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Protocol for National Substance Misuse Rehabilitation Cohort Study

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Foreword

The core task of the NACD is to advise Government about the prevalence, prevention, treatment and consequences of problem drugtaking in Ireland. In developing such advice the NACD reviews and evaluates published literature and data but more usually it commissions external research on the range of issues covered by its remit. The results of those studies are published when they have been considered by Government.

In the course of these studies the NACD may obtain information and/or data which might not be included in the final report. This material could for example, explore methodological issues pertaining to a particular topic. It could also derive technical or scientific material which might not be of immediate interest to policy makers but which might be interesting to researchers or workers in the drugs area. The NACD has decided to make these materials available to a wider readership through a Working Paper Series to be published on the NACD website.

This third paper in the series examines some of the methodological and conceptual issues surrounding the design of a protocol for a national substance misuse rehabilitation study. It arises from the desire of the NACD to prioritise within its work programme a study which would build on the ROSIE, Research Outcome Study, which looked at the impact of treatment on opiate users entering a treatment programme. The title chosen is itself important as the aim will be to include rehabilitation outcomes for those recovering from alcohol-related problems as well as for those recovering from problematic use of other drugs. This reflects the emergence of integrated approaches, not only to treatment and rehabilitation, but also to other responses to the misuse of substances such as alcohol, prescribed and OTC medicines and illicit drugs nationally. A project team consisting of Maria Gannon, Neil McKeganey and Gordon Hay from the University of Glasgow was the successful tenderer for research into a possible study protocol. While their report will be used to inform the parameters of a NACD study planned for 2012, it was felt that the report would be of interest to others including not only those groups planning to tender for that study, but also those in the Regional and Local Drugs Task Forces involved in treatment and rehabilitation as well as the agencies and projects which provide those services at present.

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Dr Des Corrigan
Chairperson



Executive Summary

The National Advisory Committee on Drugs (NACD) commissioned the Centre for Drug Misuse Research at the University of Glasgow to design a protocol for a cohort study examining rehabilitation among Irish substance misusers.

This report has two key elements; a review of the literature and the proposed study designs. The literature review focuses on previous cohort studies involving samples of substances misusers from representative treatment modalities. These key longitudinal studies examined treatment effectiveness through the measurement of various outcomes related to recovery. The review also examines duration of treatment; its relationship with positive outcomes and the identification of optimum length of stay for different treatment modalities as well as examining rehabilitation focussed studies.

The second section of the report discusses the definition of rehabilitation and how best to evaluate rehabilitation in Ireland. The research team have presented a number of possible cohort study designs:

- Enhanced version of ROSIE focussing on rehabilitation outcomes
- Sample ex-clients and assess their progress to rehabilitation
- Systemic evaluation of rehabilitation
- Combined systemic evaluation and ex-client assessment
- Multiple mini-cohorts focussing on rehabilitation oriented services
- Virtual mapping

The advantages and challenges related to each possible design are discussed in turn. Following discussions with the NACD the most promising study design was selected and is discussed in the conclusion of the report.



Introduction

The aim of this report is to provide the NACD with a number of possible cohort study designs that will enable researchers to examine substance misuse rehabilitation in Ireland.

The ‘Report of the Working Group on Drugs Rehabilitation’ (Department of Community, Rural and Gaeltacht Affairs 2007) gives the following broad definition of substance misuse rehabilitation:

‘Drug rehabilitation, therefore, encompasses interventions aimed at stopping, stabilising and/or reducing the harm associated with a person’s drug use as well as addressing a person’s broader health and social needs.’

If this definition were applied directly to a cohort study this would mean examining a wide array of outcomes across a number of different treatment modalities. A number of previous large scale substance misuse cohort studies have attempted to do exactly that and our report begins with a review of the literature relating to these studies. We also examine the literature surrounding ‘optimum length of stay’ and its relationship with positive treatment outcomes. This leads to a discussion of the definition of substance misuse rehabilitation and how to measure outcomes related to rehabilitation. Finally, we present six possible cohort study designs outlining the challenges proposed by the different procedures.



Section 1: Literature Review

There have been a number of recent large cohort studies carried out examining substance misuse in America (DATOS), Australia (ATOS), Ireland (ROSIE), England (NTORS) and Scotland (DORIS). In the review we have focussed on the study design, the outcomes they have proposed measuring, the instruments used to measure the outcomes and key findings.

We have also examined the literature relating to long-term rehabilitation/recovery from substance misuse. Another aspect of the review focuses on the relationship between length of stay and treatment effectiveness, the ability to model this relationship and the possibility of calculating the optimum length of stay for various treatment modalities.

The literature review component of this study does not constitute a full systematic review due to the wide range of relevant studies identified and the short time scale for the work, which ruled out full critical appraisal, data extraction and meta-analysis of studies. The approach taken was to identify a search strategy, using key words, and to apply this strategy to a range of relevant databases and websites. The key words used are listed below.

Search Strategy:

Drug users
Problematic drug use/users
Drug misuse
+
Rehabilitation
Recovery
Residential Rehabilitation
Residential Treatment
+
Cohort
Longitudinal
Retention
Length of stay

The following databases were searched for references from 2000 onwards using the strategy: Medline, Social Science Citation Index and Science Citation Index (Web of Science) and the Exchange on Drug Demand Reduction Action (EDDRA) database. The Evaluation Instrument Bank maintained by the European monitoring Centre for Drugs and Drug Addiction was also searched. a number of relevant websites were also searched to identify relevant grey literature.

Due to the broad nature of the search strategy over 4,800 relevant references were initially identified and following the removal of a large number of duplicates the remaining references were then screened on the basis of title only, to identify the extent to which the publications were relevant to the terms of the review. Following screening by title, abstracts of the remaining sources were obtained and a further screening stage took place. The result was that 54 publications, consisting primarily of peer-reviewed journal articles, were identified for review. These publications were reviewed by the research team and key findings extracted and summarised according to the themes outlined above.



1.1: Study designs

The five recent cohort studies have all followed a familiar outline. a large sample of substance misusers were surveyed at intake and then again at a number of specified time points.

The Drug Abuse Treatment Outcome Studies (DATOS) had an intake sample of 10,010 substance misusers from 96 treatment programmes across 11 cities (Flynn 1997). From this original sample 2,966 were selected for follow-up. This selection procedure was not random but based on the client's completion of the 2-step intake procedures to maximise successful follow-up. Four main treatment modalities were included; outpatient methadone treatment, long term residential rehabilitation, outpatient drug free treatment and short term residential rehabilitation. Clients were surveyed during treatment at 3 and 6 months to gather data on treatment satisfaction and at 1 year and 5 years post treatment.

The Australian Treatment Outcome Study (ATOS) recruited 715 substance misusers from three main treatment modalities; methadone/buprenorphine maintenance, drug free residential rehabilitation and detoxification (Darke 2005). This study also attempted to gather information from those not currently in treatment or seeking treatment at intake by including a sample from needle exchange services. The study protocol required repeat surveying of participants occurring at baseline, 3, 12, 24 and 36 months.

The Research Outcome Study in Ireland (ROSIE) followed a sample of 404 substance misusers from four distinct treatment settings, methadone maintenance/reduction, structured detoxification, abstinence oriented and needle exchange (Cox 2006). The cohort was surveyed at baseline, 1 and 3 years.

The National Treatment Outcome Research Study (NTORS) recruited a sample of 1,075 clients from four different treatment settings which included; inpatient drug dependence units, residential rehabilitation programmes, methadone maintenance and methadone reduction programmes. Participants were surveyed at intake, 1 year, 2 years and 4-5 years (Gossop 2003).

The Drug Outcome Research in Scotland (DORIS) study followed a sample of 1,033 substance misusers from a range of treatment settings including; substitute prescribing, non-substitute prescribing, counselling, residential rehabilitation and detoxification (McKeganey 2008). a sample was also drawn from five Scottish prisons. Participants were surveyed at intake, 8, 16 and 33 months.

The majority of the cohort studies purposely sampled from specific treatment modalities in order to reflect the various treatments on offer in their respective countries. The ATOS study took a different approach with the three main treatment modalities to be investigated agreed prior to commencement of the research. The agencies were then divided into the three corresponding groups and a random sample selected from each modality. The participants were then recruited from the selected agencies.

All of the longitudinal studies collected baseline demographic data plus data on a range of topics relating to positive outcomes. The following section explores the assessment tools applied by each study.



1.2: Assessment tools

The five major cohort studies relied on three main instruments for measuring treatment outcomes; the Opiate Treatment Index, the Maudsley Addiction Profile and the Addiction Severity Index. This section gives an outline of the three instruments and mentions a number of other tools used to augment the information already provided by the main questionnaire. Copies of the instruments have, where possible, been included in the appendix to this document.

The Opiate Treatment Index (Darke 1992) was used by ATOS to examine drug using behaviour and assess changes in behaviour. The questionnaire measures outcomes relating to six independent domains;

- Drug use
- HIV risk taking behaviour
- Social functioning
- Criminality
- Health status
- Psychological adjustment.

Scores are calculated for each section and the higher the score the greater the degree of dysfunction. The survey takes 30 minutes to administer.

ROSIE, DORIS and NTORS all used the Maudsley Addiction Profile (MAP) to examine treatment outcomes. MAP, developed by Marsden *et al* (Marsden 1998) examines treatment outcomes in four main areas;

- Substance use
- Health risk behaviour
- Physical and psychological health
- Personal/social functioning.

