms associated with drugs misuse so that future strategic commissioning decisions might be influenced.

The introduction and consolidation of the NDTMS into the prison drug recovery system is an encouraging development and presents numerous opportunities. From this study's perspective, it would be interesting to discover if the system-level outcome and process trends reported here are replicated with the regional and national datasets and for longer (two and three-year) follow-up periods. Also of interest would be a sampling exercise of the local area Public Health commissioning practices to determine whether possible associations exist between types of criminal justice care pathway commissioning models and prison-to-community performance.

Finally, the main concern throughout this period of study has been the notion that perhaps simply having 'Drug System Change Pilot' status conferred to the Partnership has driven up the rates of prison-to-community continuity of care wholly outside of the InsideOut intervention. And whilst this may be of concern from a research perspective, ultimately, and by whatever mechanism, more prison leavers were engaged with drug treatment, thereby improving their own health and facilitating their rehabilitation into the communities they return to. Or put another way, we did no harm…

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Appendices

1.0 PTORS favourable ethical opinion

NRES Committee East of England - Essex
East of England Rec Office 1
Victoria House
Capital Park
Fulbourn
Cambridge
CB21 5XB

Telephone: 01223 597693

Facsimile: 01223 597645 27 April 2012

Professor Gillian Green

Director NIHR Research Design Service for the East of England

University of Essex

Room S2S.5.07

School of Health & Human Sciences

Wivenhoe Park, University of Essex

CO4 3SQ

Dear Professor Green

Study title:	**The impact of 'Inside Out' on crime and health outcomes and processes among substance misusing offenders: Essex drug & alcohol partnership (EDAP) prison treatment outcomes research study (PTORS)**
REC reference:	**12/EE/0074**

Thank you for your letter of 26 March 2012, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair in consultation with the other reviewer for your study

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation [as revised], subject to the conditions specified below.

Ethical review of research sites

NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS sites

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Evidence of insurance or indemnity		01 August 2011
Interview Schedules/Topic Guides	1.0	07 February 2012
Investigator CV		07 February 2012
Letter from Sponsor		30 January 2012
Letter of invitation to participant	1.0	07 February 2012
Other: CV David Pevalin		07 February 2012
Other: CV Frances Blumenfield		07 February 2012
Other: CV Sarah Secker		07 February 2012
Other: CV Marc Connor		07 February 2012
Other: Key Worker Information Letter	1.0	07 February 2012
Other: Instructions to Key Workers	1.0	26 March 2012
Participant Consent Form	1.0	07 February 2012
Participant Consent Form	2.0	26 March 2012
Participant Information Sheet: Long	1.0	07 February 2012
Participant Information Sheet: Short Prison	1.0	07 February 2012
Participant Information Sheet: Short Community	1.0	07 February 2012
Participant Information Sheet: Long PIS	2.0	26 March 2012
Participant Information Sheet: Short Prison Cohort	2.0	26 March 2012
Participant Information Sheet: Short Community Cohort	2.0	26 March 2012
Protocol	1.0	07 February 2012
Protocol (NOSA)	2.0	26 March 2012
REC application	3.3	03 February 2012
Referees or other scientific critique report		30 January 2012
Response to Request for Further Information		26 March 2012
Summary/Synopsis	1.0	07 February 2012

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports

Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

12/EE/0074	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project

Yours sincerely

pp

Dr Alan Lamont Chair

Email: suzanne.emerton@eoe.nhs.uk

Enclosures: "After ethical review – guidance for researchers"
Copy to: Sarah Manning Press
Marc Connor
Sarah Senker

2.0 Confirmation from sponsor

University of Essex

Research and Enterprise Office

T 01206 872922

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30 January 2012

Dr Alan Lamont
Chair
NRES Committee East of England - Essex
Victoria House
Capital Park
Fulbourn
Cambridge
CB21 5XB

Dear Dr Lamont

The impact of 'Inside Out' on crime and health outcomes and processes among substance misusing offenders: Essex drug & alcohol partnership (EDAP) prison treatment outcomes research study (PTORS) (REC ref no: 12/EE/0074)

I am pleased to confirm that the University of Essex, as employer of the Chief Investigator, will act as Sponsor under the Department of Health Research Governance Framework for Health and Social Care for the following research project:

Chief Investigator:	Professor Gill Green
Department:	Health and Human Sciences
Project Title:	The impact of 'Inside Out' on crime and health outcomes and processes among substance misusing offenders: Essex drug & alcohol partnership (EDAP) prison treatment outcomes research study (PTORS)
Funding.	Award to Professor Gill Green from the Essex Drug and Alcohol Action Team

For the avoidance of doubt the University of Essex will not act as Sponsor for Clinical Trials of Medicinal Products which fall under The Medicines for Human Use (Clinical Trials) Regulations 2004.

The University will provide indemnity against negligent harm caused as a direct result of our employees' actions.

Yours sincerely

Sarah Manning-Press
Research Governance and Planning Manager

THE QUEEN'S
ANNIVERSARY PRIZES

3.0 Notice of substantial amendment – Research proposal (information governance)

Welcome to the Integrated Research Application System

NOTICE OF SUBSTANTIAL AMENDMENT

Please use this form to notify the main REC of substantial amendments to all research other than clinical trials of investigational medicinal products (CTIMPs).
The form should be completed by the Chief Investigator using language comprehensible to a lay person.

Details of Chief Investigator:

	Title	Forename/Initials	Surname
	Professor	Gillian	Green
Work Address	Room S2S.5.07 School of Health & Human Sciences Wivenhoe Park, University of Essex		
PostCode	CO4 3SQ		
Email	gillgr@essex.ac.uk		
Telephone	01206874144		
Fax			

Full title of study: The impact of 'Inside Out' on crime and health outcomes and processes among substance misusing offenders: Essex drug & alcohol partnership (EDAP) prison treatment outcomes research study (PTORS)

Lead sponsor: University of Essex

Name of REC: NRES Committee East of England - Essex

REC reference number: 12/EE/0074

Name of lead R&D office:

Date study commenced: 30/04/2012

Protocol reference (if applicable), current version and date: 12/EE/0074, Version 2, 26/03/2012

Amendment number and date: 1, 01/05/2012

Type of amendment

(a) Amendment to information previously given in IRAS Yes No

If yes, please refer to relevant sections of IRAS in the "summary of changes" below.

(b) Amendment to the protocol

Yes No

If yes, please submit either the revised protocol with a new version number and date, highlighting changes in bold, or a document listing the changes and giving both the previous and revised text.

(c) Amendment to the information sheet(s) and consent form(s) for participants, or to any other supporting documentation for the study

documentation for the study

Yes No

If yes, please submit all revised documents with new version numbers and dates, highlighting new text in bold.

Is this a modified version of an amendment previously notified and not approved?

Yes No

Summary of changes

Briefly summarise the main changes proposed in this amendment. Explain the purpose of the changes and their significance for the study.
If this is a modified amendment, please explain how the modifications address the concerns raised previously by the ethics committee.
If the amendment significantly alters the research design or methodology, or could otherwise affect the scientific value of the study, supporting scientific information should be given (or enclosed separately). Indicate whether or not additional scientific critique has been obtained.

In response to committee feedback we have further defined the aims and objectives chapter and expanded the sections "Quantitative data collection" and "Quantitative Data Analysis" within the research protocol, to provide a clearer account of the quantitative arm's objectives. To support these amendments and committee concerns regarding information sharing processes, governance and agreements, we have attached the Partnership and Inside Out client information sharing agreements, plus the NDTMS data set business definitions documents. The TOPs form is also include for information

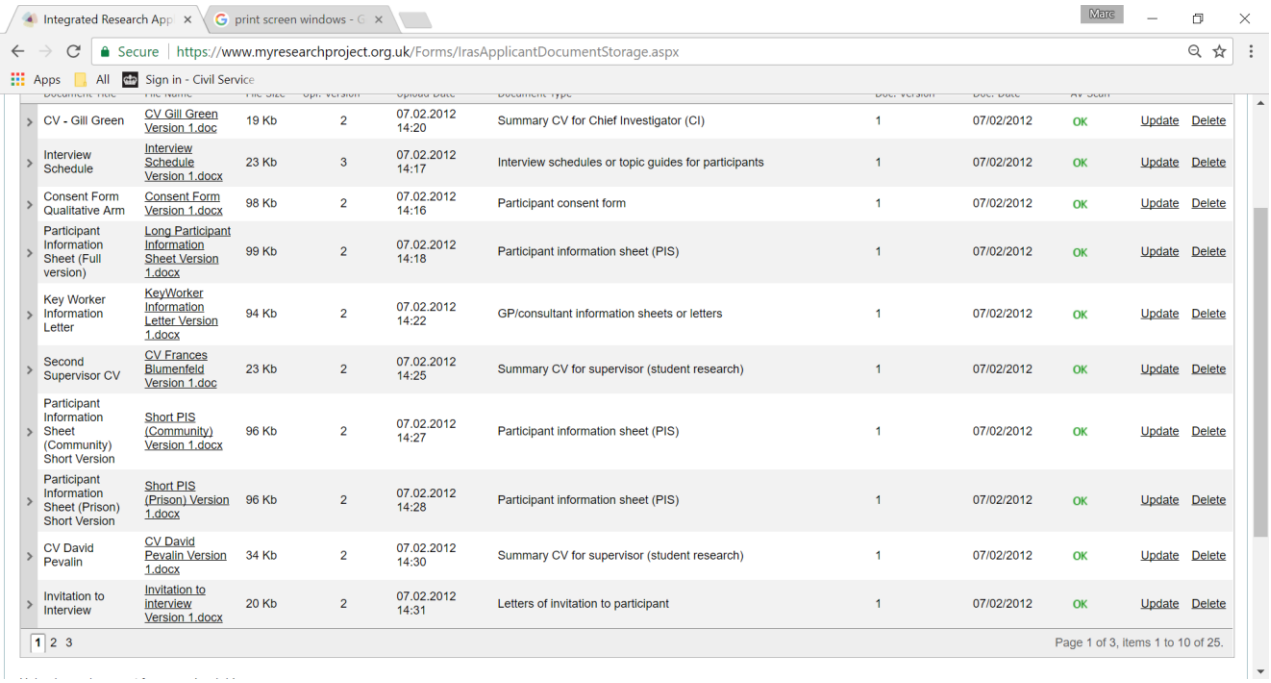
Please note that this amendment does not alter the research design or methodology of the study but merely wishes to clarify the quantitative context and aspects.

Any other relevant information

Applicants may indicate any specific issues relating to the amendment, on which the opinion of a reviewing body is sought.

