



A Performance Measurement Framework for Drug and Alcohol Task Forces

Final Report

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Glossary of Terms

AMF	Anonymised Micro-data File
CAPI	Computer Assisted Personal Interviewing
CDYSB	City of Dublin Youth Services Board
CPE	Confirmatory Programme Evaluation
CSO	Central Statistics Office
CTL	Central Treatment List
DATF	Drug and Alcohol Task Force
DTF	Drug Task Force
DEIS	Delivering Equality of Opportunity in Schools
DES	Department of Education and Skills
DPU	Drugs Policy Unit (Department of Health)
DSU	Drugs Strategy Unit
DTCB	Drug Treatment Centre Board
DTF	Drugs Task Force (precursor of DATF)
ED	Electoral Division (old Census Unit)
EMCDDA	European Monitoring Centre on Drugs and Drug Addiction
ESPAD	European School Survey Project on Alcohol and Other Drugs
GP	General Practitioner
HCV	Hepatitis C Virus
HI	Healthy Ireland
HIPE	Hospital In-patient Enquiry
IHS	Irish Health Survey
HIV	Human Immunodeficiency Virus
HRB	Health Research Board
HRDU	High-Risk Drug Use
HSE	Health Services Executive
HSE-HIU	HSE-Health Intelligence Unit
ICD-10	International Statistical Classification of Diseases and Related Health Problems, Revision 10
IDG	Inter-Departmental Group on Drugs
KPI	Key Performance Indicators
LDATE	Local Drug and Alcohol Task Force
LDTF	Local Drugs Task Force (precursor of LDATE)
LEADER	Liaison entre actions de développement de l'économie rurale (EU programme)
NACDA	National Advisory Committee on Drugs and Alcohol
NCC	National Coordinating Committee
NDRDI	National Drug-Related Death Index
NDS	National Drugs Strategy
NDST	National Drugs Strategy Team
NDTRS	National Drug Treatment Reporting System
OFD	Oversight Forum on Drugs
OST	Opiate Substitution Treatment
PDU	Problem Drug Use
PMF	Performance Measurement Framework
PMS	Performance Measurement System
PSU	Problem Substance Use
RAM	Resource Allocation Model
RDATE	Regional Drug and Alcohol Task Force
RMF	Research Micro-data File
SA	Small Area (new Census Unit)
SD	Standard Deviation (statistical measure of deviation from mean)
SMI	Strategic Management Initiative in the Public Service
SPHE	Social, Personal and Health Education
TUSLA	Child and Family Agency



Executive Summary

Background

This study is about the development of a Performance Measurement Framework for the Drug and Alcohol Task Forces (DATF). The latter are community-based structures which bring together Government Departments, State Agencies and the Community and Voluntary sectors to provide a collective response to problem substance use. The overall objective is to tackle the harm caused to individuals, families and communities by problem substance use by tackling supply, carrying out preventive interventions, offering treatment and rehabilitation and by implementing an advanced research agenda.

The Department of Health is working on a new National Drugs Strategy which will cover the period from 2017 to 2024. The aim of this report is to develop an outline Performance Measurement Framework for DATFs to feed into and support their work and to gain a better understanding of how they contribute to positive change at local/regional level. The objective is to put the Performance Measurement Framework in place before the new National Drugs Strategy commences.

The development of a Performance Measurement Framework for DATFs follows the review undertaken by the Department of Health in 2012¹ and adopts a similar logic to the *Healthy Ireland* strategy. Rather than looking at interventions in terms of inputs and outputs, the overriding concern is with the net effect of public policies at the population level. This is the only way of conceptualising effectiveness in an evidence-based and sustainable manner.

Developing a Performance Measurement Framework for DATFs

In line with the terms of reference for this study, the authors go beyond data-driven approaches to evaluation and adopt a theory-driven Performance Measurement Framework for DATFs. Drawing on the international literature on problem substance use, spatially-targeted interventions and performance measurement systems, they build on an approach known as 'Confirmatory Programme Evaluation' to develop an ambitious new framework.

At the heart of the Performance Measurement Framework is the concept of problem substance use, which is carefully defined and operationalised in this report. The Framework relies on a 'Theory of Change' model which sets out how the interventions of the DATFs affect problem substance use at local level. This leads to the specification of a 'Logic Model' and 'Measurement Model' which provides guidelines for the choice of data sources.

The Framework makes a careful distinction between the risk of problem substance use and actual problem substance use, as comparison between these two measures provides the basis for measuring performance. As the Performance Measurement System is dependent upon secondary data sources, detailed consideration is also given to how these sources should be prepared and improved in the future. Estimation of the risk of problem substance use permits the development of a Resource Allocation Model for DATFs, which provides a method for achieving a rational and transparent allocation of resources commensurate with social need.

¹ Department of Health 2012. *Report on the Review of Drug Task Forces and the National Structures under which they operate*. Dublin: Department of Health.



The performance of DATFs is defined as the ratio of actual to predicted problem substance use. This captures the extent to which the DATFs have been able to reduce problem substance use within their area, given the specific risk and protective factors that are present at local level.

The principle aim of the Performance Measurement System is to improve the performance of DATFs and to support the National Drugs Strategy. It does so by establishing a virtuous cycle whereby high-performing and low-performing DATFs participate in a review process and seek to identify good practices, on the one hand, and weaknesses in local responses, on the other. Helping to improve the performance of weaker DATFs will result in better local services and contribute to systemic improvements. The study concludes by setting out a timeline for implementation of the Performance Measurement System and by summarising the key findings and recommendations.

1 Introduction

The Healthy Ireland strategy introduces a sea-change in terms of how health and well-being are conceptualised, studied and supported. As far as monitoring and assessment are concerned, there has been a decisive shift away from reporting outputs (e.g. the number of medical treatments or procedures carried out) and towards the monitoring of population health. In order to support and promote health, it is important to reduce behaviours that contribute to negative outcomes and promote those with positive effects, with particular attention to smoking, drinking alcohol, diet and physical exercise.

The development of a Performance Measurement Framework for the Drug and Alcohol Task Forces (DATFs), based on the terms of reference for this study, follows a similar logic to the Healthy Ireland strategy. Rather than looking at interventions in terms of inputs and outputs, the overriding concern is with the net effect of publicly-funded initiatives at the population level.

The measurement of outcomes at the aggregate level raises a number of unavoidably complex issues which are discussed in detail in subsequent sections of this report. Our aim is to provide a set of tools which can contribute to improving the performance of the Local and Regional DATFs. We also argue that these tools are of great relevance to the new National Drugs Strategy (NDS), to be finalised in early 2017. This generates valuable synergies between national and local policies and interventions.

The Drugs Initiative which led to the establishment of the DTFs in 1996 is a cross-cutting area of public policy which brings together Government Departments, State Agencies and the Community and Voluntary sectors to provide a collective response to problem substance use. Its overall objective is to tackle the harm caused to individuals, families and communities by problem drug and alcohol use by developing the ‘five pillars’ of supply reduction, prevention, treatment, rehabilitation and research.

This policy initiative is now being implemented via the development of national strategies dealing with substance use. The Department of Health is working on a new strategy which will cover the period from 2017 to 2024, and the aim of this report is to contribute to this process in a targeted and effective way. In the next section (1.1) we summarise the terms of reference, in Section 1.2 we describe how we address these and in Section 1.3 we summarise our overall approach to the study.