The physical and psychological health questions were adapted from previous tools. The Physical health measures were based on the corresponding areas of the OTI and the measures of anxiety and depression were derived from the Brief Symptom Inventory (Derogatis 1975). In its briefest form MAP can be administered in 12 minutes but can be adapted into a larger more detailed tool as in the case of the DORIS questionnaire.

The main instrument favoured by DATOS to measure outcomes was the Addiction Severity Index (ASI). The index was designed (McLellan 1992) to gather information relating to six key areas;

- Medical status (including HIV and HCV status)
- Drug and alcohol use
- Employment
- Family/social relationships
- Legal status
- Psychiatric status.



The questionnaire was designed to take repeat measurements and like MAP and OTI can be adapted to take into account different timescales. The ASI takes 30-45 minutes to administer.

In addition to the main tools mentioned above three of the main studies use the Severity of Dependence Scale (SDS) to assess the level of drug dependence among their cohorts. NTORS, DORIS and ROSIE all made use of the SDS (Gossop 1995), a questionnaire that focuses on anxiety and control issues relating to substance misuse dependence. The tool is composed of five questions each scored on a four point scale which can be combined to give an overall score; high scores indicate high drug dependence. The SDS can be used to measure dependency of a number of drugs including heroin/opiates, amphetamines and cocaine.

ATOS, DORIS and ROSIE supplemented their information on the physical and mental health of participants by using the 'Short Form for Health' (McHorney 1994) in either its brief (SF-12) or extended (SF-36) format. This instrument gives self report information on the physical and mental health of the participant and can be used to measure change at different time points.

DATOS and ATOS both included a measure of treatment readiness in their survey instruments. DATOS made use of the 'Circumstances, Motivation, Readiness and Suitability' (CMRS) scale developed by De Leon *et al* (De Leon 1994) and ATOS used the 'Readiness to Change Questionnaire' (Heather 1993).

Both DORIS and DATOS collated data on treatment satisfaction to explore the links between treatment satisfaction and positive outcomes. DORIS used the Treatment Perception Questionnaire (TPQ) a 10 item questionnaire developed by Marsden *et al* (Marsden 2000) which when analysed gives an overall treatment satisfaction score.

Although there were three differing main assessment instruments used as part of the major substance misuse cohort studies it is clear that they all have large amounts of overlap and that the studies based in the UK and Ireland have used adaptations of the same basic tool. The next section outlines the main findings produced by these outcome measures.

1.3: Ability to show change over time

All of the major cohort studies showed a reduction in the use of the primary drug overtime. ATOS (Teesson 2006) at year 1 found substantial reductions in the use of heroin and other drugs across all three treatment modalities. The percentage of those abstinent from heroin in the past month increased from 3% to 65% for methadone maintenance, 0% to 52% for detoxification and 2% to 63% for residential rehabilitation. However, large percentages of participants from all modalities had used heroin at some point during the past 12 months. It was also possible to show from ATOS results at year 2 (Darke 2006) that reduction in primary drug of use did not automatically result in an increase in use of other substances. For cases where heroin was the primary drug of use a reduction was seen in the use of cocaine, amphetamines and benzodiazepines as well. This did not, however, extend to the use of cannabis and alcohol, whose levels remained fairly constant throughout.

DATOS (Hubbard 1997) also showed a decrease in substance misuse at the 1 year follow-up point. Those interviewed at year 1 reported 50% less weekly or daily cocaine use. These reductions were greater for those receiving treatment for 3 months or more.



NTORS (Department of Health 1998) found that substance misuse had reduced among participants receiving treatment in both community and residential settings. At year 1 regular use of illicit opiates among those in residential rehabilitation units decreased from 69% at intake to 40% at follow-up. For those receiving treatment in a community setting the regular use of illicit opiates reduced from 86% at in-take to 55% at year 1.

DORIS and ROSIE also reported a decrease in substance misuse among the cohort from intake to first follow-up (McKeganey 2008, Cox 2006). ROSIE researchers found that use among the sample reduced from 81% at intake to 48% at year 1 and frequency of use in the last 90 days dropped from 42.6 days at time one to 15.8 days at follow-up. DORIS also measured a decrease in heroin use among the Scottish sample with 87% of the cohort using heroin in the last 90 days at intake dropping to 65% at the 8 month follow-up.

Another important outcome was the level of abstinence among the cohorts. As part of the intake questionnaire for the DORIS study (McKeganey 2006) participants were asked what they wanted from their treatment experience. Given a number of options, 76% of participants said they wished to become drug free. Nine percent of the sample was abstinent at intake and the figure increased to 18% by the eight month follow-up point. NTORS also showed an increase in abstinence. For participants in a residential setting abstinence rates for illicit opiates increased from 22% at intake to 50% at the year 1 follow-up. The level of abstinence from opiates also increased among the community sample from 5% to 22%. ATOS reported as part of its year 1 outcomes that 14% of the sample was abstinent from heroin for the preceding 12 months. ROSIE noted that 27% of the cohort was abstinent from all drugs at the 1 year follow-up.

A reduction in risk behaviours relating to injecting was also widely reported, which is possibly to be expected if there is a reduction in the use of heroin. NTORS (Department of Health 1998) showed a drop in the level of injecting drug use across both residential and community treatment settings with injecting among residential clients falling from 61% to 33% and rates among the community sample also dropping from 62% to 45%. This cohort also reported a worryingly high level of sharing of injecting equipment at intake with 19% of residential clients and 13% of community clients having shared injecting equipment in the three months prior to interview. By the follow-up interview at year 1 these rates had fallen to 7% for the residential group and 5% for those treated in the community. ATOS had a high percentage of daily injectors among its cohort at baseline for all three treatment modalities and showed large reduction across board with daily injecting falling from 78% to 7% among methadone maintenance clients, 84% to 23% for those in the detoxification group and from 75% to 15% for those in residential rehabilitation. The ROSIE (Cox 2006) cohort also followed this trend in injecting behaviour with the percentage of injectors dropping from 46% at intake to 29% at 1 year follow-up. The frequency of injecting also reduced from 20.8 out of the previous 90 days to just 9 days.

All of the five large cohort studies were able to show decreases in main drug of use and increased abstinence over the time periods measured (Gossop 2003, McKeganey 2008, NACD 2009, Simpson 2002, and Teesson 2008). These positive outcomes were at their most extreme level when measured at time of first follow-up. For example ATOS reported a drop in heroin dependence from 99% at intake to 51% at 3 months but reductions at subsequent time points were more modest. This trend was mirrored across the other studies with the first follow-up reporting large significant changes which were sustained across time points but did not produce further significant changes.



The cohort studies also reported reductions in criminal behaviour among their participants over the course of the research. DATOS (Simpson 2002) reported a decrease in illegal activity from 40% at intake to 25% five years on. This was not a straight forward finding as only 16% reported involvement in illegal activity at year 1 but this level increased slightly by the time of the last interview. The percentage of participants arrested also decreased from 34% at intake to 18% at year 5. ATOS (Teesson 2006) also found a reduction in criminal behaviour among its cohort 55% at baseline to 15% three years on. This was associated with having had more separate treatment episodes over the study period. NTORS measured acquisitive crime and drug selling and involvement in both of these activities decreased from the beginning of the study to the final round of interviews. This reduction was apparent across both community and residential based treatment programmes. Acquisitive crimes were halved for both groups by year 1 and this was sustained at the 4-5 year follow-up. There were a number of criminal behaviours outcome measures reported in ROSIE (NACD 2009). Drug selling in the last 90 days significantly reduced from 30% at intake to 12.6% at year 3. The level of shoplifting also decreased across the study period from 17.5% at baseline to 7.6% for the final follow-up. DORIS (McKeganey 2008) reported higher levels of acquisitive crime at baseline, with 66% stealing in the last 90 days. This figure dropped to 36.5% at 33 months. DORIS also found a reduction in the percentage of those arrested in the last 6 months from 95.1% to 52.6%. These findings indicate that involvement in treatment can reduce levels of criminal behaviour but as shown in ATOS this can be related to how clients engage with services.

Substance misusers' involvement in training and employment can be indicative of their progress on the path to recovery. This outcome was not measured by all of the longitudinal studies and those that did attempt to quantify progress in this area met with mixed results. ROSIE (NACD 2008) reported a significant increase in the percentage of those taking part in a training course in the last six months, rising from 15.6% at intake to 32.8% at year 3. Although this increase is positive it still shows that 3 years after treatment only about a third of clients are involved in training. Reports of recent employment (last 90 days) increased over the course of the study from 21.3% to 30.1%. DATOS showed an increase in full time work for all participants across the four treatment modalities under study. Those involved in long term rehabilitation had the lowest employment rate at intake (10.6%) and this rose to 36.4% five years on. Short term rehabilitation started with the largest employment rate at baseline with 51.4% working full time. This figure increased to 54.3% by the fifth sweep of the study. The employment rates for outpatient methadone clients rose from 14.9% to just over a quarter at 25.1% and the outpatient drug free group increased numbers in full time work from 18% to 42.3%. DORIS (McIntosh 2008) found that only 1 in 5 of those surveyed at 33 months had been in paid employment since the last interview, less than the ROSIE figure of 30.1%. McIntosh *et al* examined the factors associated with paid employment and found that it was closely related to the SDS score. However, receiving employment related assistance was the strongest factor associated with achieving paid employment.