List of enclosed documents

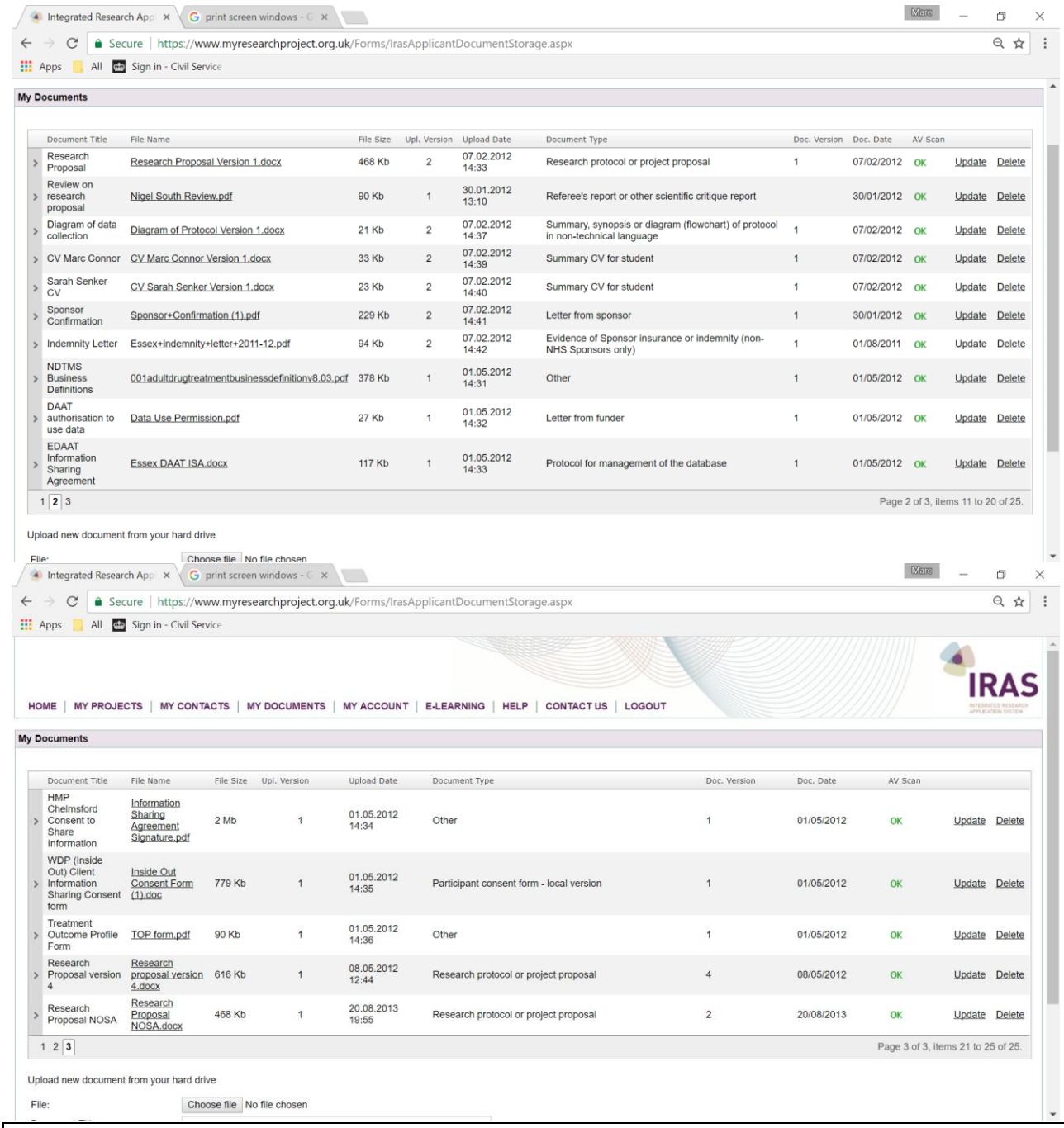
Document	*Version*	*Date*
Research Proposal	4	01/05/2012
Tops Form		01/05/2012
NDTMS business definitions		01/05/2012
DAAT Information Sharing Protocol		01/05/2012
WDP (Inside Out) Information Sharing Protocol		01/05/2012
HMP Chelmsford Information Sharing Protocol		01/05/2012



CV - Gill Green	CV Gill Green Version 1.doc	19 Kb	2	07.02.2012 14:20	Summary CV for Chief Investigator (CI)	1	07/02/2012	OK	Update	Delete
Interview Schedule	Interview Schedule Version 1.docx	23 Kb	3	07.02.2012 14:17	Interview schedules or topic guides for participants	1	07/02/2012	OK	Update	Delete
Consent Form Qualitative Arm	Consent Form Version 1.docx	98 Kb	2	07.02.2012 14:16	Participant consent form	1	07/02/2012	OK	Update	Delete
Participant Information Sheet (Full version)	Long Participant Information Sheet Version 1.docx	99 Kb	2	07.02.2012 14:18	Participant information sheet (PIS)	1	07/02/2012	OK	Update	Delete
Key Worker Information Letter	KeyWorker Information Letter Version 1.docx	94 Kb	2	07.02.2012 14:22	GP/consultant information sheets or letters	1	07/02/2012	OK	Update	Delete
Second Supervisor CV	CV Frances Blumenfeld Version 1.doc	23 Kb	2	07.02.2012 14:25	Summary CV for supervisor (student research)	1	07/02/2012	OK	Update	Delete
Participant Information Sheet (Community) Short Version	Short PIS (Community) Version 1.docx	96 Kb	2	07.02.2012 14:27	Participant information sheet (PIS)	1	07/02/2012	OK	Update	Delete
Participant Information Sheet (Prison) Short Version	Short PIS (Prison) Version 1.docx	96 Kb	2	07.02.2012 14:28	Participant information sheet (PIS)	1	07/02/2012	OK	Update	Delete
CV David Pevalin	CV David Pevalin Version 1.docx	34 Kb	2	07.02.2012 14:30	Summary CV for supervisor (student research)	1	07/02/2012	OK	Update	Delete
Invitation to Interview	Invitation to interview Version 1.docx	20 Kb	2	07.02.2012 14:31	Letters of invitation to participant	1	07/02/2012	OK	Update	Delete

1 2 3

Page 1 of 3, items 1 to 10 of 25.



Declaration by Chief Investigator

1. *I confirm that the information in this form is accurate to the best of my knowledge and I take full responsibility for it.*
2. *I consider that it would be reasonable for the proposed amendment to be implemented.*

This section was signed electronically by gill green on 01/06/2012 10:58.

Job Title/Post: Professor

Job Title/Post:	Professor
Organisation:	University of Essex
Email:	gillgr@essex.ac.uk

Declaration by the sponsor's representative

I confirm the sponsor's support for this substantial amendment.

This section was signed electronically by Sarah Manning-Press on 01/06/2012 14:51.

Job Title/Post:	Research Governance and Planning Manager
Organisation:	University of Essex
Email:	sarahm@essex.ac.uk

Prison Treatment Outcomes and Processes Research Study (*PTORS*)

Professor Gill Green,

Marc Connor & Sarah Senker

University of Essex

On behalf of Essex Drug and Alcohol Partnership.

Contents **Page Number**

Summary

In April 2009 the Essex Drug and Alcohol Partnership (EDAP) was awarded Drug Systems Change Pilot status (DSCP), a Central Government sponsored initiative which allowed for and encouraged the testing of new ways of delivering drug treatment. A combination of local commissioning and information strategic thinking led to the creation of an innovative new drug treatment service, called "Inside Out". This provision was designed to span both the prison and community domains with the primary aim of improving the continuity of care or recovery journey for those drug misusing offenders exiting the prison estate into the local community.

Statutory reports published during the first year of operations indicated that the number of successful client transitions significantly increased and that more clients in general exited the criminal justice system free of drug dependency. These early successes and their supporting rationales have directly influenced national policy.

This study will employ a mixed methods approach to investigate whether the initial process gains delivered by "Inside Out" have lead to reduced criminal activities or fewer episodes of recidivism and improved the health outcomes for this highly vulnerable group. Quantitative analyses of the recently piloted national data sets will be complemented with a qualitative study of those recovering and relapsing, with a view to better understanding how this example of organisational restructuring has influenced the recovery journey.

Background and Purpose

Drugs and crime

The associations between drug abuse and criminal behaviours are complex but well documented (Bennett, Holloway & Williams, 2001; Gossop, Trakada, Stewart & Witton, 2005; Keene, 2005; Lord Patel, 2010; McIntosh et al., 2007). In addition, research indicates that a small number of offenders are responsible for a disproportionate amount of crime (Dawson & Cuppleditch, 2007). Particularly active amongst this population are the heroin and crack cocaine users (OCUs) who are responsible for approximately 56% of all crimes, especially those of an acquisitive nature (McIntosh et al., 2007). More recently it has been suggested that crack users in particular display the greatest odds of offending (Bennett, Holloway & Farrington, 2008). The focus of this study will be on those OCUs who appear in the prison system.

Drugs and prison

It is reported that up to 50% of all prisoners have a history of problematic drug use (Lord Patel, 2010; Singleton et al., 1999). The best way to gauge drug misuse within a prison at a given time is the random mandatory drugs test (RMDT). Although nationally the percentage of those testing positive is below the target of 9.3%, male local prisons exceed this with 10% of those tested giving a positive result (Ministry of Justice, 2011). Such a finding is of particular relevance for this research as HMP Chelmsford, where the study will occur, is a male local prison.

Treatment of substance misusing offenders

For every £1 spent on drug treatment, £2.50 is realised in savings to society in terms of the effects on crime and health economies (Davies et al., 2009). Despite this, and findings indicating the success of drug treatment for individuals (e.g. Godfrey, Stewart & Gossop, 2004; Gossop, Marsden, Stewart & Rolfe, 2000; Gossop et al., 2005; Sidwell, Best & Strang, 1999), the Ministry of Justice report (2011) indicates that the number of drug treatment programmes being completed in prison decreased from 2009/10 to 2010/2011[2]. Being aware of this phenomenon provides the

[2] N.B. It is not clear if this is due to a decrease in available treatment within custody or a decrease in the number of substance misusing offenders entering prison.

impetus to enhance service delivery with the aims of cutting crime and improving health outcomes.

In contrast to previous studies (e.g. Gordon et al., 2008; Maude-Griffin et al., 1998; Perry et al., 2006; Wexler et al., 1999), this study will not focus on specific treatment modalities per se but will instead consider the impact of structural alterations resulting in the re-commissioning of two single disparate drug services into a single unified system. It seeks to learn if and how these structural changes affect an individual's recovery journey and whether health and offending outcomes are improved.