We have held detailed discussions with representatives of the DATFs and the DPU, and this exchange of views has contributed greatly to our understanding. As is customary, we assume all responsibility for the contents of this report, and have gone to great efforts to ensure that it deals appropriately with all of the issues raised in the call for tenders. We are very grateful to the DPU for providing detailed feedback on earlier drafts of this report and to the HRB for providing information and guidance on data sources and protocols.

1.1 Terms of Reference

The terms of reference specified by the Drugs Policy Unit of the Department of Health in its Request for Tenders for the **“Provision of a Performance Measurement Framework for Drug and Alcohol Task Forces”** (19 October 2015, Services RFT/2010/00632/JIVCV1/2011) may be summarised as follows:

Premise:

“The National Coordinating Committee (NCC) for Drug and Alcohol Task Forces, chaired by the Department of Health, has decided to develop a new Performance Measurement Framework to improve measurement and assessment of the work of the Task Forces and to gain a better understanding of how Task Forces contribute to positive change at local/regional level. The objective is to have the performance measurement framework in place when the new Drugs Strategy commences on 1 January 2017.”

Key Deliverables:

- D1.** *An **evidence-based Performance Assessment Tool** incorporating **key performance indicators**, which will assist with the assessment of the outcomes and impacts of the work of the DATFs.*
- D2.** *Guidelines for the DATFs to assist them in providing the reports required for the purposes of the Performance Framework.*

Requirements:

- R1.** *The contractor will be required to develop a **Performance Measurement Framework** for DATFs, taking account of best practice internationally, based on:*
 - R1a.** *A theory of change model.*
 - R1b.** *A logic model framework.*
- R2.** *The framework will need to set out what types of information are required by DATFs, at what intervals, for which audience(s) and for what purpose(s).*
- R3.** *The framework should specify a set of **key performance indicators** (process, output and outcome indicators) which should fully address the terms of reference of the DATFs, and include, inter alia, specific indicators that will enable an assessment of:*
 - R3a.** *The effectiveness of the approach of individual Task Forces in supporting and strengthening community-based responses to drug and alcohol misuse having regard to needs identified in their respective catchment areas.*
 - R3b.** *The extent of overlap and duplication of activity having regard to the need to optimise available resources, achieve value for money and maximise the impact of interventions.*
- R4.** *The framework should develop **templates for reporting** and set out **mechanisms for data capture** that will provide for ease of collation and analysis.*
- R5.** *The framework should take account of **critical success or enabling factors**, such as the level of engagement the Task Force has with local statutory, community and voluntary services and the extent to which the operation of the Task Force is informed by principles of good governance, probity, evidence and good practice.*

1.2 Aims of the Study

Table 1.1 below shows how we address these terms of reference, including a brief summary of the aims of the analysis and an indication of where each aim is addressed in the report. We draw on the international literature on problem substance use, spatially-targeted interventions and performance measurement systems to develop a 'Theory of Change' model of the determinants of substance use at local level and to link this to the logic of DATF interventions (Sections 3.1 and 3.2). This leads to the specification of a 'Logic Model' (Section 3.2), which is translated into a 'Measurement Model' based on objective data from secondary sources (Section 4.1). The combination of Logic Model and Measurement Model enable us to measure the key outcome and to assess performance (Section 4.3).

The results of the analysis of impacts feed into the construction of a dynamic Resource Allocation Model (Chapter 5), which is articulated with the key performance indicators. The combination of Logic Model, Measurement Model and Resource Allocation Model form the backbone of the Performance Measurement Framework, whilst the Performance Measurement System relies on a particular kind of statistical model, which is described in Section 6.

Table 1.1 Terms of Reference, Aims and Elements of the Project

Terms of Reference	Aims of Study	Section of Report
Premise	<i>Design a PMF to be operational 1 Jan 2017</i>	<i>Whole report</i>
D1. Performance Tool	<i>Develop a PMS for DATFs using key indicators</i>	<i>Section 6</i>
D2. DATF Guidelines	<i>Provide clear guidelines explaining what is required of the DATFs</i>	<i>Sections 6.4, 6.5</i>
R1. Performance Measurement Framework	<i>Conduct a literature review; define key outcome measures; construct a Framework; develop component parts; test and refine</i>	<i>Section 2.6</i>
R1a. Theory of Change	<i>To specify a 'Theory of Change Model' which indicates the key mechanisms involved in PSU in DATF areas</i>	<i>Sections 3.1, 3.2</i>
R1b. Logic Model	<i>To specific a 'Logic Model' which shows how DATFs can generate impacts; translate this into a 'Measurement Model'</i>	<i>Sections 3.3, 3.4</i>
R2. Information for DATFs	<i>Provide clear indications regarding information to be provided to DATFs</i>	<i>Section 6.5</i>
R3. Performance Indicators	<i>Identify key performance indicators to measure processes, outputs and outcomes</i>	<i>Section 4</i>
R3a. Measure Effectiveness	<i>Identify 'impact measures' to assess the effectiveness of the approach adopted by individual Task Forces</i>	<i>Section 6.3</i>
R3b. Identify Overlaps	<i>Identify specific indicators to assess whether there are overlaps/duplications in activities</i>	<i>Cannot be achieved, see Section 6.3</i>
R4. Templates for Data	<i>Evaluate existing data sources; set out templates for data reporting/capture</i>	<i>Sections 4, 7.2</i>
R5. Critical Factors	<i>Integrate critical enabling/disabling factors within the PMF</i>	<i>Section 4.3</i>
Value added	<i>Develop a Resource Allocation Model for DATFs; evaluate distribution of resources</i>	<i>Section 5</i>
	<i>Make observations and formulate recommendations relating to National Drugs Strategy</i>	<i>Section 7</i>

PMF: Performance Measurement Framework
PMS: Performance Measurement System
PSU: Problem Substance Use
DATF: Drug and Alcohol Task Force

In order to maximise the utility of the Performance Measurement System, we highlight the need to develop effective protocols for obtaining access to the external data sources that are needed in order to operationalise the framework, as well as the need to pass performance-related information back to the DATFs each year to which they themselves are expected to respond. We believe that this will give rise to a virtuous cycle of analysis, innovation and performance assessment which will feed into continuous improvements at a programme level. The Performance Measurement System thus facilitates:

- Assessment of relative risk of problem substance use in DATF areas
- The setting of appropriate targets for DATFs
- Improved targeting of resources on the basis of social need
- Evaluating progress at national, regional and DATF levels
- Identifying trends and temporal patterns
- Providing regular, standardised reports at each level
- Understanding local specificities
- Testing new interventions and approaches

1.3 Overall Approach and Structure of the Report

The approach to performance measurement adopted in this report is informed by the following principles:

1. a recognition of the importance of theory in Performance Measurement Frameworks
2. a concern with conceptual clarity and identifying measurement properties
3. an attention to composite indicators
4. an emphasis on social equity and targeting social need
5. use of objective criteria for performance assessment
6. a recognition of the 'open' character of the social world
7. an appreciation of the importance of democratic participation and consensus-building

We will briefly review these principles and describe their relevance to performance measurement, before describing the structure of the report itself. Firstly, we believe that a successful Performance Measurement Framework must be based on a theoretical model of the expected outcomes and their determinants. This is particularly important in the public sector, where the efficacy of programmes must be assessed in relation to their specific aims. The theoretical model used here comprises a 'Theory of Change Model', a 'Logic Model' and a 'Measurement Model', and the importance of these elements of the Framework cannot be overestimated.