The repeat survey methods used in the five main cohort studies outline above have the ability to show changes in outcomes such as drug use, criminality and risk behaviours. They are all able to identify improvements one year on from treatment initiation but struggle to show further progress in their later follow-ups. This could be due to the fact that the follow-ups do not cover a long enough period of time to report on this or that the cohort's needs have changed over time and the survey tool does not reflect this shift in priorities. In his overview 'Social reintegration as a response to drug use



in Ireland' Keane identifies three key areas related to rehabilitation; training, employment and housing. The large cohort studies cover a wide range of outcomes and these three topics, although included in the survey instruments, are not given as much attention as other outcomes e.g. reduction in primary drug use. The following section examines the literature relating to long-term rehabilitation/recovery from substance misuse and includes a number of studies that focus on training and employment. These studies also extend the methodology used to include qualitative techniques in an effort to answer research questions relating to sustained recovery.

1.4: Studies with a rehabilitation/recovery focus

Examining the literature on rehabilitation/recovery from drug and/or alcohol use brings into focus the divide between measuring treatment effectiveness and recovery. There are many studies that measure the different aspects of treatment effectiveness and evaluate various interventions relating to drug and alcohol treatment but few are concerned with long-term recovery.

The concept of recovery itself is outlined by White and an attempt made to define it. He describes recovery as both a status and a process which not only includes the user but also families and communities affected by misuse:

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

This concept of recovery extending to those in the wider community is explored further in a review of historical and contemporary addiction treatment in America (White 2009). After examining Native American recovery movements, alcoholics anonymous and other community support programs he concludes that recovery is a stage-dependent process and that treatment is not recovery. Therefore what is required to sustain recovery is different to what is required to initiate it. He advocates a move from intrapersonal perspective (encouraging resilience) to systems focused on 'sustained recovery management' like other chronic conditions.

With this definition of recovery in mind a number of studies have attempted to identify the predictors of long-term rehabilitation by recruiting samples of long-term abstinent drug or alcohol users. Hser *et al* reported results from a cohort study lasting over 30 years. An original cohort of 581 heroin users was recruited from treatment facilities and followed for over 30 years and interviewed every 10 years. The remaining 242 participants were interviewed for the third time from 1996 to 1997 and their responses were analysed to identify predictors of long-term stable recovery. They found that increasing self-efficacy and addressing psychological problems enhances long-term stable recovery.

Best and McIntosh also examined the factors relating to long-term recovery. Best *et al* interviewed a sample of 107 former problematic heroin users who had been abstinent for an average of 10 years. This sample was not part of a long-duration cohort study but was recruited through a residential treatment facility, a drug use symposium and by advertising in a specialist journal. When asked the reason for finally achieving abstinence, most participants said they were 'tired of the lifestyle'. They're psychological health was also mentioned as a motive for ceasing to use drugs. Respondents



identified factors relating to sustaining recovery these were; changing their social networks, finding new drug-free friends and practical factors such as stable housing and employment.

McIntosh also interviewed a sample of ex-heroin users. At the time of interview the 70 participants had been abstinent from heroin an average of 4.3 years. The sample was recruited using a combination of three methods; snowball sampling, treatment agencies and newspaper advertisements. Through qualitative interviews, the study explored the respondents' journeys from addiction to recovery and found three common themes; reinterpretation of aspects of their drug using lifestyle, reconstructing their sense of self and the ability to find explanations for their recovery.

Tiburico *et al* examined long-term recovery from heroin addiction by a group of female ex-offenders. a sample of 25 women recruited from 12 step support groups. a mixture of research methods were applied with semi-structured interviews, participant observation and detailed field notes used in the analysis. Positive peer support, motivational tools, exercise, meditation and skills enhancement were found to enhance recovery. The small sample size and restriction to female users mean that the results have a limited application.

Scott *et al* looked at a far larger sample of 1,054 substance users recruited from 12 treatment agencies in Chicago. Participants were surveyed at baseline, 6 months after intake and 24 months after intake. The survey tool included ASI and part of the Global Appraisal of Individual Needs (GAIN). The data was used in a path analysis to determine predictors of recovery at 24 months. Better long-term outcomes were related to a supportive recovery environment and participation in aftercare or 12 steps groups.

Laudet recruited a sample of 289 former users that described themselves as 'in recovery' and asked them to explain what the term recovery meant to them. The sample was recruited through free newspapers and flyers and interviewed once a year for three years. The sample were abstinent an average of 38.2 months at interview. The majority of those interviewed defined recovery as total abstinence but they also see it as a process of self-change with no particular endpoint.

These studies attempted to discover factors relating to stable recovery or have tried to elicit former addicts' views on recovery/rehabilitation. Some have employed the traditional cohort study template of following a sample over time and extended the duration in order to measure long-term effects others have used novel ways of recruiting a more mature sample of recovering users. The following group of studies have not had the same general approach but have focussed on single issues relating to long term recovery such as employment, social support and participation in continuing care. The next section describes the various studies and outlines the methods used.

Employment

Employment is seen by both users and service providers as a key aspect of recovery. Cebulla *et al* asked a sample of 30 former users about their work histories and the part employment played in their recovery. The sample was recruited through drug and alcohol support agencies; 20 former drug users and 10 former alcohol misusers. Overall employment was seen as a benefit to recovery but users perceptions of 'work-readiness' differed according to the stage of recovery they had reached. a staged reintroduction to the labour market was recommended and a closer working relationship between treatment agencies and employment services was encouraged.



Reif, Lidz and Gold all evaluated different interventions to boost employment among recovering substance misusers. Reif examined the impact of employment counselling on a sample of 297 users recruited from non-methadone prescribing outpatient services. They were split into two groups one that received the intervention and another that did not. Both groups were surveyed at intake and again one year on. The group that had received employment counselling had increased levels of employment on discharge. Lidz explored the effect of three different prevocational training interventions targeted at methadone maintenance clients. In order to increase employment and aid recovery three different programs were offered; a job seekers workshop, a vocational problem solving workshop and a combination of the two. The sample of 417 was randomly assigned to the three interventions and surveyed at intake, six months and 12 months later. None of the groups had a significantly greater level of employment or better overall rehabilitation at follow-up. Lidz *et al* recommended closer integration of prevocational training with treatment and the individualizing of efforts to meet treatment needs. Researchers also suggested that if former users received support during job-finding and early job holding this might improve the effectiveness of these types of programs. Gold investigated the application of an intervention used to help the reintegration of those with mental health issues and disabilities to a sample of recovering substance misusers. Assertive Community Treatment (ACT) is an integrated set of treatment, rehabilitation and support services co-ordinated by a team rather than a single case manager. a sample of 35 substance misusers received the ACT intervention and were surveyed three times; at intake, six months and 12 months. a sample of the professionals providing the intervention was also surveyed. The research team found only modest improvements in drug use and employment.

Social influences/networks

The importance of social networks and supports to the recovery process has already been acknowledged and a number of studies have focussed on this area of rehabilitation. Weisner *et al* examined the effect of community services and informal support on a sample of those dependent on alcohol and problematic drinkers over a five year period. The sample was recruited from two distinct sources; 926 from private and public treatment agencies and 672 were recruited from the general population using a telephone screening tool. The sample was interviewed at intake and followed up at 1, 3 and 5 years. a number of topics were covered such as basic demographics, alcohol use, alcohol dependence (ASI) and social functioning. Recovery oriented social networks and participation in Alcoholics Anonymous groups predicted decreased consumption for both problematic and dependent users. Contact with medical, mental health, welfare and legal systems predicted a decrease in use for problem drinkers. Contact with mental health services only marginally predicted decreased use for dependent drinkers

Brown and Falkin both focussed on the support structures for female drug users and how they affect their chances of long-term recovery. Brown *et al* categorised support in two ways; functional support and structural support. They defined functional support as the quality and availability of support to women and their perception of this. Social support was seen as a quantitative measure of the number of individuals in a network linked to the participants such as drug or employment networks. a sample of 534 participants (drug users and non-drug users) was recruited from recipients of welfare payments under the 'Temporary Assistance for Needy Families' (TANF) scheme. They were surveyed three times over the course of the study; at intake one year and 2 years. The Attitudes, Behaviours and Skills, Assessment (ABSA) tool was used to collect data on functional support, structural support,



employment, income and drug use. The drug using group was compared with the non-drug using group. There was no difference in the amount of support reported by both groups. Over the two years drug use decreased among the drug using group and their drug using network decreased in size. There was a slight improvement in the level of employment among the drug using sample but lower than that of the non-using group. It was discovered that the quality of functional support was associated with the total number of hours worked and that those more satisfied with their functional support tended to work more hours. Falkin *et al* focussed on the nature of the support given to women by partners, families and close friends. a sample of 100 women was recruited from a number of therapeutic communities and interviewed using a semi-structured format exploring topics such as drug use and their close support networks. The findings underscored the complexity of drug using women's relationships with their partners with many identifying them as their main supporter but also enabling their drug use.

Kidorf *et al* also examined the role played by partners and significant others in the lives of those recovering from addiction. They evaluated an intervention where family members are involved in treatment. The program participants would nominate a significant other to help them in their efforts to establish a non-drug using network. The study analysed data over a two year period on 59 opioid users attending an outpatient treatment facility. The results showed a measure success with 78% of the sample achieving at least 4 weeks of abstinence and women responding more successfully to the intervention than men.