Policy

The UK Government's Drugs Intervention Programme (DIP) has operated in England and Wales since 2003 (Skodbo et al., 2007). Its overarching aim is to target those offenders committing acquisitive crime to fund their drug habits (heroin and/or crack) (Home Office, 2011). In the community the DIP is delivered via the Criminal Justice Intervention Teams (CJITS) a substantive component of which is the Arrest Referral function, normally delivered by third sector organisations. In the prisons, DIP is delivered by the Counselling, Assessment, Referral, Advice and Through-Care Services (CARATS).

Context

In 2009 Essex Drug and Alcohol Partnership was awarded Drug Systems Change Pilot Status (DSCP) (National Treatment Agency, 2011). A partnership of representatives from various government departments including the Department of Health, Ministry of Justice, Home Office and Department for Works and Pensions sponsored this initiative to test new ways of delivering drug treatment. As part of DSCP status, a range of freedom and flexibilities were granted by the government partnership to facilitate alterations in the way that drug treatment is commissioned and monitored. EDAP elected to focus their attentions on the criminal justice setting with a view to commissioning and delivering a combined prison/community drug recovery provision (EDAP, 2008). This decision resulted in a 'merging' of the CARAT and CJIT services and the creation of "Inside Out".

At the core of this restructuring exercise was a desire to implement an enhanced continuity of care for service users. In particular it aimed to improve the transition from prison to the community for substance misusing offenders which has been identified as a time of risk and vulnerability (Lord Patel, 2010; Merrall et al., 2010). Part of the "Inside Out" initiative involved the introduction of the National Drug Treatment Monitoring System (NDTMS) (previously used in community settings only) into the prison environment with the aim of improving information sharing. As a result of this pioneering approach, all drug and alcohol Partnerships have direct access to the CARAT prison drug treatment funding streams and the NDTMS is to be deployed nationwide throughout the prison estate.

"Inside Out", based in Essex (Westminster Drug Project, 2010) became operational in April 2009 and will run in its current form for a total of three years. It is this innovative service that will form the central focus for this research. Recent policy has moved away from a focus on engagement and process towards a focus on outcomes (reducing crime, improving health). In particular the quantitative arm of this study seeks to capitalise on this stance.

Recovery

Although the notion of recovery is at the core of the Government's Drug Strategy (2010), there remains little clarity over the definition of this all important concept - a fact noted through the number of issues raised in government and academic papers discussing recovery-orientated practice and the field of addiction (Jacobson & Greenley, 2001; Laudet, 2007; White, 2007). Whilst the government drug strategy seeks primarily for individuals to live drug free lives, others are more liberal in their understanding and inclined to consider recovery as a more global concept extending beyond substance misuse (White, 2007) incorporating change not just abstinence (Laudet, 2007). In light of this debate and paucity of a consensus around recovery, the qualitative arm of this study seeks to explore the client's independent understanding of recovery and investigate how "Inside Out" has impacted on an individual's recovery journey with a view to shed some light on this hotly contested concept. This is in line with White's (2007) acknowledgement that those impacted by the definition of recovery should have a chance to define it themselves (p. 230).

Aims and Objectives

The primary aim of this research is to investigate whether an integrated drug treatment journey reduces crime and improves health for those substance misusing clients engaged with the criminal justice system.

Specifically, the quantitative objective will be to assess whether the reorganisation of service delivery has improved the outcomes being researched. A secondary objective will be to compare process statistics with national averages.

The qualitative arm will investigate the perception of the reorganisation at 'client level' and will compare those 'recovering' with those 'relapsing.'

Both arms of the study will consider recidivism and the associated characteristics in this complex and vulnerable cohort in order to inform future best practice.

The Plan of Work

This study will deliver a mixed methods approach. The quantitative investigation will analyse existing data and provide the framework from which the qualitative cohort will be drawn. The study will explore which traits, characteristics, perceptions and experiences are associated with success or failure within this new and highly innovative service provision. Using both quantitative and qualitative investigations it will explore the impact of the re-organised system on service users considering the statistical outcomes and their subjective experiences (see appendix 1 for diagrammatic representation of study design).

The nature of the study dictates that both a fixed *and* flexible approach will be adopted. Because the quantitative arm is focused on outcomes and aggregate data, a fixed non-experimental, longitudinal approach is optimal. For the qualitative arm a flexible, cross sectional approach will be adopted, with a focus on the subjective, individual client experience of the new integrated recovery journey facilitated by "Inside Out".

Data collection and sampling

Statutory data sets i.e. the national drug treatment monitoring system (NDTMS) and the treatment outcomes profile (TOP), both managed by Essex Drug and Alcohol Action Team (EDAAT) on behalf of the National Treatment Agency for substance misuse (NTA), will provide the quantitative data for analysis. All individuals whose data is captured by the NDTMS and TOPs systems will be within scope and selection for the interview cohort. Final selection will depend on the frequency of appearance within the NDTMS data set, which will indicate the number of times clients have relapsed. Fifteen clients who have relapsed two or more times will be approached for interview within the prison setting and fifteen clients who have 'recovered' i.e. have not been recalled to prison in the last 24 months following release. However, the NDTMS only provides initials, date of birth and gender of clients therefore the key workers will be tasked to properly identify and subsequently approach candidates for interview on behalf of the qualitative researcher. Key workers will be provided with an information pack to disseminate to potential interviewees (see appendix 3 for cover letter). Should clients be interested in participating, the key worker will notify the qualitative researcher and a convenient interview time and date will be arranged.

Quantitative data collection

The statutory data sets are collected as a matter of routine by the service provider and are managed by EDAAT. The NDTMS predominantly collects performance data related to the client treatment recovery journey and also includes public health markers such as injecting behaviour etc. The TOPs form collects outcome data in four domains; drug use, crime, health and well-being and social functioning, at the start, during and end of the treatment episode. The quantitative researcher has already sought permission from the EDAAT information team to analyse and describe these data. The quantitative analyses will focus on changes in the outcome measures.

Qualitative data collection

Qualitative data collection will be by way of one-to-one interviews with service users. Fifteen interviews will take place within HMP Chelmsford (those clients identified as 'relapsing') and twenty interviews will take place within the community (identified as 'recovering'). The use of different cohorts is in recognition of the different trajectories drug users can take (Hser et al., 2007). Of particular relevance are findings from Scott et al. (2005) which indicates a lower

likelihood of sustaining recovery following more numerous treatment episodes. This consolidates the need to consider 'frequent flyers' (those returning to prison regularly) as well as successful clients; considering effective *and* ineffective treatment (Webb, 2011). Interviews will be semi-structured and will intend to cover the individual's history of substance misuse and offending, the journey up to the present day, drug treatment and offending work, their perception of "inside out", their personal ideology surrounding addiction and recovery, some of the challenges they have faced, aspects that have helped facilitate recovery and their future goals. The format of the interview will be flexible to enable the focus to be on issues most pertinent to the individual participant.

Quantitative data analysis

The quantitative data analyses will include descriptive, chi squared, student t- tests, Kaplan Meier and effect size calcu;ators. Comparative analyses covering the length of time in treatment and type of treatment received (e.g. methadone maintenance, psycho-social support) will be conducted. Chi squared analyses will be applied to describe risk factors associated with incarceration. T tests will involve the comparison of means between those relapsing and those recovering. The relationship between treatment length or type and outcomes will form the basis of the inferential analysis. The evidence base suggests that lengthier periods of treatment are associated with positive outcomes in terms of health and recidivism (NTA, 2010). Process and monitoring data will be used to describe continuity of care results.

Qualitative data analysis

Interviews will be recorded in their entirety to facilitate verbatim transcription. Narrative analysis is the chosen qualitative approach. With a focus on transitional and traumatic life events, sense making and self-exploration (Crossley, 2008), this method has been previously employed with 'addict' populations to explore recovery (Hänninen & Koski – Jännes, 1999; Taïeb et al., 2008). Transcripts will be analysed with a view to identify emergent and re-occurring patterns as well as differences among the clients.

Ethical Issues

Risks of the research:

The client group to be approached are a complex and vulnerable cohort and the risks of the research extend to both the participant and qualitative researcher. For the interviews being conducted in prison, safety will be managed as per the health and safety guidance within HMP Chelmsford. This includes completing the visitors book upon arrival to the wing, informing staff where interviews will take place and with whom, checking the incident book before commencing interviews as well as enquiring about any known issues. The aim is for interviews to be conducted in a group-work room with the presence of a key-holder. The space is in full view of wing staff and the interviewer will be positioned nearest to the exit and alarm bell. The presence of the key-holder means the interviewer can leave the room should anything occur. The risk of harm to the researcher within the community is predicted to be less, although precautions will still be taken. Key workers will be aware that interviews are taking place and they will occur within the offices of Westminster Drug Project rather than client homes.

With regard to clients, the interview material to be explored may be of a sensitive nature. Should any heightened emotionality be noted during the interview and the interviewer have any concerns then the key worker will be informed following the interview.

Benefits of the research:

By understanding whether the introduction of a single service drug recovery provision has improved the criminological and health outcomes for this vulnerable cohort, we hope to influence future commissioning strategies within the sector. We aim to add to the existing knowledge base surrounding the treatment of substance misusing offenders and recidivism as well as enlightening the discussion around the concept of recovery.

Clients may benefit from the opportunity to give their opinion and contribute to future service delivery.

Gaining informed consent:

At the beginning of the recovery journey (contact with "Inside Out" through arrest referral schemes or by way of prison referral) clients consent to having their information shared for generic research and monitoring purposes via the NDTMS. The quantitative researcher will be asking the EDAAT for permission to analyse these data.

Specific consent will be sought for the interview process. Potential interviewees will be provided with an information sheet explaining the research and inviting them to engage with an interview. Should they be interested in participating, the nature of the research and what their role will consist of will be verbally explained on the day of the interview. Following both verbal and written information (see appendix 4) written consent will be taken by the interviewer should the client agree to continue with the interview (see appendix 5).

Anonymity and confidentiality:

All the statutory datasets and information will be held on the local authority secure servers in password protected folders only viewable to the DAAT information team and where necessary the researchers. For analytical purposes, quantitative records will be further anonymised by use of the so called "hash code generator". This will facilitate off-site analyses of the data (e.g. the university) without compromising anonymity and confidentiality. Feedback in the form of reports and publications will not contain identifiable data and pseudonyms will be used for the purposes of qualitative reporting.

Timetable

Please see appendix 2.