Theory provides crucial guidance regarding the main concepts to be measured, the key factors to control for, the measurement of inputs, outputs and impacts, the form and structure of any statistical models that may be required, ways of involving different actors and the implications for policy. The opposite to theory-driven performance assessment is the 'data-driven' approach where indicators are expected to 'speak for themselves'. One of the fundamental findings of a half-century of research on performance measurement is that data rarely (never) speak for themselves and that true impact assessment requires theoretical sophistication as well as precision in data collection and analysis.

This is one of the first frameworks to measure the performance of a public programme in Ireland in relation to its impacts at a population level, and will be of considerable interest to programme managers, policy-makers and practitioners working in other policy arenas.

Secondly, we bring considerable conceptual clarity to the treatment of data, indicators and composite measures. This is informed by more than 20 years' experience in developing, monitoring and evaluating public programmes in EU Member States and constructing official indices and assessment criteria. We believe that the first issue that must be resolved when developing a performance measurement system is the identification of a key outcome in relation to which performance is to be

assessed. In the case of the DATFs, it was clear from the beginning that the outcome of relevance was the level of problem substance use in an area, and this has also been central to successive National Drugs Strategies.

However, we were also aware of the need to distinguish between the structured *risk* of problem substance use – which is determined by the characteristics of local communities and areas – and the *actual level* of problem substance use, which is influenced, in addition, by local responses and various contingent local factors. Problem substance use cannot simply be observed, however, as we can only measure its effects (in relation to health, crime, demand for treatment, early school-leaving etc.). This leads to a third concept, the *estimated level* of problem substance use, which is based on the available data and prevailing measurement tools. This set of conceptual distinctions is at the heart of the Performance Measurement Framework and is central to the operational system that we derive from this. Simplifying, performance may be measured by comparing the risk of problem substance use with its estimated actual level, whilst applying appropriate controls.

Thirdly, we emphasise the superiority of composite indicators over single indicators. This aspect of our approach is based on the results of more than a century of theoretical and statistical developments in the field of measurement theory. The classical common factor model is at the centre of this literature and provides a way of measuring complex, multi-faceted concepts which cannot be observed directly (such as extraversion, depression, social class, social inclusion). Our work on the measurement of affluence and deprivation at the aggregate level is based on this approach (using Structural Equation Modelling techniques to estimate confirmatory models, for example), as is our work on social gradients in health and well-being. In simple terms, a well-constructed composite indicator tends to have higher reliability, validity and sensitivity than single indicators. This leads us to emphasise the value of identifying multiple indicators of problem substance use for monitoring purposes.

Fourthly, this report is grounded in a commitment to addressing social need. This fundamental policy goal has a dual character and may be defended both in terms of social equity (i.e. in political terms) and on the basis of efficiency (i.e. in economic terms). In the context of financial austerity, targeting social need appears to be the only way of simultaneously improving efficiency at a systemic level whilst reducing the negative impact of existing socio-economic and politico-cultural disparities. Reliable measures of social class, deprivation and socio-economic position play an important role in relation to this goal, and are also essential in the present analysis. In general terms, we hold that all public programmes with a social inclusion dimension should be appropriately targeted in spatial as well as economic terms in order to ensure that the weakest and most excluded social groups receive the required supports and opportunities. As indicated above, this is also the best way of improving the efficacy of public programmes and making optimal use of scarce resources.

Fifthly, we favour the use of objective criteria for measuring performance and we base our Performance Measurement Framework for DATFs on independent data. This does not mean that subjective views and assessments are unreliable or that they are of no value. On the contrary, we argue that subjective assessments and insights are a key mediating factor between performance measurement, on the one hand, and systemic improvement, on the other. The positive potential of performance measurement resides in the ways in which organisations respond to assessments by reflecting on their current activities, procedures and the local context and then instituting change. Precisely because we expect subjects to act on the results of our Performance Measurement Framework, it is of fundamental importance to ensure that this focuses on key outcomes. There are many examples of performance measurement systems which acquire an autonomous logic that is somewhat divorced from the outcomes that they ostensibly aim to promote (e.g. the ‘publish or perish’ culture of contemporary academia).

Sixthly, we believe that it is important to understand the complex, ‘open’ character of social systems. This has several important implications, including the impossibility of controlling for all factors that may influence a given social phenomenon. Even if we go to great lengths to theorise a given outcome, to measure all key concepts in an appropriate fashion and to specify powerful statistical models, there is always the possibility that we have failed to consider an important determinant. This means that our conclusions are always, in a certain sense, provisional. A given finding – regarding performance,

for example – may be due to the effects of a confounding factor that we failed to consider. When building a Performance Measurement Framework, it is therefore important to include this possibility and to imagine a process whereby we can incrementally incorporate confounding factors within our set of control variables.

Finally, a foundation stone of Performance Measurement Frameworks is democratic participation. As noted earlier, performance assessment is effective only to the extent that the individuals and organisations involved in the process act successfully and imaginatively on the results of the assessment. This can only happen if they freely accept the Framework, agree with the principles upon which it is based and accept the technical procedures used to operationalise it. If this is the case, then they will ‘take the results to heart’ by reflecting on existing practices and exploring their environment to identify possible explanations and alternative approaches.

Indeed, the Performance Measurement Framework can at best suggest why strong or weak performance is observed; it is therefore up to the actors involved to identify ways of improving. If the actors reject the Framework, then they are more likely to ‘work around it’ and to ignore alternative options. We believe that an open discussion, perhaps leading to revisions to the Performance Measurement Framework, is the most effective way of building a consensus. Of course, it is not always possible to convince everybody, and we should perhaps not expect all actors to welcome every aspect of this framework. However, all actors should at least have the possibility to express their views, to raise questions and to receive a thoughtful and balanced response to their concerns.

Building on these principles, we have sought to describe our proposals in a comprehensive but understandable way. Some of the more ‘technical’ specifications are included in the Appendices, and we use figures and tables to present algorithms, model specifications/results and other technical or statistical information. The report is structured in such a way as to allow the reader to skip these elements of the analysis and to simply read the text of the report if he/she prefers.

In Section 2 we provide a brief history of the Task Forces, including an overview of how their role and organisation has evolved over the past 20 years. In Section 3 we set out the conceptual and methodological foundations of the Performance Measurement Framework, including the ‘Theory of Change Model’, the ‘Logic Model’ and ‘Performance Measurement Model’. In Section 4 we assess the available data and provide a detailed analysis of two important data sources: the Drug Prevalence Survey and the National Drug Treatment Reporting System (NDTRS).

In Section 5 we discuss a range of issues in relation to funding and introduce the notion of a ‘Resource Allocation Model’. We provide an example of a RAM for the DATFs and discuss the practical implications of pursuing a rational distribution of funds at the aggregate DATF area level. Section 6 is dedicated to the Performance Measurement System, and shows how the elements described in Sections 3, 4 and 5 can be operationalised, combined and used for ‘true’ impact assessment.

As noted earlier, the Framework presented in this report represents an innovative and path-breaking approach in the context of performance assessment in the Irish public sector. In order to facilitate implementation of the Framework, Section 7 provides a detailed set of recommendations, including both a Gantt chart and practical steps towards the operationalisation of the Performance Measurement System.