Walton *et al* approached the issue from a different angle and examined the individual and social indicators that led to substance misuse post treatment. a sample of 241 alcohol and drug misusers were recruited during their first month of treatment and asked to complete a series of questionnaires covering a number of topics such as severity of addiction, self-efficacy and risk of relapse. They were re-contacted by researchers two years on and interviewed about their progress. Factors that directly predicted alcohol use were poor self efficacy, greater involvement in substance using leisure activities, being single and having less income. Greater resource need, involvement in substance using leisure activities, being single and being part of a minority group directly predicted drug use. Predictive factors common to the use of both substances were income, gender, problem severity, mental health status and race.

Best *et al* examined the relationship between peer networks and criminality in a sample of 128 substance misusers recruited from an inpatient treatment facility. The participants completed a semi-structured interview/administered questionnaire during the first month of treatment. The interview/questionnaire assessed drug dependency, levels of use and involvement in criminal behaviours. Researchers found that the risk of committing crime was related to the amount of time spent in the company of other users therefore highlighting the importance of non-using peer networks in the process of long-term recovery.

Granfield *et al* researched the concept of 'natural recovery' through qualitative interviews with a sample of 46 former substance users asking them to identify factors that aided their recovery without treatment. The participants were recruited using snowball sampling techniques. The researchers found that the social capital/resources participants had accumulated prior to addiction, if maintained, were integral to their recovery.



Participation in continuing care or aftercare

A number of studies investigated the role of continuing care or aftercare in sustaining recovery from substance misuse. Fiorentine *et al* focussed specifically on recovering users' participation in self-help groups, in particular 12 step groups and its effect on rehabilitation. a sample of 356 drug and alcohol users was recruited from 25 outpatient treatment facilities; interviewed at intake and followed up 8 months later. Topics covered in the interview included drug using history, treatment history and service use. Researchers found that abstinence was related to treatment completion, frequent participation in counselling and weekly or more frequent participation in a 12-step group.

Lash, McKay, Brown and Coughy all evaluated specific aftercare/continuing care interventions and assessed their effect on recovery. Lash compared two groups of substance misusers one receiving standard aftercare the other social reintegration therapy. The small sample of 40 participants were recruited in their final week of residential treatment and divided into two groups of 20. They were interviewed twice, at intake and 6 months on. Participants' progress at 12 months was monitored using treatment and hospital admissions data. The social reintegration group went on to use less alcohol at 6 months but their drug use did not differ from the standard group. The social reintegration group were found to participate more in aftercare, however due to small numbers the findings should be interpreted with caution.

McKay *et al* evaluated three outpatient programs; one with a telephone based aftercare system, another with a relapse prevention focus and a third combining both interventions. A sample of 359 cocaine and alcohol users was recruited in the last week of treatment and assessed using a number of tools including the Addiction Severity Index (ASI). Further assessments were carried out at 3, 6, 9, 12, 18 and 24 months. The telephone intervention increased abstinence rates overall but there was no significant difference in abstinence rates reported for any of the three groups. Brown *et al* compared two groups of criminal justice clients exiting treatment; one group receiving standard treatment, the other with access to aftercare. The sample of 194 substance misusers was recruited from probation services and assessed using a number of forms; including measures of severity of addiction, motivation, social networks and community involvement. Participants were assessed at intake and 6 months later. Those receiving aftercare showed reduced drug use at six months and increased religious observance.

Coughy *et al* investigated factors relating to increased participation in aftercare among a group of formerly homeless women recovering from substance misuse. a sample of 135 women was recruited through homeless shelters and interviewed at intake. a mixture of quantitative and qualitative methods were used in the study; researchers observed peer support group meetings, interviewed case managers and had access to data from the agencies providing the service in order to track the women's progress. Those retained in aftercare were compared to those that dropped out of the program. The retained group tended to have longer periods of abstinence and residential treatment prior to the study than the drop outs. The group that continued in aftercare worked more days and earned more than the drop outs. They also reported less psychological problems and greater social support than the drop out group. At the outset the researchers accepted that participation in aftercare was important to successful long-term recovery among this vulnerable group but the results tell a familiar story with those coming to the service with less complex needs tending to fair better than those with multiple issues.



Schaefer *et al* used mixed methods to assess the role of treatment agency staff and care practices on the success of continuing care and abstinence rates among clients. a sample of 429 clients was recruited from 18 outpatient treatment agencies, assessed at baseline and interviewed six months on. Agency staff gave the research team access to data on clients' motivation, treatment intensity and treatment completion. They were also given access to data relating to clients' engagement in continuing care. Predictors of abstinence were identified through logistic regression. Variables relating to increased abstinence were; clients with discharge plans specifying at least one continuing care appointment per week, receiving continued care appointments prior to discharge and staff assistance in finding accommodation with a drug free/sober living ethos.

Ritsher *et al* investigated the affect of treatment orientation and continuing care on substance misuse recovery. a sample of 2,805 men was recruited from 15 treatment agencies. Participants were assessed at three time points; intake, one year on and two years on. Abstinence was defined as the cessation of illegal drug use or the non-problematic use of alcohol during the previous three months. Regression models were constructed to examine the possible relationships between abstinence and treatment orientation or continuing care. Involvement in mental health care and participation in self help groups were related to remission at two years. Researchers found no significant relationship between treatment orientation and remission at two years on.

The majority of examples of rehabilitation/recovery studies in the literature are from studies based in America. The methodology does tend to vary but a number include some form of follow-up. Studies focusing on the nature and process of recovery tended to include a qualitative element in order to collate more detailed information. a few combined both qualitative and quantitative methods such as, semi-structured interviews, monitoring data and surveys. This approach used by Coughy, Lash and Schaefer did not focus on recovery in general but aimed to give a comprehensive view of one particular intervention or aspect of recovery.

1.5: Length of stay/duration of treatment

Many of the cohort studies mentioned have noted the relationship between duration of treatment and successful outcomes. In the ATOS study it was reported that (Darkes 2005) duration of treatment and critically the amount of continuous treatment received were related to positive outcomes. They found that many short episodes of treatment did not relate to positive outcomes. This would give support to the notion that length of engagement and continuity of care have an effect on positive outcomes for those receiving substance misuse treatment.

NTORS (Gossop 1999) examined the relationship between length of stay and positive outcomes for the part of the cohort receiving treatment in residential rehabilitation units. They used multiple logistic regression to establish a 'critical time in treatment' for those in both long and short term residential programmes. This 'critical time in treatment' was related to the increased odds of abstention from main drug of use. They found that for short term rehabilitation clients the critical time in treatment was 28 days and for those taking part in the long term programme it was 90 days. They were also able to demonstrate that for those clients who remained in treatment for that critical period the odds of using heroin at follow-up were five times less than for those who did not stay in treatment for the critical time.

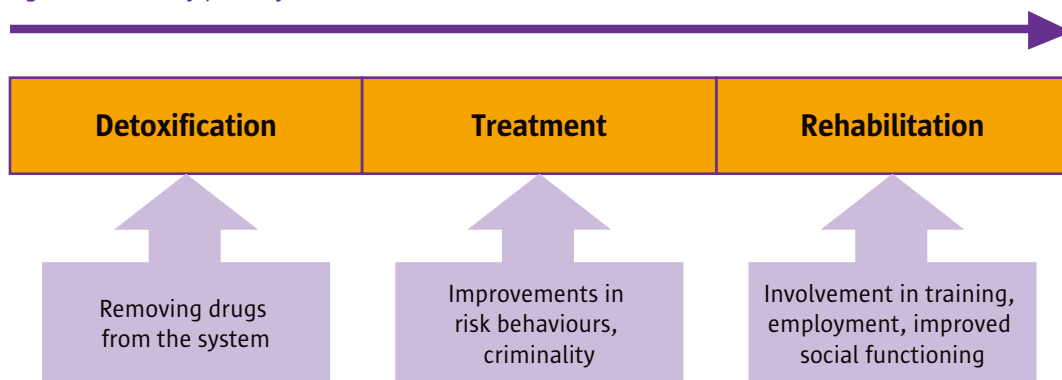


Schwarz *et al* (Schwarz 1997) also modelled length of stay but extended it to treatment modalities other than residential rehabilitation. They recognised that length of stay in treatment is often seen as measure of success for various treatment modalities and that this conflicts with efforts to reduce costs and manage care. Using data on admissions and discharges over a 2 year period they examined length of stay for four different treatment modalities; long term residential, short term residential, out patient drug free and detoxification. They produced three length of stay (LOS) cut offs for each modality; short-LOS, medium LOS and long-LOS and corresponding programme completion percentages for each LOS category. Then by following the admissions and discharges data relating to the clients in each LOS category they could map their utilization of treatment over the next 24months. This meant they were able to demonstrate that those clients reaching the long-LOS category utilized the treatment system more successfully than those in the short-term category. As a result of the study long-LOS categories for each modality could be used by treatment agencies as cut-off points and thus use the relationship between LOS category and percentage completion to improve treatment provision.