Dissemination

Although this project is in fulfilment of two separate PhDs in Health Studies at the University of Essex, and therefore a final thesis is the end goal, interim reports will be produced to inform stakeholders of the progress of the project along the way. In addition, we hope to publish the preliminary findings in an academic journal. A project steering group will initially meet every three months consisting of commissioners, researchers and their academic supervisors. On

completion of the project, in addition to the thesis, shorter executive summaries will be distributed to HMP Chelmsford (for practitioners and participants) and published on the EDAAT website. It is envisaged that further academic publications will follow as a result of this project.

Budget:

This study is funded for three years by the EDAAT.

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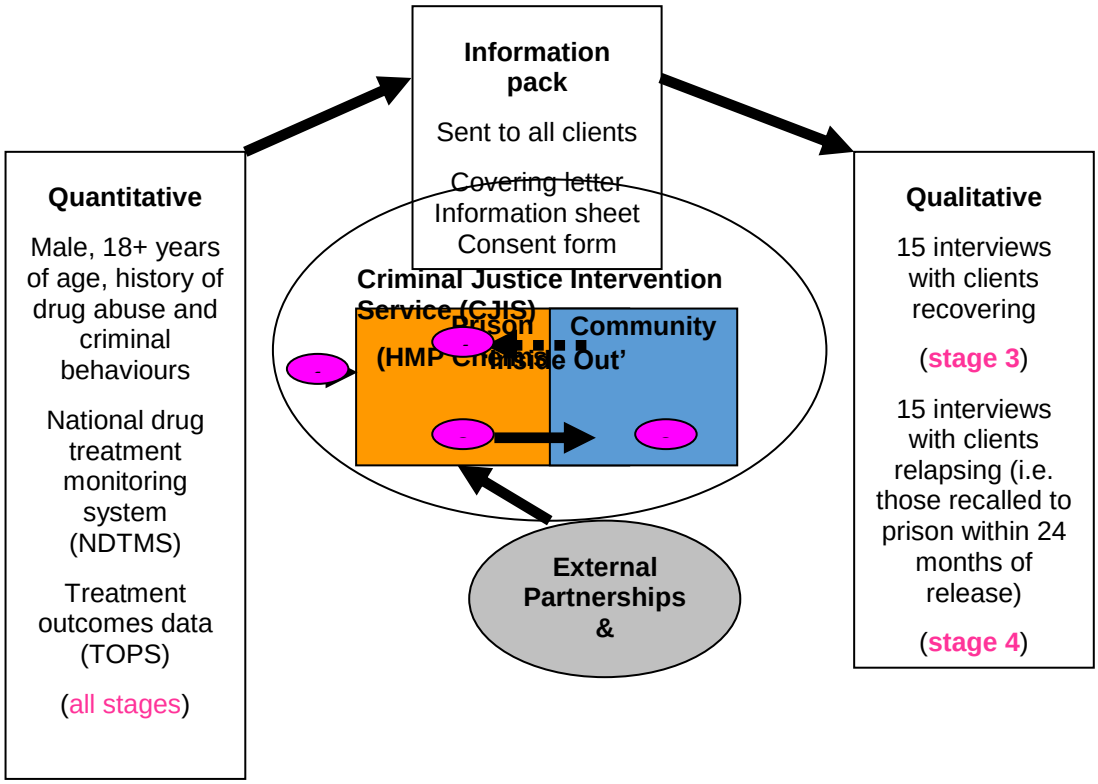
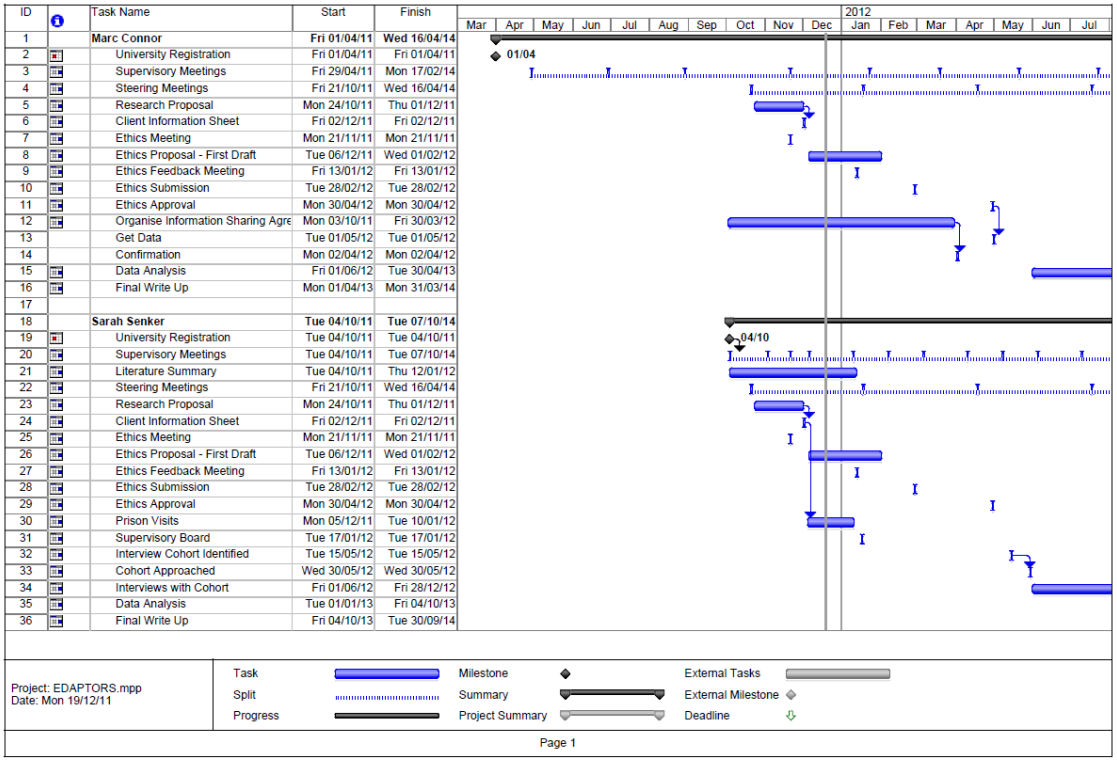
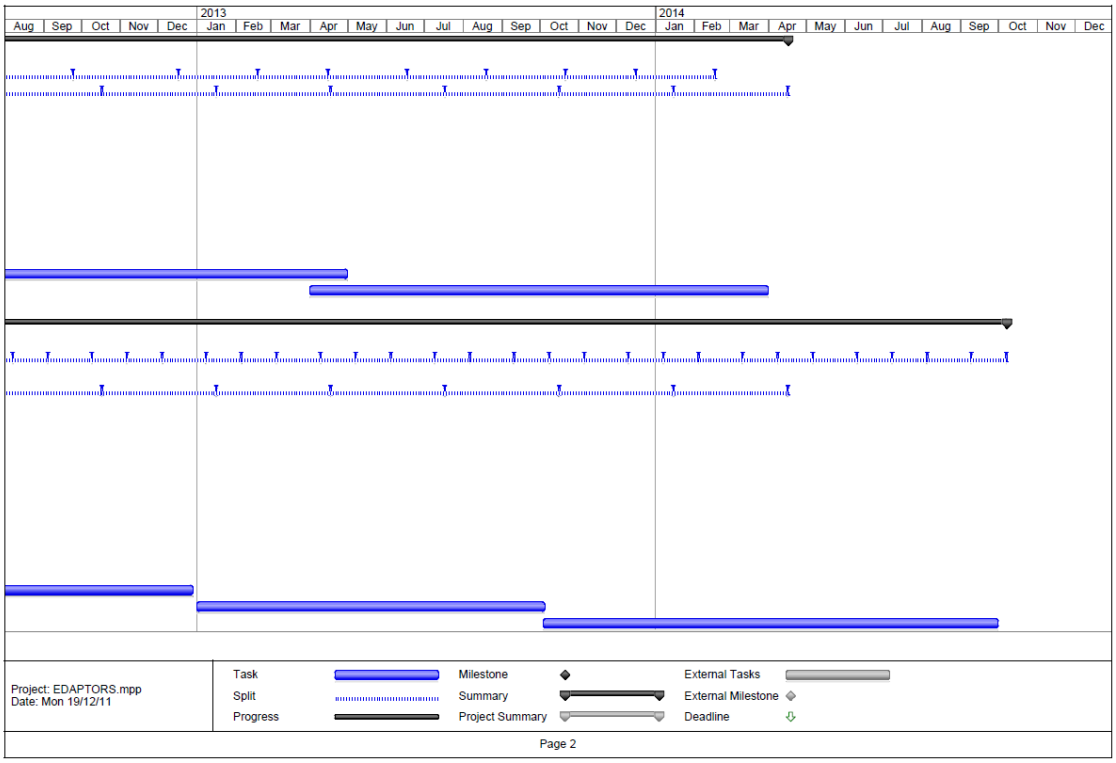


Figure 1: diagrammatic representation of study design.

APPENDIX 2



ID	Task Name	Start	Finish
1	**Marc Connor**	**Fri 01/04/11**	**Wed 16/04/14**
2	University Registration	Fri 01/04/11	Fri 01/04/11
3	Supervisory Meetings	Fri 29/04/11	Mon 17/02/14
4	Steering Meetings	Fri 21/10/11	Wed 16/04/14
5	Research Proposal	Mon 24/10/11	Thu 01/12/11
6	Client Information Sheet	Fri 02/12/11	Fri 02/12/11
7	Ethics Meeting	Mon 21/11/11	Mon 21/11/11
8	Ethics Proposal - First Draft	Tue 06/12/11	Wed 01/02/12
9	Ethics Feedback Meeting	Fri 13/01/12	Fri 13/01/12
10	Ethics Submission	Tue 28/02/12	Tue 28/02/12
11	Ethics Approval	Mon 30/04/12	Mon 30/04/12
12	Organise Information Sharing Agre	Mon 03/10/11	Fri 30/03/12
13	Get Data	Tue 01/05/12	Tue 01/05/12
14	Confirmation	Mon 02/04/12	Mon 02/04/12
15	Data Analysis	Fri 01/06/12	Tue 30/04/13
16	Final Write Up	Mon 01/04/13	Mon 31/03/14
17			
18	**Sarah Senker**	**Tue 04/10/11**	**Tue 07/10/14**
19	University Registration	Tue 04/10/11	Tue 04/10/11
20	Supervisory Meetings	Tue 04/10/11	Tue 07/10/14
21	Literature Summary	Tue 04/10/11	Thu 12/01/12
22	Steering Meetings	Fri 21/10/11	Wed 16/04/14
23	Research Proposal	Mon 24/10/11	Thu 01/12/11
24	Client Information Sheet	Fri 02/12/11	Fri 02/12/11
25	Ethics Meeting	Mon 21/11/11	Mon 21/11/11
26	Ethics Proposal - First Draft	Tue 06/12/11	Wed 01/02/12
27	Ethics Feedback Meeting	Fri 13/01/12	Fri 13/01/12
28	Ethics Submission	Tue 28/02/12	Tue 28/02/12
29	Ethics Approval	Mon 30/04/12	Mon 30/04/12
30	Prison Visits	Mon 05/12/11	Tue 10/01/12
31	Supervisory Board	Tue 17/01/12	Tue 17/01/12
32	Interview Cohort Identified	Tue 15/05/12	Tue 15/05/12
33	Cohort Approached	Wed 30/05/12	Wed 30/05/12
34	Interviews with Cohort	Fri 01/06/12	Fri 28/12/12
35	Data Analysis	Tue 01/01/13	Fri 04/10/13
36	Final Write Up	Fri 04/10/13	Tue 30/09/14



APPENDIX 3

Reducing crime, improving health; Essex Drug and Alcohol Partnership, prison treatment outcomes and processes research

Dear Future participant,

We would like to invite you to take part in our research study. Before you decide we would like you to understand why the research is being done and what it would involve for you. Please read the information attached, it should take no longer than half an hour for you to read it fully. Talk to your key worker about the study and ask any questions you may have before making a decision. If you think you may be interested please let your key worker know so we can arrange an interview.