2 Drug and Alcohol Task Forces: History, Role and Funding

2.1 Origins of the Task Forces

The existence of an explosive situation in relation to the supply and use of drugs became apparent in Ireland in the 1980s:

“During the 1960s and 1970s, the use of amphetamines and LSD appeared to be the main drug problem in Ireland. Policy responses included the formation of the Garda Drug Squad, the establishment of the National Advisory and Treatment Centre for Drug Abuse and the enactment of the Misuse of Drugs Act in 1977. However, the early 1980s witnessed a growth in heroin use in inner city areas and other deprived communities in Dublin. A number of Government Committees were established, which recommended the introduction of a series of legislative provisions.”²

Against the backdrop of ineffective public policies, people in the affected communities established anti-drug campaigns and mobilised against the sale of drugs on their estates. Under growing pressure, the Government established the *Ministerial Task Force on Measures to Reduce the Demand for Drugs* in 1996. The aim was to develop initiatives that would address issues relating to the supply of drugs, education, prevention, treatment and rehabilitation. One of the results was the establishment of Local Drugs Task Forces (LDTFs) to develop a co-ordinated response to the problem:

“These initiatives were developed against a background of considerable public unrest. Frustrated with years of lack of response to the problem, people took to the streets and marched in protest. Local meetings were held in many areas, with those accused of drug dealing being named publicly. Some of the action focussed, as it had done previously, on the need to rid communities of drug dealers.”³

Comiskey (1996) estimated that there were approximately 10,500 to 12,500 opiate users in Dublin at this time⁴, whilst An Garda Síochána estimated that drug users were responsible for 66 per cent of all crimes detected in the Dublin Metropolitan area between September 1995 and August 1996⁵. Connolly (2002) provides the following summary:

“Hundreds of young people have lost their lives in drug-related deaths, many thousands more have been processed through the courts and ended up in prison as a result of drug-related criminal behaviour. A study conducted by O’Mahony in 1996 suggested that two out of every three prisoners in Dublin’s main jail, Mountjoy, had used heroin. This study also showed that most prisoners are from areas characterised by high proportions of Council housing, such as the North Dublin Inner City.”⁶

A key aspect of the Drugs Initiative – and its most innovative aspect – was its determination to respond to the concerns of local communities by working with them. The Task Forces were expected to bring together organisations and individuals from the statutory, community and voluntary sectors to develop an integrated locally-based response to problem drug use in designated areas:

² Department of Tourism Sport and Recreation 2001. *Building on Experience: National Drugs Strategy 2001-2008*. Dublin: Stationery Office, p. 52.

³ Loughran, H. and McCann M. E. 2006. *A Community Drugs Study: Developing Community Indicators for Problem Drug Use*. Dublin: Stationery Office, p. 20.

⁴ Comiskey, C. 1998. *Estimating the Prevalence of Opiate Drug Use in Dublin, Ireland during 1996*. Dublin.

⁵ See Connolly, J. 2002. *Drugs, Crime and Community in Dublin: Monitoring Quality of Life in the North Inner City*. Dublin: North Inner City Drugs Task Force, p. 18.

⁶ Connolly, J. 2002. *Drugs, Crime and Community in Dublin: Monitoring Quality of Life in the North Inner City*. Dublin: North Inner City Drugs Task Force, p. 19.

“Effective action against drugs requires a sustained, co-ordinated effort across a range of Government Departments and Agencies. This is a critically urgent example of what the Strategic Management Initiative in the Public Service (SMI) describes as a “cross-cutting” issue, which cannot be met satisfactorily by any one Department or Agency.”⁷

The Initiative is widely perceived to have been a success, particularly as the rapid expansion of Methadone Maintenance Treatment and its take-up by former heroin addicts led to a reduction in deaths, crime and other impacts across the Task Force areas and enabled problem drug users to access other services, such as counselling, family support, training and employment opportunities. In Section 2.2 we describe the role of the Task Forces, in Section 2.3 we turn our attention to funding mechanisms and in Section 2.4 we summarise the results of previous evaluation studies. This overview of the Task Forces and the Drugs Initiative from 1996 onwards aims to provide a context for the development of the Performance Measurement Framework for DATFs in later sections of this report.

2.2 Role of the Task Forces

Between October 1996 and May 1997, Local Drugs Task Forces were established in 13 areas, twelve of which were in Dublin (Ballyfermot, Ballymun, Blanchardstown, Canal Communities, Clondalkin, Dublin 12, Dublin North-East, Dun Laoghaire/Rathdown, Finglas-Cabra, North Inner City, South Inner City and Tallaght) and one in Cork. Later, in 2000, a fourteenth Local Drugs Task Force was established in Bray. Ten Regional Drug and Alcohol Task Forces were introduced between 2001 and 2006 under the auspices of the first National Drugs Strategy, *Building on Experience* (2001-2008).

The main role of these bodies, from the very start, was to develop locally-based responses that could complement existing programmes and services, which meant assessing the extent and nature of the drug problem in a given area, defining a local strategy, developing and vetting drugs-related projects and overseeing the implementation of an action plan:

“The Task Forces comprise a partnership between the statutory, voluntary and community sectors. They were mandated to prepare and oversee the implementation of action plans which co-ordinate all relevant drug programmes in their areas and address gaps in service provision.”⁸

Typical elements of the role of the Task Forces include: (a) carrying out research, (b) gathering/distributing information, (c) providing education and training, (d) undertaking preventive interventions, (e) working towards the reduction of supply, (f) offering treatment and (g) providing rehabilitation services. They tackle these challenges by identifying local needs and developing projects which can satisfy these. In other words, the DATFs do not intervene directly and do not determine how funding is spent. Rather than duplicating existing services or cutting across the responsibilities of other statutory bodies, the Task Forces are expected to work cross-sectorally and inter-institutionally to ensure that the local response to problem drug use is coherent, integrated and effective. They therefore have a rather indirect, collective influence:

⁷ Department of Tourism, Sport and Recreation 1999. *Local Drugs Task Forces Handbook: A Local Response to the Drug Problem*. Dublin: Stationery Office, p. 50; see also Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants.

⁸ Department of Tourism, Sport and Recreation 1999. *Local Drugs Task Forces Handbook: A Local Response to the Drug Problem*. Dublin: Stationery Office, p. 4.

“...the LDTFs provide a mechanism for the coordination of services in these areas, while at the same time allowing local communities and voluntary organisations to participate in the planning, design and delivery of those services.”⁹

To meet these objectives, the Task Forces are expected to design action plans that are guided by the National Drugs Strategy, on the one hand, and informed by an analysis of the local drug situation, on the other. This entails identifying key needs and related gaps in provision and developing strategies for addressing these gaps¹⁰. It also means that the DATFs represent a global, systemic response to problem substance use in each area. **The Task Forces should thus be treated as a ‘level of analysis’ rather than an organisation, and assessing their performance implies determining how effective the combined efforts of all local actors have been in reducing problem substance use and its societal impacts.** The current terms of reference of the Task Forces include the following¹¹:

- To oversee and monitor the implementation of projects approved under action plans
- To ensure the formal evaluation of these projects with a view to ‘mainstreaming’
- To prepare action plans which update the area profile, in consultation with relevant state agencies, voluntary bodies and community groups
- To develop networking arrangements for the exchange of information with other Task Forces, including the dissemination of best practice
- To take account of and contribute to other initiatives aimed at improving social inclusion and tackling disadvantage
- To provide information, reports and proposals to the relevant Minister

As far as the organisational structure of the Task Forces is concerned, the Goodbody report provides the following overview:

“The Local Drug Task Forces typically operate as a committee, which is made up of representatives from statutory agencies, the voluntary sector, representatives of the local community and local public representatives. Task Forces usually meet on a monthly basis. The mix of people on the committee supports the co-ordination of services, while at the same time facilitating the participation of local community and voluntary organisations in the planning, design and delivery of such services.”¹²

The composition of the Task Forces has remained fairly stable since their establishment, including local or regional representatives of Government Departments, State Agencies, Voluntary organisations and Community groups plus elected representatives and ‘communities of interest’. Representatives of the Area Partnerships and Social Inclusion Measures Group are also expected to participate. The conditions for membership, duration of mandates and related rules were formalised gradually.