Zhang *et al* (Zhang 2003) also modelled the relationship between reduction in drug use and duration in treatment for four treatment modalities; methadone maintenance, outpatient drug free, short term rehabilitation and long term rehabilitation. Using data on 4,005 clients at baseline and year one they found a positive linear relationship between improvement in primary drug use and methadone maintenance therapy and an inverted u-shaped relationship for outpatient drug free and long term residential rehabilitation. They also found that improvement in primary drug use lasted longer for clients in long term residential rehabilitation.

From the literature it is clear that LOS can be modelled and critical treatment times can be estimated for different treatment modalities. These critical treatment times would relate to positive outcomes such as reduction in drug misuse and risk behaviours. The major cohort studies all demonstrated the ability to measure changes in these outcomes but how do they relate to rehabilitation and recovery? Figure 1 outlines a client's recovery journey from cessation or reduction in drug use to reduction in risk behaviour and ultimately improved social functioning and employment or training. The cohort studies we have reviewed focussed mainly on treatment effect and had the ability to demonstrate changes in outcomes related to drug use, criminality and risk taking but either did not measure or could not measure some of the outcomes which are associated with recovery. In the next section we discuss the relationship between treatment effectiveness and rehabilitation/recovery and go on to outline six possible study designs that aim to capture information on the nature of rehabilitation/recovery.

Figure 1: Recovery Journey





1.6: Possible cohort designs

Evaluating Rehabilitation in Ireland

In this section of the report we outline various approaches to evaluating the impact the effectiveness of rehabilitation services in Ireland. It is important in this work to recognise the challenge that is posed in any attempt to design and undertake research with this aim. Firstly as the previous sections of this report have demonstrated most of the research undertaken to date on the impact of drug services has looked at the effectiveness of those services in relation to drugs misuse treatment rather than rehabilitation. The difference here is no mere matter of language. In relation to treatment for example most of the research to date in Ireland and elsewhere has looked at the degree to which involvement in drug treatment services, over varying lengths of time, is associated with reductions in individual's drug use and drug related offending. These studies have largely confined themselves to looking at the degree to which reductions in some of the adverse outcomes of a drug habit have been reduced on the basis of the drug treatment provided. For the most part these studies have not addressed themselves to establishing the degree to which individual drug users have been able to build a life for themselves and make a contribution back to society free from their past dependent drug use. One of the difficulties of research into the effectiveness of rehabilitative services then is the focus in most of the prior work on treatment of those with a drug or alcohol problem and their responsiveness to treatment services rather than with the effective rehabilitation of those who have had a past drug or alcohol problem.

The second order of difficulty here has to do with whether one conceptualises rehabilitation as an activity associated with particular agencies or a process in the lives of the individual's involved -within which the contribution of any services (treatment, rehabilitation or indeed even enforcement) may be somewhat modest. One of the questions that one might address here then has to do with whether rehabilitation is a process of rebuilding individual's lives or whether it refers to the activities of a specific and much narrower range of services? An important question which must be resolved before any attempt at evaluation is undertaken has to do with the determining what is meant by the term rehabilitation and in particular whether one is conceiving that term to mean the activities of specific services or the nature of individuals lives?

Impacting upon that question are a number of important issues that would shape the nature of the research being considered. First, for example, if one were to view rehabilitation as referring principally to the activities of a narrow range of services the sorts of questions one might then address could have to do with establishing whether Ireland has the right kinds of services in place in the right kinds of numbers to provide a rehabilitative input. For example, whether the right number of places within residential rehabilitation services are presently available within Ireland given what we know to be the scale of the drug using population within that area. To an extent the answer to that question may be arrived at through a largely statistical process- calculating the number of residential rehabilitation beds that would be required (for example 5% of the total estimated number of dependent drug users within an area) on the basis of the estimated total number of dependent drug users in treatment. The difficulty with this approach is that it would reveal very little about the effectiveness of those agencies deemed to be providing a rehabilitative input- indeed the assumption would tend to be that all such agencies are equally effective in achieving the desired goal of providing rehabilitation services. Clearly such an assumption would be inappropriate in any situation where agencies differed markedly in the



type of rehabilitation service they provided and where there was at least some indication that those services differed in their likely effectiveness to achieve their stated goals.

By contrast if one were to view rehabilitation as a process of building or rebuilding individual's lives the line of enquiry that may then be developed might have relatively little to do with the contribution of any specific agency or service and may be much more about the individual drug users own journey of self discovery and reparation. Equally to undertake a study into the process of rehabilitation it would be necessary to begin to build up a picture of how to differentiate between "a rehabilitated life" and a "non-rehabilitated life". For example would an individual continuing to use heroin on an occasional basis who had secured accommodation and employment be regarded as having been rehabilitated despite the fact that he or she remained estranged from their children and unable to provide an appropriate level of parental care for those children. Equally, would an individual who had ceased his or her drug use and who had secured stable accommodation but failed to move off state benefits be regarded as having been rehabilitated? Clearly the answer to those questions hinges to a significant degree on what is meant by the term "rehabilitation" and the phrase "being rehabilitated". The definitional difficulties here are themselves compounded by the fact that much of the research to date has simply equated treatment with that which is delivered by drug treatment agencies. However even in the area of drug treatment questions are now being asked as to the role and function of drug treatment services and whether those services should be judged in terms of their capacity to enable individuals to become drug free or whether in fact their effectiveness should be seen in much broader terms to do with the stability in the individual's life and the capacity of the individual to contribute fully to society rather than to have that contribution marginalised as a result of a drug or alcohol problem. Questions about the effectiveness of drug treatment have themselves become complex as deeper questions have come to be asked as to what is treatment for what is it aiming to do and how given those aims should treatment be best assessed. Within the UK, for example, the UK Drug Policy Commission has sought to produce a consensus statement on the meaning of recovery which echoes similar work undertaken within the US. The UK Drug Policy Commission had defined recovery in the following way:

The process of recovery from problematic substance use is characterized by voluntarily sustained control over substance use, which maximizes health and wellbeing and participation in the rights roles and responsibilities of society (UKDPC 2008:6)

Whilst the definition above has been offered by the UK Drug Policy Commission as an attempt to knit together the diverse wings of the drug treatment industry within the UK (for example between those agencies focussing on harm reduction and those focussing on abstinence) in fact the debate as to the aims of drug treatment has persisted and it remains far from clear exactly what aims or goals should be used (abstinence or harm reduction or both) by way of assessing the effectiveness of those services. In relation to treatment, recovery and rehabilitation there are complex issues of definition and meaning that research to date has by no means resolved but which need to be resolved before it is possible to truly evaluate the contribution of different types of services with regard to achieving those goals. In the next section we look at a range of possible research methods that could be adopted by way of seeking to evaluate the effectiveness of rehabilitation agencies and the effectiveness of rehabilitation within Ireland. These are a range of possible alternative approaches which are offered within the context of this draft report as a preliminary to a more detailed discussion with colleagues within Ireland.



Option One: Enhanced ROSIE Study

The ROSIE study, previously undertaken within Ireland, employed the methodology widely used in drug treatment evaluation research of recruiting a sample of drug users beginning a new episode of drug treatment and then re-interviewing those individuals at a range of fixed time points to assess the rate of their progress towards recovery. The improvements (or otherwise) which those individuals have made over the course of their follow-up is interpreted as a measure of the effectiveness of the drug treatment agencies included within the study. One of the attractions of such an approach to evaluation is that it is relatively easy to undertake and the analysis of the results obtained relatively straightforward. Where this research design begins to suffer however is in the difficulty of assessing the effectiveness of any specific service- generally the study sample has been recruited from a range of drug treatment services such that it becomes very difficult to identify the contribution within any individual drug users recovery of any specific service. This difficulty is compounded by the fact that over time drug users tend to maintain contact with multiple drug treatment services making it additionally difficult to identify the contribution of any specific services towards an individual's eventual recovery.

Within the context of evaluating rehabilitation however there are further difficulties. The ROSIE design has to date been typically focussed as we have said on determining whether treatment works. If one were to continue to follow a treatment cohort over a significantly longer period than has been undertaken to date it is likely that the contribution of the services those individuals were in contact with would be taking on a greater rehabilitative focus as the individual's drug use needs began to diminish in importance (associated with their gradual recovery). However it is not at all clear how long it would be necessary to follow a drug treatment cohort before the nature of the service input into their lives had acquired this rehabilitative function. Secondly the longer one follows any cohort including a treatment cohort the greater is the rate of drop out from the original sample. If it were necessary then to follow up a drug treatment cohort for something like a five year period in order to begin to pick up the contribution of more rehabilitative focussed work on the part of those agencies the eventual sample one might be looking at could be very different to that which was recruited at the outset of the study. Equally of course the longer the time period over which one is following any cohort the greater is the likelihood that other factors may have impinged upon the individual's life that may have an effect upon the individuals eventual recovery and rehabilitation but which have nothing to do with the contribution of any specific service or combination of services, for example, having becoming a parent or losing ones own parents. The option of an enhanced ROSIE design (following a treatment cohort for a longer time period) is problematic in this context; it could be both costly in terms of finance and produce findings that are of uncertain relevance to the task of assessing either the effectiveness of specific rehabilitation agencies or the constituents of effective rehabilitation seen as an individual process.