Many Thanks,

Sarah Senker.

APPENDIX 4

Reducing crime, improving health; Essex Drug and Alcohol Partnership, prison treatment outcomes and processes research

Information about the qualitative research

1. **What is the purpose of the study?**

There have been some changes in the way your treatment is provided. This research wants to understand your views and feelings about "Inside Out", how it has impacted you, what you'd like to see made better and what is already quite good. We also want to understand about you and your individual journey. Getting such information is important so the service can continue to get better, helping you and others.

2. **Why have I been invited?**

You have been invited to take part because you have experienced "Inside Out". We are aiming to interview 15 people in HMP Chelmsford and 15 people in the community (that have also experienced "Inside Out").

3. **Do I have to take part?**

It is entirely up to you whether you want to join the study or not. Even if you agree to take part, you can decide to stop at any time, without giving a reason and this won't affect the care you receive.

4. **What will happen to me if I take part?**

If you agree to be interviewed, a time and place that suits you will be arranged for this to happen. If you are in HMP Chelmsford, the interview will take place there and if you are in the community this will occur at the offices of Westminster Drug Project in Chelmsford or one of the other treatment provider offices in Essex depending on your location.

You will only need to meet the researcher once. Before the interview starts you'll be asked to sign a consent form, to show that you are happy to be involved. Even if the interview begins, you can still decide you don't want to take part anymore.

The interview normally takes about an hour, sometimes a little longer. The more you talk, the longer the interview. There will be some questions that the interviewer particularly wants to know the answer to, but how you answer these and how much information you give is up to you. The interview will be recorded so the interviewer can remember what you said as accurately as possible.

5. **What are the possible disadvantages and risks of taking part?**

We do not think there are any risks to taking part in the interview. The questions asked will be about your recovery journey so they may be a little sensitive at times when you consider your offending and substance misuse. Your key worker will be aware that the interview is taking place though so you can talk to them if you feel upset following the interview. The researcher is entirely neutral, not there to pass judgement, just there to hear your story. As mentioned before, the interview can take up to two hours so you should think about whether you are willing to give up some of your time.

6. **What are the possible benefits of taking part?**

We cannot promise that this study will help you but with the information we get from this research we hope to improve the treatment of substance misusing offenders, not just in Essex but across England. This interview is a chance to give your views and opinions of "Inside Out" and tell the interviewer about your experiences. It is a chance to tell your story; there are no right or wrong answers.

7. What happens when the research study stops?

When the interviews are complete, they will be written up by the researcher and patterns will be looked for. Your experiences and those of others will be written into a research report, to be given to the researcher's University and the Essex Drug and Alcohol Partnership. No-one will be able to match your name to what you said – it will be anonymous. You will be able to read a summary of the findings too on the Essex County Council website or your keyworker can give you a copy.

8. What If there is a problem?

If you feel unhappy about the way you have been dealt with during the study, you can tell your key worker and they will pass this information onto the researcher as soon as possible. If you wish to complain formally you can do this via the University of Essex Research Manager. Her details can be obtained from your key-worker.

9. Will my taking part be kept confidential?

Any information you give us will be confidential and your real name will not be used in any research reports. However, if you say anything to the researcher that indicates that you or somebody else is at risk of harm or breaches prison security then this will have to be passed on to your key worker to keep you safe. The recording of the interview will only be listened to by members of the research team and it will not be accessible to anyone else. The interviewer will type up the interview in written form so it is easier to look for patterns. Interview material will be kept securely for two years in case the interviewer wants to look at it again in the future. The interviewer will also have access to your background information such as your age and ethnicity - this is just for the purposes of writing up the research report, so the researcher can report the average age of the people interviewed and will not affect how you are treated during the interview.

10. What will happen if I don't want to carry on with the study?

If you don't want to continue with the interview at any time you can let the researcher know. The tape will be stopped and it will be up to you to decide if any information already recorded can be used. If you decide you don't want any information to be used, the interview so far will be deleted and destroyed. You may not want to answer specific questions, rather than stopping the interview altogether. This is ok too and the researcher can move on to a different question if you feel uncomfortable at any point.

11. Who is organising and funding the research?

The research is being funded by Essex Drug and Alcohol Partnership. As well as this research informing the running of the "Inside Out" service in the future, it is also part of the interviewer's research degree at the University of Essex.

12. Who has reviewed this study?

All research is looked at by an independent group of people called a Research Ethics Committee, to make sure you're safe. This study has been reviewed and given favourable opinion by East of England Research Ethics Committee and the National Offender Management Service.

13. What happens next?

If, after reading this pack, you think you would like to be interviewed please let your key worker know within one month of receiving this (the sooner the better) so that an interview can be arranged. You can always ask for more information to help you decide. The interviewer will go through this information on the day and explain it face to face before you agree 100% to participate. If you want to go ahead, a consent form will need to be signed on the day of the interview. An example of this is included in this pack.

APPENDIX 5

Reducing crime, improving health; Essex Drug and Alcohol Partnership, prison treatment outcomes and processes research

CONSENT FORM

Please initial (not tick) all boxes you agree with.

1. I confirm that I have read and understood the information sheet provided for the above research study. ☐
2. I have had the chance to think about the information, ask questions and I am happy with how these have been answered. ☐
3. I understand that taking part is my choice and I can stop at anytime without giving a reason. This won't affect my treatment or care. ☐
4. If I lose the ability to take part in the study, I understand that my information up to that point will still be used but no further information will be requested of me. ☐
5. I give permission for the researcher to access information about me such as my age, ethnicity, offending history and substance misuse history. ☐
6. I understand that my key-worker knows that I am taking part in this study. ☐
7. I agree that the interview will be audio-recorded to help the interviewer remember what I said. ☐
8. I will do my best to give honest answers and information wherever poss ☐ will tell the interviewer immediately if I feel unhappy or unwell at any point. ☐
9. I understand that all personal information about me is kept private, and in line with the Data Protection Act (1998). My real name will not be used in any research reports. ☐
10. I agree to take part in this study. ☐

_____	_____	_____
Name of Interviewee	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

5.0 NTA permissions

FW: May dashboard feedback Thursday, 17 June, 2010 15:55

From: "Dan Hales" <Dan.Hales@essex.gov.uk>

To: "Donia Slyzuk" <Donia.Slyzuk@essex.gov.uk> "Ben Hughes" <Ben.Hughes@essex.gov.uk>

"Gogarty Mike (5PW) North East Essex" <mike.gogarty@northeastessex.nhs.uk>

Cc: "Dominic Brown" <Dominic.Brown@essex.gov.uk> "Marc Connor EDAAT Information Consultant" <Marc.Connor@essex.gov.uk>

From: Louise Amon [mailto:Louise.Amon@nta-nhs.org.uk]
Sent: 17 June 2010 15:45
To: Dan Hales; Ben Hughes
Cc: Sherife.Hasan@dh.gsi.gov.uk; Pete Burkinshaw; Megan Jones; Rick Andrews;
Emma Pawson Subject: May dashboard feedback

Dear Dan, Ben

Please find attached your May dashboard with regional feedback.

Best wishes,

Louise

Louise Amon
System Change Pilots Coordinator
National Treatment Agency
6th Floor, Skipton House
80 London Road
London, SE1 6LH
T: 020 7972 1906
F: 020 7972

Freedoms and Flexibilities			
F&F required	How it supports the strategic vision	Progress to date	**RAGB**
To commission CJIS, combining CARAT and DIP	Continuity of care, reduction in re-offending	Agreed	**Blue**
Exclusion of Substance Misuse from Caldicott	Strategic assessment and planning requirement	Agreed locally	**Blue**
Local control of DIRWeb data	Continuity of care, reduction in re-offending, strategic assessment process	Local access agreed, looking for national r/o access	**Blue**
Changes to Needs Assessment format	Delivery of Strategic Assessment planning process	Agreed regionally	**Blue**

Commonalities in Freedom & Flexibility Requests

Freedom/flexibility	Partnerships	Detail	National/ Local	Granted: yes/no ?	Comments
Freedom in use of DIP funding to support more locally relevant commissioning of services.	Essex	To commission CJIS, combining CARAT and DIP	National	Yes	
	Herts	Use of DIP funds to support offenders on DRRs	National	Yes	
	Lambeth	Budget: ability to transfer funds both within the SCP's direct control and aligned budgets held by our partner commissioners.	National	Yes	
	Leicester	Sub-regional DIP MG allocation	National	Yes	
Flexibilities in data collection & reporting to streamline continuity of care between prison & community based treatment	Bradford	Start2Finish: brokering treatment for offenders leaving prison - some issues with DIP recording	National	Formal request not submitted	
	Essex	Local control of DIRWeb data	Local	Yes	
		Extend use of NDTMS to HMP Chelmsford to support IDTS & CJIS	Local	Yes	Agreed to use HMP Chelmsford as early adopter of planned national roll-out of NDTMS to prison drug treatment systems
	Herts	Access to CARATS DIRweb	National	No	DIRWeb is not a 'case management tool' and therefore full access to CARATs data not relevant. However, recent access to attributable data on clients referred from CARATs to CJITs has been helpful.
	Lambeth	In line with the revised PMF, relaxation of HMP Brixton CARAT audit processes and DIP KPI-2 targets.	National	Yes	
	Leicester	Local keying of Prison DIRs	National	Yes	
		Flexibility with CARATs process	National	Formal request being considered	
Development of overarching	Bradford	Mother contract drafted	Local	Yes	

contract covering a number of providers, to support integrated treatment system	Lambeth	Providers invited to form a consortium	Local	N/A	Implemented without f&f request
Freedom/flexibility	**Partnerships**	**Detail**	**National/ Local**	**Granted: yes/no ?**	**Comments**
Joint commissioning issues	Bradford	Use of Working Groups, CMB, and Implementation Group to identify current gaps in treatment system	Local	Yes - though F&F not necessary	
		Integrating DWP with the treatment journey and abstinence work.	Local		
	Hampshire & Southampton	To develop a single set of assessment tools to minimise the laborious paper work for the client	Local		Often requiring negotiation across the two partnerships - but not a national F&&F
		Flexible housing support funding	Local		
		Access to funding linked to employment and training	Local		
	Sefton	HSC directorate database (swift) to be changed to accommodate information required for the SPA and monitoring of the new service	Local		
		Community Care Grants transferred from DWP to HSC directorate	Local		
		HSC directorate taking ownership of the SPA and clients with substance misuse problems.	Local		
		Pooling of HSC training budget	Local		
		Wholesale use of ITEP across the system added to original pilot proposal	Local		