From 1996, the DTFs were under the responsibility of the Cabinet Committee on Social Inclusion, whilst from 2011 onwards they came under the Cabinet Committee on Social Inclusion, Children & Integration¹³. They originally responded to a National Drugs Strategy Team (NDST), which comprised personnel from relevant Government Departments and State Agencies, plus one person each from the voluntary and community sectors. Between the NDST and the Cabinet Committee were the Inter-Departmental Group on Drugs (IDG) and Drugs Strategy Unit (DSU):

⁹ Department of Tourism Sport and Recreation 2001. *Building on Experience: National Drugs Strategy 2001-2008*. Dublin: Stationery Office, p. 53.

¹⁰ Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants.

¹¹ See http://drugs.ie/features/feature/what_is_a_drugs_task_force, accessed 12 December 2016.

¹² Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants, p. 5.

¹³ Quigley, E. 2011. *National Drug Strategies in Ireland – A Brief Historical Overview*. Presentation to the TAIEX Conference in Split, Croatia on 26-28 September.

“The structures proposed included (i) a Cabinet Committee to confer political leadership on the policy and to resolve inter-organisational barriers to effective responses and (ii) an Inter-Departmental Group (IDG), representing the Assistant Secretaries at those Departments serving on the Cabinet Committee, to address policy issues and review progress. It also proposed a National Drugs Strategy Team (NDST) to (i) operate on a cross-departmental basis and ensure effective co-ordination, (ii) identify and consider policy issues before referring them to the IDG and (iii) co-operate with and oversee the work of the Local Drugs Task Forces (LDTFs) who were to co-ordinate delivery of the projects in the areas of highest heroin use.”¹⁴

The Oversight Forum on Drugs (OFD) has remained in place since the beginning of the Drugs Initiative. It is chaired by the Minister with responsibility for the National Drugs Strategy and meets quarterly to oversee progress and to address any emerging issues. It comprises representatives of Government Departments and State Agencies involved in implementing the NDS, together with representatives of (a) the National Advisory Committee on Drugs and Alcohol; (b) the Community Sector; (c) the Voluntary Sector; (d) Chairs of the Local and Regional Drugs Task Forces.

The NDST was replaced by the Drugs Advisory Group (DAG)¹⁵, which was later replaced by the National Coordinating Committee (NCC), on the basis of the Department of Health’s 2012 *Report on the Review of Drugs Task Forces and the National Structures under which they operate*. The NCC comprises representatives of key Departments and State Agencies involved in the implementation of the NDS (but this time at national level) as well as two representatives of each of the following: (a) the Network of LDATF Chairpersons; (b) the Network comprising LDATF Coordinators; (c) the Network of RDATF Chairpersons; (d) the Network comprising RDATF Coordinators; (e) the (national) Community Sector; (f) the (national) Voluntary Sector.

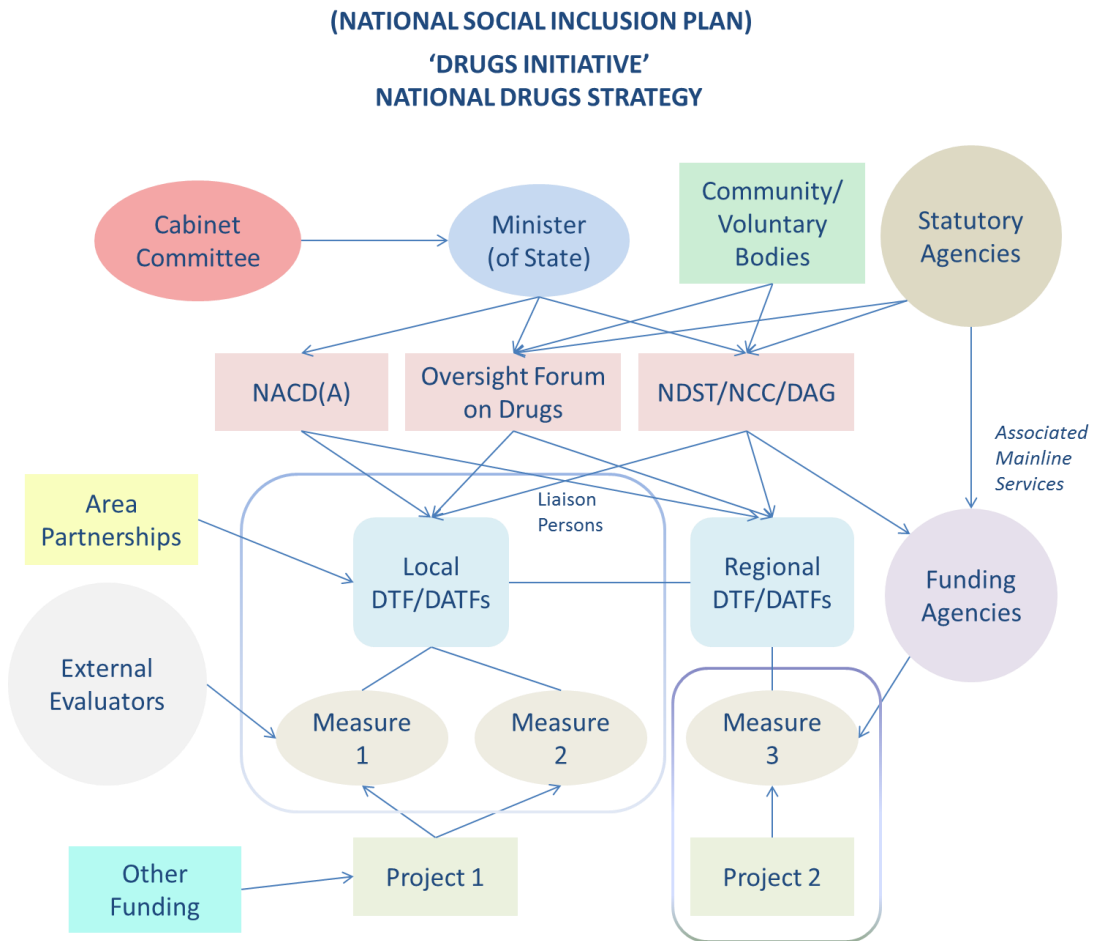
The introduction of so many new structures, often with overlapping and rather vague responsibilities, has led to difficulties in managing the Task Forces and in establishing clear channels of accountability¹⁶. The National Drugs Strategy 2009-2016 introduced a further level of complexity by integrating alcohol within the remit of the DTFs, bringing all national strategies relating to substances into alignment. Figure 1.1 below provides a graphical representation of this complex institutional structure. The Local and Regional Task Forces are at the centre of the figure, and are surrounded by a dense network of overlapping and interlocking bodies and committees.

¹⁴ Department of Tourism Sport and Recreation 2001. *Building on Experience: National Drugs Strategy 2001-2008*. Dublin: Stationery Office, p. 53.