Option Two: Defining the Constituents of a Rehabilitated Drink or Drug User and Sampling a Range of Past Agency Clients to Assess the Degree to which they have Realised those Aims in their Current State

This study design would be very different to the ROSIE approach in that one would seek to define at the outset the components of a rehabilitated life (for those with a past drink or drug problem). The definition of rehabilitation here might be defined in terms of:



- The capacity to have secured paid employment full time or part time
- The capacity to have secured stable accommodation
- The cessation of involvement in problematic forms of drink and drug use
- The execution of parental responsibilities with regard to any dependent children
- The cessation of any criminal behaviour associated with past drink or drug use.

Once the components of an effective state of rehabilitation are defined the aim would then be to contact a sample of ex-clients at a wide range of agencies within Ireland to ascertain the degree to which those clients have indeed been able to achieve some level of rehabilitated stability in their lives associated with the contribution of the various agencies with which they were formerly in contact.

This study design has the same attraction as the ROSIE study in being relatively simple to undertake although its success does depend to a large extent on the capacity of services to provide the research team with a list of past clients that can then be used as the basis upon which to construct a study sample. If the various agencies involved in treatment and rehabilitation have only poor records of past clients then it might prove very difficult to contact such a sample and recruit them into a rehabilitation effectiveness study.

Option Three: Systemic Evaluation

The aim here would not be to view rehabilitation as a feature in the lives of various individuals (either those in current contact with services or those who have had past contact with services) but rather to view rehabilitation as comprising a sphere of services. The aim here would be to identify the range of services within Ireland that claim to be delivering a rehabilitation focussed service with their clients and on the basis of that information to construct a sample of constituent services that would then form the basis for the systemic evaluation of rehabilitation work within Ireland (provided for those with a drink or drug problem). The aim of the systemic evaluation would be to address the following types of questions for all of the agencies included within the evaluation:

- What is the nature of the rehabilitative work undertaken by staff within the agency?
- What tools or means do staff use to undertake their rehabilitative work with clients?
- What is the cost of those services?
- How do those services define the area of their work with clients?
- How effective are those services in realising their own stated aims?
- How effective are those services in monitoring and assessing clients?
- How effective are those agencies in referring clients on?
- How effective are those services in receiving referrals from other services?
- What are the characteristics of the clients of those services?
- What are the characteristics and skills of the staff within those services?

Methodologically this type of study would require a combination of assessing records, qualitative interviews with staff and clients, some structured interviews with staff and clients, some direct



observation of work with staff and clients. The aim here would be to produce a rigorous and penetrating assessment of the work being done by rehabilitation agencies within Ireland. This would be a challenging study that would require the cooperation of a wide range of agencies.

The downside of such a study is that in itself it might fail to answer the question of how different are the lives of those who have been the clients of those agencies than those individuals with a drink and or drug problem that have not been in contact with those agencies. In this sense one might find out a great deal about the agencies in question but still not know how effective they are in delivering rehabilitation as an individual process as distinct from a sphere of service provision.

Option Four: Combined Approach

In this option the aim would be to undertake a systemic evaluation as set out in option three above but to seek to combine this with some level of follow up with a sample of ex-clients (perhaps randomly selected) as proposed within option one and option two. Through this means it would be possible to both evaluate the contribution of rehabilitative agencies working within the drink and drugs arena within Ireland whilst at the same time addressing questions as the degree to which engagement with those agencies on the part of their clients had resulted in a measurable improvement in the social functioning of those clients. It is difficult at this stage to be clear as to how many individuals it would be necessary to seek to follow up or indeed how many agencies it would be desirable to include within a systemic evaluation of the sort described above. However we have set these options out in draft form as a prelude to a more detailed examination in concert with colleagues within Ireland upon which we would set out a more detailed discussion of the likely favoured option(s).

Option Five: Multiple ROSIE Cohorts

In this study design the aim would be to identify the key providers of rehabilitation services in Ireland for those with a drug or alcohol problem and to recruit a sample of their clients into a prospective study in which individuals would then be assessed at regular intervals to establish what level of progress towards their own rehabilitation had been achieved- for example what proportion of clients had managed to secure stable accommodation or stable employment, what proportion were now no longer associating with individuals with a drink or drug problem, what proportion were in training or education. The benefits of this study design is that it ties one very closely to monitoring the outcomes for those individuals participating within the study and in principle at least allows one to begin to identify which services are achieving the most promising outcomes by way of individual's rehabilitation (assuming that it is possible to control for the possible influence of differences in the level of morbidity and personal and social capital on the part of those being recruited into the study). The key difficulties with this approach however is that the number of agencies from whom one might be able to recruit such a cohort may need to be quite small with the result that some agencies that see themselves as contributing important work towards individual's rehabilitation are not included within the study for no better reason than the fact that those agencies are working with small numbers of clients and as a result are unable to enable the recruitment of sufficient numbers of respondents to undertake meaningful statistical comparisons of agency effectiveness. a further area of difficulty with such a study design is the feeling that may be stimulated on the part of those agencies that are unable to be included within such an evaluation that somehow their own contribution has failed to be recognised and unlikely on that basis to figure prominently in subsequent funding decisions by national or local funding agencies.



Option Six: Virtual Mapping

In this study design the intention would not be to look in detail at the activities of any specific agency or agencies working within the rehabilitation sector within Ireland, nor to recruit a client cohort for detailed interviewing. Rather what one would aim to do is to build up a virtual cohort of current and or past agency contacts and then to flag those individuals in order to ascertain whether and over what period they may have gone on to appear in other agencies databases. For example, what proportion of those on the methadone register within Ireland went on to appear in other data bases (for example hospital data bases or employment benefit registers). Through monitoring a virtual cohort in this way it might be possible to establish the degree to which individuals with a recognised drink or drug problem have been successfully rehabilitated as a result of their contact with specific drug and alcohol support services. The feasibility of such a study design however is dependent to a large extent on the quality of the data that is being routinely collected by a wide range of relevant agencies within Ireland and the capacity to obtain permission to examine those data-bases for possible overlaps in the individuals identified within those data-bases. Prior to any such research however there is likely to be a need to undertake a mapping exercise to establish exactly what data is held by what different agencies relating to those with a drug or alcohol problem (presently or in the past). Any such information mapping work would also need to establish what protocols currently exist or which might need to be produced to cover the issue of data linkage across different data bases.



2. Conclusion

The NACD Research Advisory Group highlighted options 4 and 5 as study designs that could be adapted to explore the nature of rehabilitation/recovery in an Irish context. This section gives further detail on what these options would entail. The group requested more specific information relating to the proposed systemic review with some form of follow-up, similar to the evaluation of Lloyds TSB Foundation Partnership Drugs Initiatives (Scottish Executive 2006). This is detailed in section 2.1 below.

2.1: Systemic review with possible follow-up element

This study design combines both qualitative and quantitative methods in order to give a comprehensive view of the rehabilitation/recovery process. The study would comprise of three main sections; project profiling, case study evaluation and outcome evaluation.

Agency profiling

The first stage of the study would involve profiling all voluntary residential rehabilitation facilities plus a sample of the corresponding statutory services. This would be achieved through a review of documentary evidence and a number of semi-structured interviews. As part of the review of documentary evidence all literature produced by the services relating to their aims and objectives would be collated and evaluated. This element would also include a review of how services monitor clients' progress and outcomes. Any systems monitoring the flow of clients in and out of the service would also be explored. The qualitative component of this stage would involve interviewing at least two members of staff from the agencies; one in a management role and one member of frontline staff. This information would be augmented with a third interview with a treatment commissioner or independent third party that could give an outside view of the service. Figure 2 outlines the first stage of the process listing methods used and key research questions.

Case Study

Following the profiling stage of the study the data would be reviewed and a selection of representative services (possibly up to six) would be chosen for the case study element of the research. This part of the research would again involve both qualitative and quantitative methods. Semi-structured interviews would be carried out with a sample of clients in order to ascertain their views on the service, their own ideas on recovery and their goals and aspirations. The case study stage would also include semi-structured interviews with staff members and cover in more detail the aims and objectives of the service, how they go about implementing them and their views on recovery/rehabilitation. Where appropriate, participant observation would be used to explore how the agency functions and interacts with its clients. The monitoring data and instruments used to gather the data would also be investigated in more depth. This stage of the study is outlined in figure 3.

Client Follow-up

Following the findings of the case study element of the research a cohort element of the study may be warranted to explore further the themes identified in the first two stages of the research. This could be done through analysis of client records and repeat interviews with a small sample of clients. This sample of clients would be recruited from graduates of the services involved in the study and interviewed on exit from the service and then again six to eight months later. This part of the study would explore how former clients are progressing in their recovery, their needs at this stage of the process and any barriers to their advancement.



Overall this study design aims to provide a comprehensive view of rehabilitation in Ireland through an examination of the services on offer and the views of both staff and clients. This information is augmented by the follow-up component which would explore the needs of those who have received treatment and are attempting to sustain their rehabilitation.