6.0 InsideOut job description

Inside Out Practitioner

(Salary as advertised)

Essex **37.5 hours** **Permanent**

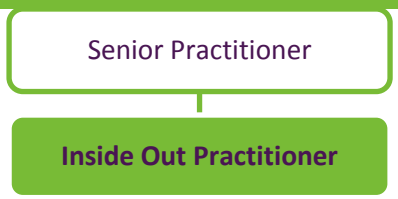
1. Main purpose of the role

- To contact, assess, refer and support substance misusers in criminal justice settings (including courts, police stations, prisons, probation offices), treatment agencies, the community and other appropriate settings in order to maximise their uptake of treatment services and access re integration.
- To work with clients using class A substances and alcohol across Inside Out settings – Essex community and HMP Chelmsford
- To work 37.5 hours per week – flexible and to be negotiated with line manager to cover shift patterns.

2. Reporting and working relationships

Reporting relationships:

- **Reports a Senior Practitioner**



Effective working relationships:

- The management team: County Manager, Senior Practitioners, Operations Manager
- WDP and partnership employees and volunteers
- Service users, carers and communities
- Commissioners, funders, partner agencies.

3.	Role-specific responsibilities
3.1	▶ To maintain a caseload of Inside Out clients. To work with clients to prepare them for treatment and key work clients as required. To use Other Structured Intervention (OSI), ITEP and Motivational Interviewing (MI) techniques when working with clients. To liaise with statutory and voluntary agencies on behalf of the service user.
3.2	▶ To develop and adhere to working relationships with drug treatment services, police, probation, prisons, courts and community services.
3.3	▶ To refer clients to the relevant professionals or treatment providers. To work with other professionals or treatment providers with assessing / reviewing of clients' needs. To deliver satellite services as and when required across the county.
3.4	▶ Support volunteers and student placements to deliver WDP's service objectives.
3.5	▶ To keep abreast of new developments relating to the Criminal Justice System.
3.6	▶ To attend staff meetings, training days and supervision sessions, best practice and organisation wide meetings as required.
3.7	▶ To attend (as and when required), and act as a WDP ambassador, at external meetings.
3.8	▶ To contribute towards monthly performance reports when required.
3.9	▶ To submit all required client data within specified timeframes.
3.10	▶ To support Inside Out clients to take up education, training and employment opportunities.
3.11	▶ To agree an initial recovery plans and conduct regular comprehensive reviews.
3.12	▶ To care co-ordinate criminal justice clients, including Drug Rehabilitation Requirement

	(DRR) and Alcohol Treatment Requirements (ATR) clients, within the Essex treatment system.
3.13	▶ To carry out initial screening and triage on clients as and when required.
3.14	▶ To conduct risk assessments and full comprehensive assessments on clients to establish their needs.
3.15	▶ To conduct carers assessments and make appropriate referrals
3.16	▶ To undertake Prolific and Priority Offenders (PPO) and DRR testing.
3.17	▶ To work in partnership with relevant criminal justice agencies to undertake assertive outreach.
3.18	▶ To escort clients to relevant appointments.
3.19	▶ To ensure all client interventions are well planned, monitored and evaluated.
3.20	▶ To actively re-engage clients who drop out of treatment..
3.21	▶ To maintain up to date client records (case files and electronic data) and any other monitoring required by WDP.
3.22	▶ To conduct DRR and ATR assessments in the community, via video link and in prison establishments.
3.23	▶ To undertake OSI and other structured interventions.
3.24	▶ To provide input into pre-sentence reports and/or prepare court reports in consultation with probation staff.
3.25	▶ To undertake court duties as and when required.
3.26	▶ To undertake arrest referral duties.
3.27	▶ To facilitate Follow-Up Assessment (FA), Restrictions on Bail (RoB) and Conditional Cautioning (CC) requirements when required
3.28	▶ To develop and adhere to processes connecting Criminal Justice Intervention Service (CJIS) and prisons to facilitate and deliver tracking and follow up of clients at the point of entry and exit from the Criminal Justice System.
3.29	▶ To undertake any other duties as requested by the County Manager or Senior Practitioner
4.	**WDP's commitment to you**
WDP works within the following framework and requires all employees to do the same.	

4.1	Equal Opportunities WDP is committed to promoting anti-discriminatory practices within society, its organisation and in the promotion of its services to the community. WDP expects all employees to understand, comply with and to promote its policies in their work and to challenge prejudice and discrimination and where necessary to undertake any appropriate training.
4.2	Recovery WDP is a recovery focused organisation. Our staff and volunteers are committed to helping our service users improve their health and wellbeing, and to become free from dependency.
4.3	Career Development and Progression At WDP we actively encourage career progression from the talent we have from within and we strive to provide not only promotional progression but to develop a specialist and lead responsibility roles with teams and other services within WDP.
4.4	Safeguarding WDP is committed to ensuring the safeguarding and wellbeing of children and vulnerable adults, and all applicants will be required to demonstrate understanding of and commitment to best safeguarding practice.

7.0 Agency level information sharing agreement

ESSEX DRUG & ALCOHOL ACTION TEAM (EDAAT)

Safer Essex Partnership

Essex Drug & Alcohol Partnership (EDAP)

Information Sharing Agreement (ISA) within Essex DAAT & between Essex DAAT & Partner Agencies

Circulation List:

ADAS Harlow
CDAS Basildon
CDAS Castle Point & Rochford
CDAT West Essex
Changes
DCS Counselling Service
Essex Drug Intervention Programme (WDP)
Essex Young People Drug & Alcohol Service (EYPDAS)
NEEDAS
Open Road
Shaw Trust
Together Personal Development Service
Youth Offending Team (YOT)

Agreed: .....

Authors: .....

Implemented: .....

For Review: .....

Declaration:

I agree to share client information as described in this document.

Signature: .....

Printed Name: .....

Organisation: .....

To facilitate this year's, and future, Needs Assessments we, the Essex Drug and Alcohol Partnership (EDAP), are attempting to introduce a comprehensive Information Sharing Agreement (ISA) to partner agencies. We think such an agreement is an essential tool for partnership working and will fundamentally enhance our ability to provide evidence based commissioning. We are asking that client data be shared between agencies (where no agreements are currently in place) and that on a quarterly basis agencies transmit core client data to the DAAT for counting and quality control exercises.

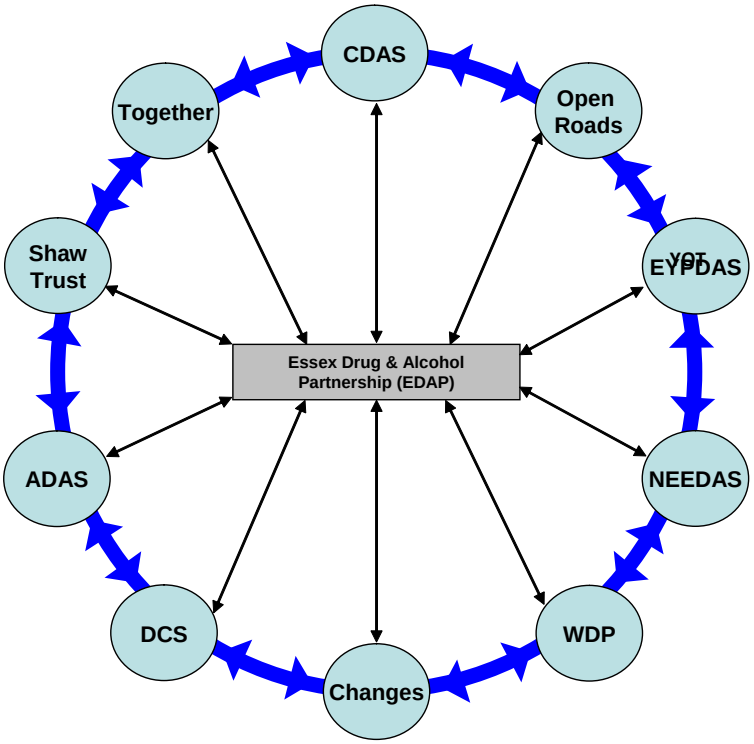
Historically there have been many barriers to information sharing not least the concern that the information might be used for nefarious purpose and so a key message we would very much like to reinforce is that the Partnership's primary focus is not the individual *per se*, except of course in exceptional circumstances, and that we have little desire to monitor clients at the micro level. Any data sent to EDAP will be treated within the strictest of confidentiality environments and will not be passed on to third parties. Also we very strongly support the notion that the sharing of information is not something to be afraid of and is fundamental to the success of any strategy hinged upon evidence based commissioning.

In broad terms our objectives are to negotiate permissions that allow record level access/transfer of data to us and between partner agencies so that on the one hand strategic analyses can be undertaken to better inform our commissioning decisions and on the other that those most at risk to themselves and to the community are better care planned throughout the various agencies they may come into contact with. A key objective for the Partnership this year is to gain a better understanding of the so called 'treatment naive' population.

In the first instance we are asking that client initials, date of birth, gender, ward of residence, substance of misuse (if available) and any relevant performance data e.g. dates, test outcomes etc. be transmitted to the properly designated officer (PDO) so that a matching exercise can be under taken across all the data sets. Any matched data will be treated as purely statistical entities and would be used solely for the purposes of counting. Reports generated from the matching exercise will be produced in aggregate form and once ratified the data will be deleted from the council's secure server system. As the protocol becomes embedded we would very much hope and expect that partner agencies will adopt a more fluid approach to information sharing thereby improving the likelihood of positive outcomes for all concerned.