¹⁵ Quigley, E. 2011. *National Drug Strategies in Ireland – A Brief Historical Overview*. Presentation to the TAIEX Conference in Split, Croatia on 26-28 September.

¹⁶ Quigley, E. 2011. *National Drug Strategies in Ireland – A Brief Historical Overview*. Presentation to the TAIEX Conference in Split, Croatia on 26-28 September.

Figure 2.1 Overview of Organisational Structure of Drugs Initiative in Ireland



The Drugs Initiative was designed as a multi-tiered programme, articulated across different institutional levels, from Central Government to Local Task Force. At each level, a specific organisational form was derived in order to ensure cross-sectoral cooperation and to develop a coordinated institutional response. Most importantly, significant resources were dedicated to the programme and it was given political backing at the highest levels, just as it was expected to produce an impact on the ground in a short space of time. The first National Drugs Strategy was introduced in 2001 to simplify the development and implementation of policy in this area.

The sheer institutional density of the Drugs Initiative indicates the complexity of its aims, which involved an iterative, decentralised process whereby the responses of different actors were gradually brought into alignment and adapted to problem substance use 'on the streets'. This process was expected to be guided by national strategy and to range across Departments and Agencies (cross-institutionally), between state and non-state bodies (cross-sectorally), over different scales (at local, regional and national levels) just as it adapted dynamically to changing conditions.

Provisions were made from the beginning for the 'mainstreaming' of successful projects, which promised to overcome the main source of uncertainty for voluntary measures. The influence of the 'Partnership' approach is evident here, in both its cross-sectoral and spatially-targeted forms, and the result is a highly innovative and ambitious programme. Given its complexity and due to the difficulties involved in defining responsibilities within this kind of institutional architecture, it is perhaps unsurprising that much subsequent attention has aimed to improve accountability by strengthening the 'vertical' links between projects, Task Forces, funding agencies, the NCC and the relevant Minister:

“There is an urgent need to develop a governance framework which will provide greater management and control of expenditure by Drugs Task Force projects and contain the necessary safeguards to ensure that Drugs Task Forces carry out their functions in a way which will stand up to external scrutiny.”¹⁷

2.3 Funding Arrangements

The Drugs Initiative has quite a different logic to other spatially-targeted programmes in Ireland which aim to promote social inclusion. Firstly, as noted in Section 2.2, the Task Forces are not independent organisations but committees which bring together people who work for Government Departments, State Agencies, Voluntary Bodies or who are involved in the Community, in a local development role or as an elected representative. Secondly, they do not have their own budgets, but receive expenses and in-kind supports through a range of statutory bodies, from the Partnership/Local Development Companies to the Regional Health Authorities.

Drugs Initiative funds were initially paid from the Department of Tourism, Sport and Recreation to other Departments and Agencies, with the Office of the Minister for Drugs later coming under the Department of Community, Rural and Gaeltacht Affairs, before responsibility was transferred to the Minister for Health. The arrangement whereby funding is channelled to projects through relevant State Agencies was designed to facilitate the subsequent 'mainstreaming' of projects¹⁸. The funding agencies were expected to take a 'hands-on' role in assisting with the establishment and management of projects during their pilot phase, although there was, initially, confusion about the respective roles of the different actors:

“The NDST and the Department of Tourism, Sport and Recreation expressed the view that responsibility for exercising financial control over the projects rested with the funding agencies. However, many of the funding agencies in turn used other agencies within their remit to channel funding to projects. This has led to a distancing of accountability for Initiative funding from the responsible Department.”¹⁹

The Task Forces have a chairperson who was originally nominated by the Area Partnerships, in consultation with the Task Force and NDST, but later elected directly by DTFs. Each LDTF in the Greater Dublin Area was originally assigned a coordinator recruited by the Eastern Regional Health Authority (ERHA), with responsibility subsequently being transferred to the HSE. These coordinators are full-time, permanent employees and the cost of employing them was, at least initially, borne by the Department of Health²⁰.

The Coordinators have many important duties, including writing a profile of all existing or planned services and identifying the resources available in the local area to combat problem substance use and to co-ordinate activities that the Task Force deems necessary to furthering its strategy. Additional support staff in the form of a Development Worker (to support projects) and an Administrator (for office tasks and financial monitoring) are provided through the Operational Budget.

¹⁷ Department of Health. 2012. *Report on the Review of Drugs Task Forces and the National Structures Under Which They Operate*. Dublin: Department of Health, p. 5.

¹⁸ Comptroller and Auditor General 2000 Annual Report Dublin: Stationery Office.

¹⁹ Comptroller and Auditor General 2000 Annual Report Dublin: Stationery Office, p. 102.

²⁰ A situation is now emerging whereby the direct employment of DATF Coordinators by the HSE is no longer guaranteed. In some cases, DATFs have requested additional funding in order to recruit a Coordinator, as the HSE was no longer willing or able to accept this responsibility; (information based on communications with individual DATF coordinators)

In the case of the Local DATFs, staff are normally employed on a distinct funding line²¹. A small 'Development Fund' covers new or emerging situations or can be used to assist new community or voluntary groups. A technical assistance budget is available to each Task Force to assist it in preparing its action plan. A 'Small Grants Fund' is designed primarily to allow Regional DATFs to respond to new situations which are not covered by their action plans. While this budget may be used to respond to specific or unanticipated situations, it may also be used to provide "seed" funding to new or emerging community or voluntary groups, as a pre-cursor to involving them more actively in the Task Force's overall drugs strategy at a later date.

As we noted earlier, the value of services provided to DATFs and projects, aside from the funding they receive from Central Government, is highly significant. In the early years of the Initiative, this involved the Eastern Region Health Authority providing Coordinators, premises and administrative support, for example, and FÁS allocated 1,000 places per annum under its Community Employment Scheme²². Services provided voluntarily by individuals and groups are also significant, including training courses and provision of accommodation (e.g. by Dublin Corporation).

The current situation is shown in Table 2.1 below, which summarises programme funding by source from 2009 until 2015. The figures show that funding has been falling steadily since 2009, dropping from €277.2m to €232.7m (-16.1%) and that practically all Departments have reduced their financial support (with the sole exception of law enforcement). Direct Funding from the Department of Health and the HSE for DATF projects amounts to €30m, or 12.6 per cent of total funding. The largest other funding providers are the HSE (€86.3m), principally for addiction services, followed by An Garda Síochána (€43m). In addition to the monies available under the action plans, the Premises Initiative was designed to meet the accommodation needs of community-based drugs projects, most of which were in LDTF areas²³.