Figure 2: Stage 1 of the proposed Systemic Evaluation

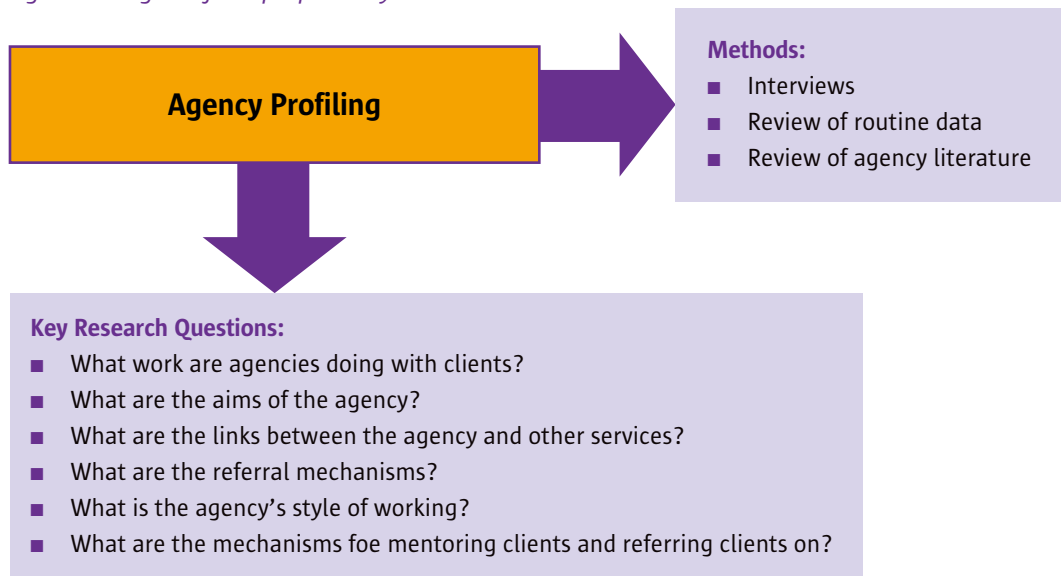


Figure 3: Stage 2 of the proposed Systemic Evaluation

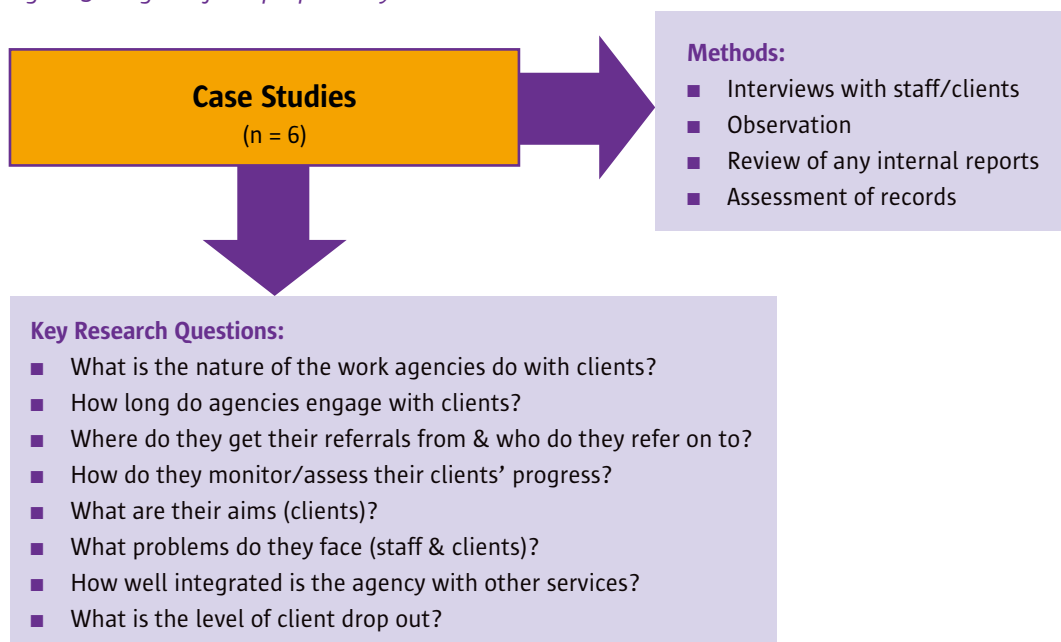
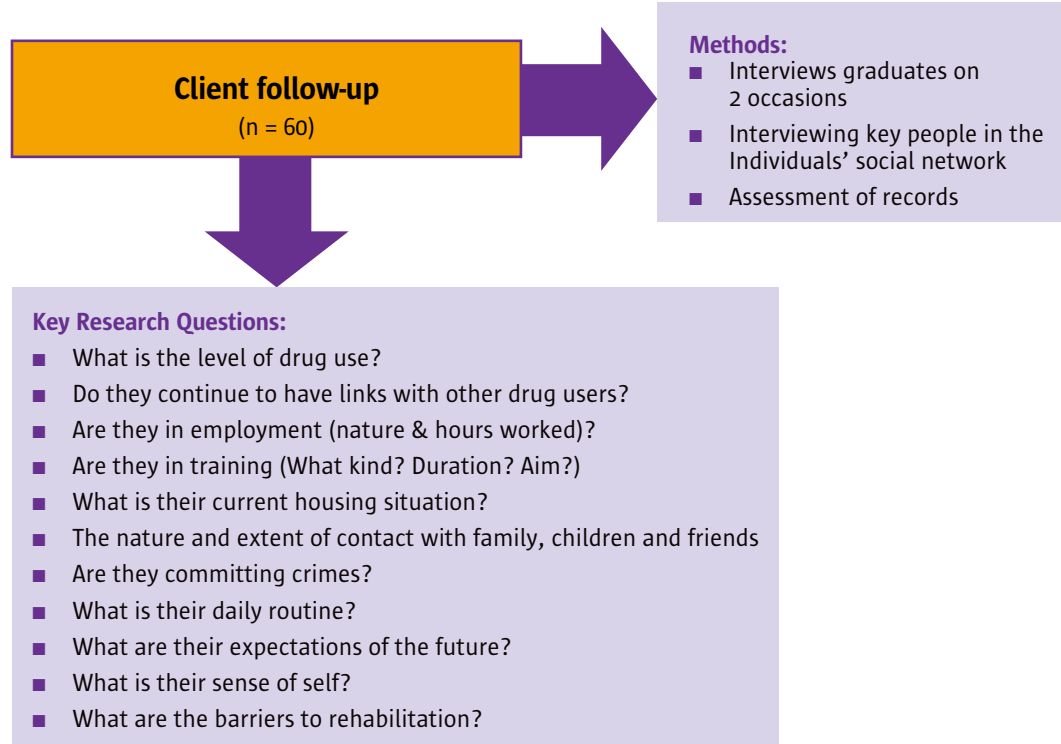




Figure 4: Stage 3 of the proposed Systemic Evaluation



2.2: Rehabilitation focussed cohort

Introduction

Following submission of the draft final report the commissioning group requested a further amplified examination and research protocol relating to a rehabilitation focused cohort. Before providing that amplification it is worthwhile to reiterate that the aim of this research is to evaluate the degree to which individuals within Ireland treated for a substance misuse problem are being successfully rehabilitated and reintegrated back into Irish society. Questions relating to the degree to which such rehabilitation is occurring in practice are relatively new within the substance misuse field which to date has tended to focus on assessing the effectiveness of drug misuse treatment services. Typically those assessments have been undertaken on the basis of establishing whether drug and alcohol treatment services have been able to successfully reduce some of the adverse harms associated with such problems for example establishing the degree to which drug treatment has resulted in a reduction in legal and illegal drug use, or a reduction in criminality and violence often associated with various forms of drugs misuse. What has been focussed upon to a much lesser degree is the extent to which substance misuse services are enabling the successful rehabilitation of individuals – enabling individuals to fully participate within society unhindered by their previous pattern of drug and alcohol misuse and able to take up the range of rights and responsibilities associated with full citizenship.

Addressing this latter question is a good deal more complex and requires a more nuanced understanding than has been the case in the more straightforward task of assessing the effectiveness of drug misuse treatment services. In addition, the exploratory nature of the research question means



that it is not possible to simply utilise the existing research instruments that have been previously employed in studies assessing the effectiveness of substance misuse treatment services. As a result the study described below requires the development of both the key instruments with which to assess the rehabilitation of individuals in Ireland with a substance misuse problem as well as the application of those instruments in practice to assess the degree to which individuals in contact with services in Ireland are indeed successfully achieving their rehabilitation.

In devising the study outlined below we have considered the various points at which a study sample to assess such rehabilitation may be achieved. Typically previous studies of treatment effectiveness have adopted the approach of identifying a sample of dependent drug and alcohol users beginning a new episode of treatment and then following those individuals over an extended period of time to assess what changes are occurring in their substance related behaviours e.g. the degree to which their drug and alcohol use is reducing. Within a study focussed upon rehabilitation of those with a substance misuse problem however there is little point in identifying a sample of individuals beginning a new episode of treatment since in all probability the evidence of effectiveness if it is to be found at all is likely only to be apparent many months following the initiation of such treatment. An alternative then would be to recruit a sample of individuals a number of years following on from their engagement with treatment services. The expectation here would be that these individuals (treatment graduates) should ideally be well along the road of their effective rehabilitation. The difficulty here however is one of determining how many years following the onset of substance misuse treatment to recruit individuals into a rehabilitation evaluation study. If one were aiming to contact individuals say ten years following the onset of their substance misuse treatment it is likely that many of these individuals will have moved so far from the geographical and behavioural point of their drug use that it would be extremely difficult even to identify a research sample. Similarly, there may well be ethical objections to seeking to contact individuals about a difficult and challenging aspect of their distant personal history of which they had no wish to be reminded of in the present. In addition, following up individuals many years following their graduation from treatment services it may well be very difficult to identify what particular effect of specific treatment services since not only will that the effect have diminished over time but there is also a strong likelihood that other services and other events may also have occurred in the individuals life shaping their rehabilitation to a much greater degree than the substance misuse services they may have been in contact with in the past.