The proposed data matching exercises will be invaluable in informing the strategic commissioning priorities for next year and will ensure that the partnership is more responsive to serving the needs of local communities in relation to substance misuse. We very much hope that you share our vision of a transparent, cooperative drug treatment system and we look forward to working in partnership with you all.

Drug Treatment data flows within Essex



'Thin' arrows = record level performance data reduced to initials, date of birth & gender
'**Fat**' arrows = full client details up to case management files where section 115 legislates

NDTMS information sharing agreement for Essex

Purpose

1. To facilitate the sharing of patient /client level information between drug treatment agencies and Essex Drug and Alcohol Action Teams (DAAT).

2. To ensure that data sharing complies with legal requirements and codes of practice, particularly the common law duty of confidentiality, Data Protection Act, Human Rights Act, NHS Code of Confidentiality, Caldicott Principles.

3. This agreement may be used to enter into agreements with third parties, such as academic researchers who may be contracted by the DAATs to undertake needs assessment research, but these should also be subject to local information governance protocols and appropriate contractual arrangements relating to data protection.

Key principles

Although patients are owed a duty of confidence for information collected in clinical consultations, the legal frameworks and codes of practice do allow health bodies to share patient information they hold on their users, providing they:

1. Do it lawfully. Lawful sharing generally means:
    a. There is a legitimate reason to share data (justifiable purpose).
    b. The organisations have the power to do so. All NHS bodies and treatment providers have the statutory power to share information in the interests of their clients.
    c. Not breaching legal barriers to sharing

2. Apply principles of good information management. This requires that:
    a. Clients are informed that their data is to be shared and the purposes for which it will be used (fair processing information).
    b. Only data necessary for the purpose is shared.
    c. Data is kept securely.
    d. Clients/ patients can refuse to have their data shared and/or can ask to see what is held on them.
    e. The data is accurate and kept up to date.
    f. Data is kept no longer than necessary.

3. Do it securely:
    a. Ensure that data is held securely at all times
    b. Avoid the inadvertent disclosure of patient details through publication of statistics or inappropriate sharing

Parties to the agreement

This agreement governs the sharing of NDTMS (National Drug Treatment Monitoring System) information between the following parties:

1. Treatment providers commissioned to provide structured treatment for substance misuse in the county of Essex,

2. Essex DAAT which is responsible for commissioning these services in the region. Since DAAT partnerships include a wide range of organisations, it is expected that a named individual with an information analysis role will be the signatory to the agreement, and will ensure that information is only shared with those individuals specified by job title as set out in Annex A. The access rights outlined in Annex A, and any subsequent changes thereto, will be agreed by all signatories

It is expected that any newly commissioned treatment providers will sign up to this data sharing agreement before beginning to submit data to the NDTMS. Appendix B of this document lists the authorised signatories to this data sharing agreement.

What data is to be shared and why

The NDTMS requires the collection of a minimum dataset of information on drug clients in contact with treatment agencies for several reasons:

1. to improve the commissioning of services
2. to help plan and provide appropriate services for drug and alcohol users.
3. to monitor the uses of national and local funding.
4. to monitor and manage the performance of treatment services and DAAT partnerships.
5. to understand and enhance the effectiveness of care for individuals.
6. to improve public health for the population of problematic drug users and alcohol users.
7. to achieve wider health improvement.

The data is to be transferred electronically between and from agencies to the DAAT via a secure email system provided by CJSM.net. All files will be stored on Essex Council's secure intranet in password protected folders. The data to be shared is the NDTMS core dataset including regional fields, collected on a monthly basis. Latest versions of the NDTMS core dataset definition documents can be accessed at http://www.nta.nhs.uk/areas/ndtms/core_data_set_page.aspx. This agreement will also cover any amendments to the core dataset, subject to the annual review outlined in Section 6.

The purposes as outlined in the Data Protection Act to which the data are put are:

1. Health administration and services
2. Research
3. Information and databank administration

Some potentially patient identifiable information will be shared:

- Patients initials, date of birth, sex and postcode, which taken together may be sufficient to allow the identification of an individual by a data controller (the parties to this agreement are all data controllers).
- Local patient identifiers (e.g. client number).

The purposes for sharing patient identifiable information are to:

1. Remove duplicate records to ensure accurate counts of clients, episodes and modalities.
2. Enable records to be linked to track a client's pathway through care and provide information on the effectiveness of the treatment system as a whole.
3. Undertake geographical analysis - postcodes are converted to small area geographical identifiers to allow improved planning of service locations, and to obtain a better understanding of the links between substance misuse and other social factors.

Parties to this protocol agree:

1. To share the information as set out in this protocol
2. To transfer and store information securely
3. To share security and confidentiality policies
4. To allow information audit in case of breaches or potential breaches of security which could compromise confidentiality
5. To inform clients/patients as to how their data is used
6. Not to share records with other parties without explicit consent unless other statutory requirements apply.
7. Not to publish disclosive or potentially disclosive statistical information (i.e. which might lead to inadvertent disclosure of information about an identifiable client) without prior discussion

Implementation and Review This agreement is subject to endorsement by the National Treatment Agency and the Stakeholder Advisory Group of the Regional Drugs Health Information Unit. The

agreement takes effect from and will be subject to an initial review after six months, and annually thereafter.

This agreement is subject to endorsement by the National Treatment Agency and the Stakeholder Advisory Group of the Regional Drugs Health Information Unit. The agreement takes effect from <Enter Date> and will be subject to an initial review after six months, and annually thereafter.

7.1 HMP Chelmsford information sharing agreement

ISA Ref: EDAP/HMP Chelmsford 0001

Purpose: To create a legislative framework for the transfer of sensitive data and information between Essex Drug & Alcohol Action Team and HMP Chelmsford, with the intention to prevent and/or reduce the amount of crime associated with substance misuse.

Partners:	Essex Drug & Alcohol Action Team HMP Chelmsford
Date agreement comes into force:	01/03/2009
Date agreement review:	01/08/2009
Agreement owner: Essex Drug & Alcohol Action Team	

Location of signed agreement: Essex Drug & Alcohol Action Team County Hall

1. Introduction

To facilitate this year's Needs Assessment and future data requirements we, The Essex Drug and Alcohol Partnership (EDAP), are attempting to introduce a comprehensive Information Sharing Agreement (ISA) into all partner agencies. As a Partnership, we think that such an agreement is essential if client data is to be shared and will fundamentally enhance our ability to provide first class evidence based commissioning. We are asking that client data be shared between agencies (where no agreements are currently in place) and that on a monthly basis Essex Police transmit core client data to the DAAT for counting, monitoring and research purpose.

Historically there have been many barriers to information sharing not least the concern that the information might be used for nefarious purpose and so a key message we would very much like to reinforce is that the Partnership's primary focus is not the individual per se, except of course in exceptional circumstances, and as such we have little desire to monitor clients at the micro level. Any data sent to EDAP will be treated within the strictest of confidentiality environments and will not be passed on to third parties unless relevant agreements are in place. Also we very strongly support the notion that the sharing of information is not something to be afraid of and is fundamental to the success of any strategy hinged upon evidence based commissioning.

In broad terms our objectives are to negotiate permissions that allow record level access/transfer of data to us and between partner agencies so that on the one hand strategic analyses can be undertaken to better inform our commissioning decisions and on the other that those most at risk to themselves and to the community are better care planned throughout the various agencies they may come into contact with. A key objective for the Partnership this year is to gain a better understanding of the so called 'treatment naive' population.

In the first instance we are asking that client details including names, date of birth, gender, ward of residence, substance of misuse (if available) and any relevant performance data e.g. dates, test outcomes etc. be transmitted to the properly designated officer (PDO) so that a matching exercise linked to tier two criminal justice treatment data may be under taken. Matched data are treated as statistical entities and are used solely for the purposes of counting. Reports generated from the matching exercise will be produced in aggregate form and once ratified the data will be deleted from the council's secure server system. As the protocol becomes embedded we would very much hope and expect that partner agencies will adopt a more fluid approach to information sharing thereby improving the likelihood of positive outcomes for all concerned.

The proposed data matching exercises will be invaluable in informing the strategic commissioning priorities for next year and will ensure that the partnership is more responsive to serving the needs of local communities in relation to substance misuse. We very much hope that you share our vision of a transparent, cooperative Drug Treatment System and we look forward to working in Partnership with you all.

2. Purpose & powers

2.1. To facilitate the sharing of client attributable information between HMP Chelmsford and

Essex Drug & Alcohol Team.

2.2. To reduce crime associated with substance misuse by improving the targeting and commissioning of drug treatment services

2.3. Enable records to be linked to track a client's pathway through care and provide information on the effectiveness of the treatment system as a whole.

2.4. Undertake geographical mapping exercise with a view to identifying 'hot spots'

2.5. To ensure that data sharing complies with legal requirements and codes of practice, particularly the common law duty of confidentiality, the Crime and Disorder Act 1998 section 115, the Data Protection Act 1998 sections 29(3) & 35 (2), the Rehabilitation of Offenders Act 1974, the Human Rights Act (article 8), the NHS Code of Confidentiality and the principles underpinning the Caldecott Guardian guidelines.

2.6. This agreement may be used to enter into agreements with third parties, such as academic researchers who may be contracted by the DAAT to undertake needs assessment research, but these should also be subject to local information governance protocols and appropriate contractual arrangements relating to data protection.

3. Agreement by partners to:

3.1. Share the information as set out in this protocol

3.2. Transfer and store information securely I.e. via the CJSM.NET

3.3. Share security and confidentiality policies

3.4. Allow information audit in case of breaches or potential breaches of security which could compromise confidentiality

3.5. Inform clients/patients as to how their data is used

3.6. Not to share records with other parties without explicit consent unless other statutory requirements apply.

3.7. Not to publish disclosive or potentially disclosive statistical information (i.e. which might lead to inadvertent disclosure of information about an identifiable client) without prior discussion

4. Information to be shared

4.1. Retrospective data from April 1 st 2008 followed by monthly extracts

4.2. Reports drawn from the data to the police in aggregate form

4.3. Data to be transmitted CSV file

4.4. The data will relate to Essex County clients only and will include drug and alcohol information

4.5. Data items to include client name, date of birth, gender, post code.

5. Constraints on the use of the information

5.1. The raw information shared by the police must not be disclosed to any party outside of this agreement. Any intention to do so must involve a review of this agreement

5.2. Any police information shared is only valid at the time of provision and should only be used for the purposes requested.

6. Roles and responsibilities under this agreement

6.1. Each partner must have appoint a single point of contact (SPoC), who must work together to ensure the processes of the agreement are fully adhered to.