Table 2.1 Public Spending on Drugs Programmes in €m, 2009-2015²⁴

Department/Agency	2009	2010	2011	2012	2013	2014	2015
HSE Addiction Services	104.9	105.4	92.9	89.4	90.4	86.1	86.3
D/Health	40.3	35.8	33.6	32.4	30.5	8.3	7.4
HSE Drug and Alcohol Task Force Projects	0.0	0.0	0.0	0.0	0.0	21.6	22.6
An Garda Síochána	45.0	44.5	45.0	45.9	44.0	43.0	43.0
D/Children & Youth Affairs	28.5	25.7	25.0	22.7	20.3	19.5	19.5
D/Justice & Equality	14.8	14.5	18.7	18.6	18.6	18.8	18.9
Revenue Customs Service	15.9	15.8	15.5	14.2	14.6	16.2	16.2
D/Social Protection (former FÁS area)	18.8	18.0	15.6	11.9	13.4	14.1	13.7
D/Education & Skills	3.6	2.5	0.4	0.8	0.8	0.7	0.7
Irish Prison Service	5.0	5.2	5.2	5.0	4.5	4.2	4.3
D/Environment, Community & Local Government	0.5	0.5	0.4	0.2	0.0	0.0	0.0
Total	277.3	267.8	252.2	241.0	237.1	232.5	232.7

As far as project funding is concerned, this is generally related to a local action plan. Following a central evaluation, funding for specific projects and initiatives can be transferred from the DATFs to mainstream Government Departments or State Agencies. Most projects were thus designed, from the

²¹ National Drug Strategy Team 2011. *Local and Regional Drugs Task Forces: Handbook*. Dublin: Department for Community, Equality and Gaeltacht Affairs.

²² Comptroller and Auditor General 2000 Annual Report Dublin: Stationery Office.

²³ Loughran, H. and McCann, M. E. 2006. *A Community Drugs Study: Developing Community Indicators for Problem Drug Use*. Dublin: Stationary Office.

²⁴ Data supplied by Drugs Policy Unit in the Department of Health.

beginning, to be ongoing initiatives. The process of mainstreaming has generated quite a rapid expansion in the funding of initiatives to tackle problem drug use at local level. The 2011 Handbook notes the importance of considering these projects when analysing the Drugs Initiative or the work of the DATFs:

“Mainstreamed projects make a significant on-going contribution to the response to substance misuse problems in LDTF areas. To maintain the strategic links between Drugs Task Forces and mainstreamed projects, it is recommended that the relevant funding body brief the Task Force on the activity of the project on an annual basis.”²⁵

2.4 Previous Evaluation Studies

The first evaluation of the Drugs Initiative was commissioned in October 1998 by the Department of Tourism, Sport and Recreation, which was at the time responsible for providing most of the funding. The resulting report expressed satisfaction with improvements in co-ordination and co-operation between the Government Departments and highlighted the importance of local community involvement. It recommended that more formalised structures be put in place for running and monitoring the Local Drugs Task Forces, including structures to link together the Task Forces themselves and to improve communication between Task Forces, Government Departments and the NDST.

Another review, which formed part of the *Annual Report of the Comptroller and Auditor General* (2000) cited earlier, argued that inadequate consideration had been given to the development of performance indicators. Another report entitled *Evaluation of Local Drugs Task Force Projects: Experiences and Perceptions of Planning and Implementation*, commissioned by the NDST, was published in 2000. This report found that there was considerable scope for improvement in the projects in terms of internal management of and external support for projects under the Drugs Initiative. The Report makes the following observation:

“No specified objectives or targets were set for the Initiative. The NDST did not set targets for reductions in the levels of drug abuse. In particular, no performance measures for effectiveness of projects were established. The NDST believed that a speedy and appropriate response was required to counter the hostility and suspicion that existed in communities in LDTF areas at the time. Measurement of the reduction or otherwise of opiates use in the areas covered by the LDTFs would have been a key indicator of the success of the Initiative. However, neither the NDST nor the LDTFs considered it appropriate to delay the introduction of programmes and services in order to devise performance indicators.”²⁶

An important review of the LDTFs was produced by the NDST in 2002, drawing on work by an external facilitator. The many recommendations made included: (1) the need for improved financial and reporting arrangements for LDTF-funded projects, including mainstreamed projects; (2) the need to disseminate models of best practice arising from the work of the LDTFs; (3) the further resourcing of LDTFs through the appointment of a project development worker and a full-time administrative assistant; (4) the development of a framework to evaluate the impact of the LDTFs.

A report by Goodbody Economic Consultants in 2006 built on these recommendations by exploring ways of assessing the effectiveness and efficiency of the LDTF Programme by using performance indicators. It examined funding mechanisms, the kinds of measures that were funded, the strategic objectives contained in the NDS and the measurement of performance, noting the difficulties involved:

²⁵ National Drug Strategy Team 2011. *Local and Regional Drugs Task Forces: Handbook*. Dublin: Department for Community, Equality and Gaeltacht Affairs, p. 39.

²⁶ Comptroller and Auditor General 2000 Annual Report Dublin: Stationery Office, p. 103.

“One of the potential dangers of locally based initiatives is that they can result in a situation whereby similar initiatives are developed and tested in a number of different areas without any of the areas being able to profit from the experience of others. One way of addressing this potential problem is to develop mechanisms for sharing experiences and best practice across the local areas involved. In the case of the Local Drugs Task Forces there would appear to be very limited interaction across the Task Force areas to date and little or no resources available to support cross-task force initiatives or networking.”²⁷

The Goodbody report noted that performance indicators for the Task Forces were still absent at the time of writing (2006). In particular, it noted the lack of any comprehensive large-scale surveys of the prevalence of drug use within the LDTF areas and the shortage of area-based data that could be aggregated to this level. In practice, only treatment data could be used in this way. The conclusion reached is as follows:

“Establishing the effectiveness and impact of the LDTF Programme in a definitive manner is very difficult. This is not only because of the lack of data on the outputs of the Programme, but also because of the difficulties in disentangling the effects of the Programme from other elements of the National Drugs Strategy.”²⁸

The benefits of drug intervention measures are also difficult to fully capture for a number of reasons, as “some of the benefits do not accrue for a number of years”, “the benefits encompass impacts other than those on drug abuse” and “the benefits do not accrue solely to drug users and their families”²⁹. Finally, at the project level, the case studies and interviews reported in the Goodbody report highlight the lack of quantitative information available on outputs and outcomes of funded projects:

“Discussions with Task Force co-ordinators and with Task Force members have highlighted the low level of resources available to the Task Force to formally monitor and evaluate the projects that it is funding. While efforts have been made to address this situation by a number of the projects, to date, most have been unable to allocate adequate resources to develop or implement proper monitoring and evaluation systems.”³⁰

The report underlines the need for:

- clearer reporting relationships between projects and LDTFs
- use of standard monitoring templates for projects
- greater learning from individual projects
- more detailed evaluation of drug problems in each area
- greater cross-LDTF and cross-project networking and learning
- stronger evaluation prior to 'mainstreaming' based on performance indicators
- long-term follow up surveys of clients
- research and analysis at NDST level to derive high-level policy conclusions

The 2011 Local and Regional Drugs Task Forces Handbook gave responsibility for the development of a Performance Measurement Framework to the Drugs Advisory Group, whilst the 2012 *Report on the Review of Drugs Task Forces and the National Structures under Which They Operate* assigned this responsibility to the NCC, making reference to a “common evidence-based assessment tool

²⁷ Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants, p. 51.

²⁸ Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants, p. 46.

²⁹ Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants, p. 48.

³⁰ Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants, p. 51.

incorporating key performance indicators to measure the impact of the Drugs Task Forces” (Recommendation 6).

None of the evaluation studies carried out since the inception of the Drugs Initiative have raised the issue of targeting in relation to the distribution of resources. If it is appropriate to measure the performance of DATFs, one might argue, then it is necessary to ensure that resources are distributed on an equitable basis. Resource provision refers here to the overall, ‘global’ funds and resources that are available to tackle problem substance use within a given area. Defining this is clearly not an easy task, given the large number of actors involved, the difficulty of quantifying certain kinds of resources (such as access to premises, training or administrative support) and the ‘sharing’ of various facilities between different projects and services.