With these issues in mind the proposal here is to recruit a sample of individuals between four to five years following their having initiated a new episode of substance misuse treatment. Importantly while some of these individuals will have graduated from their contact with the service and others may still be in contact with services the period of long enough following the onset of their treatment for any rehabilitation effect to be evident in the individual's life. In addition the period of between four to five years is sufficiently near to the point at which the individual began a new episode of substance misuse treatment that it is unlikely they would have moved so far from their previous behaviour that it would be unethical to interview them about their past behaviour. In addition the period is long enough for other services and events to have impacted upon the individuals' life and for those events and services to be incorporated within the terms of the present study.

Study Aim

To assess the nature and extent to which individuals in contact with substance misuse services in Ireland are being successfully rehabilitated and reintegrated into Irish society.



Study Population

Individuals who began a new episode of drug and or alcohol treatment between four to five years before the onset of the present research study. The intention will be to select the study sample on a random basis from lists of past contacts of drug and alcohol treatment services within Ireland. The element of random selection or identification here is important since there would clearly be dangers in enabling treatment services to identify for the research team possible interviewees for follow up assessment- the key risk of which would be the tendency to select individuals who appeared to have progressed well following their contact with drug treatment services and to under-select individuals with whom the service had lost contact (either as a result of the individual's successful treatment or because the escalation in the individual's drug problem had resulted in their premature departure from treatment). The risks here of being provided with an unrepresentative study sample will be lessened to the extent that the research team themselves are able to randomly select from agency contact lists.

Sampling Recruitment and Geographical Focus

The ROSIE study recruited 404 clients entering treatment and interviewed them at in-take, year 1 and year 3. For the new study to be focused on rehabilitation and not just a repeat of the final sweep of ROSIE; clients would have to be recruited at least four years after they had entered treatment. One way to achieve this would be to contact the sample using agencies that had been established prior to 2007. In order to lessen selection bias researchers could take advantage of the data available in the National Drug Treatment Reporting System (NDTRS).

According to data from NDTRS (Carew 2010) there were 2,476 new clients entering treatment from the 293 contributing agencies in 2007. With the cooperation of NDTRS staff; researchers could randomly select a sample of clients entering treatment in 2007 using their NDTRS identification number and Health Service Executive (HSE) region of residence. Researchers would then approach the agencies the clients attended and retrieve their contact details. This process is not without problems; the transient nature of substance misusers mean that re-contact would be difficult for those not still in touch with the agency. There is also the possibility that a number of clients would have died during the intervening years. However, this approach would prevent agencies from selecting the sample themselves thus ruling out any possible bias caused by workers selecting only those that have completed the treatment programme or clients that are easily contactable i.e. those they are still working with.

In undertaking a study into the rehabilitation of individuals with a substance misuse problem it is important to avoid focussing solely on individuals whose drug and alcohol use and treatment and rehabilitation has occurred within an urban environment. It is likely that both the degree to which and the process through which individuals are able to be rehabilitated following a significant drug and alcohol problem will be influenced by the environment within which they are living for example whether the environment is a small village where the individual remains known for many years following the cessation of their drug and alcohol problem as an individual with a known past problem or whether the greater anonymity characteristic of a more urban setting means that it is easier for the individual to move on from others knowledge of his or her personal past behaviour. It is for this reason that we have suggested within this protocol that the proposed study seek to recruit individuals across the urban and rural divide within Ireland.



Using information from the HSE website¹; it was possible to examine the geographical distribution of drug agencies. Crudely mapping this data by the four HSE regions it is clear that the majority of agencies are located in the Dublin Mid-Leinster and Dublin North East HSE regions. An analysis by Regional Drug Task Force (RDTF) area shows a large number of agencies are centred in the South Western and North Dublin City & County RDTF areas; followed by the South Eastern and Western task forces. In order to reflect this difference but ensure that information is representative; the study team would recommend sampling 100 clients from both the Dublin Mid-Leinster and Dublin North East HSE regions and 50 each from the South and West HSE regions. This would be the HSE region of residence stated in the NDTRS records and it is hoped that this sampling along with questionnaire data would show any re-location of clients during their rehabilitation, or even tell us if relocation was integral to the rehabilitation process.

Table 1: Proposed sample sizes by Health Service Executive Region

HSE Region	Qualitative Sample	Quantitative Sample
Dublin Mid-Leinster	20	100
Dublin North East	20	100
South	20	50
West	20	50
Total	80	300

Research Methods

This study is going to entail a combination of both quantitative and qualitative research methods.

Qualitative Interviews (n=80)

With regard to the use of qualitative methods it will be necessary to undertake qualitative interviews with both service providers and recovering/recovered drug users. The aims of the service provider interviews (n=30) should be to elicit detailed information from service providers about what aspects of their own work, and that of their service, they see as being focussed upon enabling individual's rehabilitation. In addition it will also be important to elicit from service providers detailed information on what they see as any barriers to rehabilitation activities in their work with clients. The aim here should be to build up as detailed a picture of the service providers' engagement with rehabilitation as possible. The nature of such qualitative interviews and the fact that these interviews may be of between one and one half hours duration may well mean that it is not possible to undertake interviews in all of the services from which clients are being recruited into the present study. The aim however should be to try to undertake interviews within as wide a range of services as possible encompassing those operating within urban and rural environments, those that are well resourced and those that are poorly resourced, those with large client lists and those with more modest numbers of clients.

In addition to the interviews with service providers it will also be necessary to undertake qualitative interviews with a number of clients (n=50) with the intention being to spread this interview total 50/50 across urban and rural locations. The aim of these interviews should be to elicit client's own views of the degree to which they feel they have been able to achieve some measure of rehabilitation,

¹ www.drugs.ie/services



to identify those areas of their life where they feel such rehabilitation has not been achieved and to identify the basis for this difference. It will also be important to ensure that individual clients and ex clients are provided with an opportunity to outline what contribution they feel was made to their rehabilitation by the various services with which they were (are) in contact as well as identifying any areas where they feel services were failing to support them in their attempts at rehabilitation.

It will be important also to ensure that individuals participating within these qualitative interviews are able to provide as comprehensive a description as possible of the circumstances of their current life e.g. detailed information on their contact with their family, friends, their engagement in any work and their description of that work, their involvement in any educational and or training activities, the extent of their involvement with past substance misusing contacts, the degree to which they feel that their life is currently still very much influenced by their past drug and alcohol use and their expectations and desires for the future. a further aim of these qualitative interviews should be to identify whether in the views of clients there are particular agencies or events which have facilitated their rehabilitation even where the agencies or events are not particularly obvious or likely to be predicted by the research team.

Quantitative Interviews (n=300)

It will be important in this study to ensure that a similar range of data are obtained from all of the respondents participating within the follow up study. To achieve this it will be necessary to design a research instrument that can collect detailed quantitative data on multiple dimensions of the individuals current and recent activities, including:

- Current drug and alcohol use
- Current engagement in drug and alcohol related behaviours
- Current contact with family members and close friends
- Nature and pattern of current daily activities
- Involvement in any criminal activities
- Employment
- Education/Training
- Living circumstances e.g. homeless or living in supported accommodation.
- Current health problems
- Current life problems
- Current and recent contact with health social services
- Current recent contact with criminal justice agencies
- Past contact with health social and criminal justice agencies.
- Development of a non addict identity
- Expectations for the future.



The focus on both the quantitative and qualitative interviews is not to obtain a detailed account of past behaviours (either recent or distant) but rather to obtain detailed information first and foremost on the individual's current circumstances against which it should be possible to judge the extent of their rehabilitation. Importantly it is not the aim or intention of this study to assess the contribution or effectiveness of specific services. In contact with the commissioning group there was felt to be a concern that the current emphasis on financial difficulties within the country may make it difficult and highly sensitive to be assessing the effectiveness of services leading to a concern on the part of services that their own futures may be in doubt. Moreover since the sample of individuals to be included within this study are likely to have had multiple service contacts or to be in contact with multiple services at the present time it would be extremely difficult to identify the contribution of any specific service. The intention here then is expressly not to evaluate any specific service so much as to identify the degree to which individuals treated for a substance misuse problem within Ireland have been able to be rehabilitated and reintegrated into Irish society.

As previously stated, interviewing participants at least four years after they have commenced treatment should give information on the nature and extent of their rehabilitation however re-contacting this group six to eight months later may not give any greater insight. The study team does not believe that re-interviewing participants six to eight months on would give sufficient new information to justify the costs involved; therefore a follow-up phase has not been included in the outline.

Scheduling of research activities and duration of the study

Because of the innovative nature of this study in exploring drug users rehabilitation it would be necessary to undertake the qualitative element of the research in advance of the quantitative survey. The first of the research project should involve undertaking the qualitative interviews with both clients and staff within substance misuse treatment agencies. Through these interviews it should be possible to build up a detailed qualitative picture of the rehabilitation of those with a substance misuse problem within Ireland. On the basis of the data obtained from these interviews it should be possible to develop the core instrument that will be used to obtain the quantitative data on drug users rehabilitation. a study of this nature would take up to 2 years to complete, with the qualitative interviews taking place within the first 12 months.



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