I-IMP Spoc	Title:
DAAT Spoc	Title: EDAAT Information Manager Contact details: Tel 01245 434655 Email Marc.Connor@essex.gov.uk

7. Review retention and deletion

7.1 Partners to this agreement undertake that personal data shared will only be used for the specific purpose for which it was requested. The recipient of the information is

required to keep it securely stored and will dispose of it when it is no longer required for the purpose for which it was requested.

7.2 The recipient will not release the information to any party beyond the judicial system without first obtaining the express written authority of the partner who provided the information.

8.0 Review of the information sharing agreement.

8.1. This information sharing agreement will be reviewed six months after its implementation and annually thereafter. The nominated holder of this agreement is Essex Drug & Alcohol Action Team. It is based on the national template for information sharing, which forms part of the guidance issued on the management of police information by the Association of Chief Police Officers (ACPO) and the Home Office (HO),

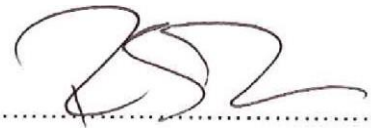
9.0 Indemnity

9.1. Essex Drug & Alcohol Action Team as receivers of police information will accept total liability for a breach of this Information Sharing Agreement, should legal proceedings be served in relation to a breach.

10. Signature

10.1. By signing this agreement all signatories accept responsibility for its execution and agree to ensure that staff are trained so that the requests for information and the process of sharing itself is sufficient to meet the purposes of this agreement.

10.2. Signatories must also ensure that they comply with all relevant legislation.

Signed on behalf of HMP Chelmsford 

Title... GOVERNOR

Date. 13/5/09

7.2 InsideOut client information sharing agreement

Client Consent Form

Inside Out is a confidential service designed to help you.
It may be helpful to share information with others to fully understand your current situation. We will only share information that is relevant to your health and care needs. We will respect the confidentiality of any information shared with agencies. The following information is designed to help you give us informed consent.

Continuity of Care *(requires informed consent)*

I have been asked by _____ (Practitioner) my worker with **Inside Out** (delivered by Westminster Drug Project) whether I give my consent to the information I have given being used by the CJIT and CARATs as well as by those other agencies set out below that I have indicated so that I can get the support I need.

I have ticked below the agencies that I **do not** agree this information being shared with and between. I understand that my consent does **not** need to be given again in order for this information to be passed on and shared **between** these agencies. I understand that this information is being shared **with a view to ensuring and assisting the continuity of my care.** I am aware that I can withdraw my consent to this information being shared with any or all of these agencies at any time.

I have been told that where I have not agreed to my information being shared with and between any of the following agencies this will not prevent me getting the support that I need, but I understand that it may delay the process.

The following are agencies and people who generally are able to help.

Please indicate those you do not consent for us to contact:

GP ☐ Legal representatives ☐

Health Services	☐	NDTMS/NTA/Home Office*	☐
Prescribing Agencies (Tier 3)	☐	Criminal Justice Agencies	☐
Treatment Facilities (Tier 4)	☐	Carer/Partner	☐
Employment & Training Services	☐	Social Services	☐
Housing Services	☐	Probation	☐

Other – Please state _____ ☐

Other – Please state _____ ☐

Other – Please state _____ ☐

Other – Please state _____ ☐

Other – Please state _____ ☐

* See 'Monitoring & Research'

Monitoring and Research

Some information gained from your assessment interview is collected for monitoring and research purposes. It will enable the effectiveness of the Drug Interventions Programme (DIP) to be monitored and evaluated, and help to identify ways in which the programme might be improved in the future. The information will be sent to the Home Office which administers the scheme.

The information may also be passed to other central organisations, such as the National Treatment Agency (NTA) or Department of Health, in order to link it with data from research and other criminal justice interventions. Again, this is purely for research purposes in order to monitor and evaluate the effectiveness of the Programme as a whole.

The NDTMS system involves collecting information about the type of treatment you receive from a treatment agency. Sometimes you may be seen by more than one agency. Consequently, to avoid duplication of reporting, NDTMS may share a minimal amount of information about you between the agencies from which you may have received treatment.

Your full name and address are **not** recorded. Instead your initials, gender, and date of birth are collected to make sure that you are not counted twice and to match it with data from treatment and other criminal justice interventions. Any material that is published by the Home Office or other central organisations as a result of receiving this information will **not** identify individuals.

All information, whether stored on paper or electronically, will be kept in a secure environment and for only as long as necessary. The Home Office will adhere strictly to all requirements of the Data Protection Act 1998.

Personal data will not be used for purposes other than those for which it was gathered (research and monitoring) and all information gathered for research and monitoring will be processed according to the data Protection Act 1988.

Confidentiality

However, whilst you can speak to your **Inside Out** worker in confidence, he/she may be obliged to break the confidentiality of this agreement for any of the reasons stated below (and notify the relevant authorities accordingly).

- If he/she suspects there is any neglect or mistreatment of children.
- If he/she suspects that you would seriously harm yourself or cause serious harm to another.
- If you disclose details of a serious crime committed, or that you are aware is going to be committed.
- If you disclose anything that risks safety or security within these premises.
- If there is any evidence of use or supply of illicit substances on community premises.

Complaints Procedure

We endeavour to provide a good service, however we value feedback and try to learn from feedback we receive. If you wish to make a complaint there is a WDP complaints procedure which you can access if you feel the need to do so. Please ask any member of the team for a leaflet and further details.

Client refuses to give consent to contact anyone ☐
Client unable to sign consent form but indicates agreement ☐

Client Name: **Client DOB:**

Client Signature: **Date:**

Worker Signature: **Date:**

8.0 Supplementary tables

Supplementary table 8.1: Post hoc power calculations

Process/Outcome

Count of people released to the Essex County Drug Recover Partnership from HMP Chelmsford via the CARAT & InsideOut Teams between 01/04/2008 & 31/03/2012

	n		% activity		% Power	
	CARAT	InsideOut	CARAT	InsideOut	alpha = 0.05	alpha = 0.01
Total people released	255	278	n/a	n/a	n/a	n/a
With continuity of care (a)	70	116	27%	42%	95.5	85.8
Into treatment (a)	26	56	10%	20%	89.9	74.2
Return to prison (a)	93	59	36%	21%	97.1	89.9

Supplementary table 8.2: Per capita acquisitive and drug crime

Area Name	Population figures (mid-2015)[3] - rounded to 100	Household figures (mid-2015)[4] - rounded to 100	Rate per 1,000 population7	Theft offences	Drug offences
ENGLAND AND WALES[8]	**57,885,400**	**24,316,900**	**70.0**	**30.8**	**2.4**
ENGLAND	**54,786,300**	**22,984,500**	**69.5**	**30.8**	**2.4**
Metropolitan Police	8,665,000	3,518,400	86.9	41.5	4.6
West Midlands	2,833,600	1,127,100	68.7	33.3	1.9
Greater Manchester	2,756,200	1,167,100	83.1	38.4	1.6
Thames Valley	2,358,600	941,900	56.3	28.5	2.1
West Yorkshire	2,281,700	948,600	96.6	43.6	2.2
Hampshire	1,953,700	818,800	70.7	25.4	1.9
Kent	1,801,200	749,200	67.8	27.4	1.6
Essex	1,787,000	748,600	64.6	28.5	1.6
Devon and Cornwall	1,720,900	748,800	46.5	16.4	2.1
Sussex	1,665,600	728,800	60.0	22.8	2.0
Avon and Somerset	1,664,200	707,800	76.1	31.8	1.9
Lancashire	1,478,100	629,200	69.1	30.7	1.6
Northumbria	1,437,500	637,400	78.6	29.9	2.2
Merseyside	1,398,000	617,500	74.7	31.2	4.2
South Yorkshire[9]	1,374,700	581,200	76.7	37.7	1.8
South Wales	1,307,000	558,700	72.4	28.9	2.9
West Mercia	1,249,200	530,600	60.6	23.9	2.0
Surrey	1,168,800	473,000	50.7	19.7	1.7
Hertfordshire	1,166,300	477,500	57.8	24.8	2.9
Nottinghamshire	1,124,700	476,100	63.2	29.5	2.5
Staffordshire	1,114,200	474,600	65.7	24.1	1.8
Leicestershire	1,056,000	422,100	59.4	30.8	1.1
Cheshire	1,043,500	450,600	54.7	21.1	2.2
Derbyshire	1,036,600	446,900	50.7	23.9	2.1
Humberside	925,100	403,200	78.2	35.8	1.5
Norfolk[10]	885,000	385,900	54.5	19.5	2.1

Cambridgeshire	841,200	342,100	61.4	29.7	1.9
North Yorkshire	809,100	349,700	46.0	20.8	2.1
Dorset	765,700	338,200	57.1	25.4	2.2
Suffolk[11]	741,900	320,100	59.2	23.0	1.7
Lincolnshire	736,700	318,300	49.2	24.3	2.0
Northamptonshire	723,000	301,800	70.6	32.8	1.9
Wiltshire[13]	703,300	295,900	55.5	21.1	1.8
North Wales	694,500	301,200	57.6	20.6	1.9
Bedfordshire	655,000	260,200	63.6	30.8	1.8
Durham	625,100	275,200	66.2	25.3	1.8
Gloucestershire	617,200	265,200	48.5	25.6	1.4
Gwent	581,800	247,500	66.8	26.9	2.4
Cleveland	562,100	241,100	88.4	40.2	2.5
Warwickshire	554,000	237,000	60.3	27.4	1.8
Dyfed-Powys	515,900	225,000	42.5	13.0	4.2
Cumbria	498,000	223,800	51.2	18.3	1.9
London, City of[12]	8,800	4,900	+	+	+

Supplementary table 8.3: Mean waiting times to treatment

Continuity of care	Length of time to engagement with the community drug treatment system within the first twelve months of release from prison				
	N	mean	min	max	stDev
Yes	100	55.7	0	351	90
No	51	119.7	1	356	113.3

Supplementary table 8.4: Mean times in treatment

Continuity of care	Length of time to engagement with the community drug treatment system within the first twelve months of release from prison				
	N	mean	min	max	stDev
Yes	100	192.4	0	365	126.6
No	51	153.0	3	365	122.1

Supplementary table 8.5: Mean times return to prison

Treatment	Length of time to return tp prison within the first twelve months of release from prison				
	N	mean	min	max	stDev
Yes	32	220.6	34	364	96.0
No	147	128.0	1	347	101.8

Supplementary table 8.6: Mean waiting times InsideOut and CARAT

Performance activity	Organisation					
	CARAT			InsideOut		
	Count	Mean	StDev	Count	Mean	StDev
Total number of people engaging with treatment	26	124.7	120.1	56	90.4	112.1