It is also striking that several reports have referred to the need to develop a system of impact assessment without specifying how this could be achieved in such a complex, decentralised, multi-actor and multi-funder programme. The PA Consulting Group identified 80 performance indicators, NEXUS Consultants proposed impact indicators based on the assessments of project managers, Ballyfermot LDTF suggested adopting a system of 60 performance indicators, Loughran and McCann (2006) identified 32 indicators and Goodbody Economic Consultants adopted 24 performance indicators.

Like the other publications, the Goodbody report draws several useful lessons from this literature, emphasising the need to focus on a limited number of impacts and to recognise that projects supported by the DATFs may act in synergy with projects supported by other funding sources, just as projects can have beneficial effects not just on participants but also on the wider community.

Other complexities pose additional challenges, as the measures proposed by DATFs may provide funding to support or expand existing projects which receive funding under other official programmes, or via private fund-raising, EU schemes or donations etc. A measure can be anything *“from a once-off community day out, to the employment of a development worker, to a fully operating drop-in centre or crèche, with a full complement of staff”*³¹. Over 450 measures were allocated funding under Round 1 and Round 2 of the Drugs Initiative (see Table 2.2 below).

³¹ Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants, p. 72.

Table 2.2 DATF Funding, 2015

DATF Name	Funding €	Funding %	Funding %
Dublin North East	594,836	2.76	
Ballymun	697,957	3.24	
Finglas - Cabra	627,960	2.92	
Blanchardstown	913,589	4.24	
North Inner City	1,734,723	8.06	21.23
South Inner City	1,868,014	8.68	
Canal Communities	1,141,309	5.30	
Ballyfermot	1,231,286	5.72	
Dublin 12	993,150	4.61	
Clondalkin	1,007,948	4.68	
Tallaght	893,514	4.15	
Dun Laoghaire - Rathdown	786,755	3.65	
Bray	916,271	4.26	41.06
North Dublin (City and County)	467,486	2.17	
North Eastern	927,813	4.31	
East Coast (of Dublin and Wicklow)	508,500	2.36	
South Western	696,497	3.24	
Midland	125,861	0.58	12.66
North West	461,730	2.14	
Western	524,155	2.43	
Mid-West	1,260,007	5.85	
Cork (LDTF)	1,108,299	5.15	
Southern	973,178	4.52	
South East	1,065,760	4.95	25.05
Total	21,526,598	100.00	

Source: Drugs Policy Unit in the Department of Health, unpublished data.

In some cases, it may be possible to measure the 'outputs' of these kinds of projects, but it is difficult, in practical terms, to identify their impacts. An intervention in the realm of preventive education, for example, may take place alongside a myriad of other programmes working on the same issues in parallel, offering training for teachers, providing free-time activities for children or improving access to training for young people. How might we measure whether this intervention is effective in reducing the prevalence of problem substance use in the area? We are therefore in agreement with Goodbody Economic Consultants' finding that there is a need to consider area-wide performance indicators that capture these synergistic and spill-over impacts"³².

Goodbody Economic Consultants mention the need for monitoring performance at other levels, including that of the project and the process, as well as that of the national programme as a whole, but limit the assessment of impacts to the DATF area level, which we also agree with. Evaluating projects which vary in terms of activities, sector, size, target group etc. essentially demands a mixed approach involving qualitative assessment and inspection of quantitative data on outputs and results. True impact assessment at the project level would require a scientific study design with a control group and a relatively large sample size, which would be incompatible with the cost and characteristics of these projects.

³² Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants, p. 57.

We do not agree with the Goodbody report in relation to the utility of commissioning a household survey of drug prevalence and drug impacts every three years, including perceptions of local drug problems, whether respondents have been directly or indirectly affected by these problems, whether this has influenced their quality of life and their assessment of actions taken to address these problems in their area³³. Even in the period when the LDTFs covered a restricted number of areas in Dublin, this would not have yielded reliable data for impact assessment, as our own analysis of the Drug Prevalence Survey data suggests. As the Task Forces now encompass the whole country, it seems more useful to draw on existing national surveys to the extent that they can shed light on substance use and its spatial distribution, as well as considering where such surveys might be improved to enhance their usefulness for the purpose of performance measurement.

The 2011 *Local and Regional Drugs Task Forces Handbook* gives Task Forces a role in “overseeing and monitoring the effectiveness” of projects approved under their respective action plans (p. 12). From this point onwards, the DTFs were asked to develop three-year strategies for their area, reflecting local needs and circumstances, to support implementation of the National Drugs Strategy, as well as an operational plan each year to identify priorities.

In 2014, the Terms of Reference of the DATFs were revised and are since summarised as follows³⁴:

- To coordinate the implementation of the National Drugs Strategy in the context of the needs of the region/local area
- To implement the actions in the National Drugs Strategy where Task Forces have been assigned a role
- To promote the implementation of evidence-based local/regional drug and alcohol strategies and to exchange best practice
- To support and strengthen community based responses to drug and alcohol misuse
- To maintain an up-to-date overview on the nature and extent of drug and alcohol misuse in the area/region
- To identify and report on emerging issues and advocate for the development of policies or actions needed to address them
- To monitor, evaluate and assess the impact of the funded projects and their continued relevance to the local/regional drugs task force strategy and to recommend changes in the funding allocations as deemed necessary

We will now proceed to discuss the components of a Performance Measurement Framework for DATFs, before discussing data and operationalisation in later sections of this report.

³³ Goodbody Economic Consultants, 2006, p. 66; cf. Loughran, H. and McCann, M. E. 2006. *A Community Drugs Study: Developing Community Indicators for Problem Drug Use*. Dublin: Stationary Office.

³⁴ Revised Terms of Reference supplied by Drugs Policy Unit in Department of Health.

3 Conceptual and Methodological Foundations

In this chapter, we lay the foundations for the Performance Measurement Framework by developing some of its key concepts and theoretical elements. The aim is to describe the basic structure of the Framework and its rationale. We start, in Section 3.1, by describing our general approach to performance measurement, which is informed by a theory-driven or ‘confirmatory’ analytical stance. This motivates the development of a theoretical model which describes the key drivers of problem substance use at local level and identifies ways of intervening.

The Performance Measurement Framework is developed at a conceptual level in this section, and then operationalised in later sections using the available data. We define the key concepts in Section 3.2 and express their inter-relationships in the form of a Logic Model in Section 3.3. The Logic Model is translated into a Performance Measurement Model in Section 3.4, and this provides the ‘blueprint’ for the Performance Measurement System, which is described in more detail in Section 6.

3.1 Confirmatory Programme Evaluation

A fundamental choice must be made at the outset between a theory-driven and a data-driven approach to performance measurement. The terms of reference, by focusing on the development of a ‘Theory of Change Model’ and ‘Logic Model’, make clear the client’s preference for a theory-driven approach, and we share this orientation. It may be helpful to begin by summarising the approach known as Confirmatory Programme Evaluation, as this clarifies a number of the issues at stake, including the kinds of questions that measurement frameworks should address and the kinds of methods that can be used.

Confirmatory Programme Evaluation is a method for conducting theory-driven assessments, including performance measurement, impact assessment and other kinds of evaluations. It is in harmony with both the “Theory of Change” approach and the use of “Logic Models” to specify the relationship between key concepts³⁵. It emphasises the development and testing of theories relating to programme impacts and the underlying mechanisms which produce these. This is useful, as it forces decision-makers to be clear about what they intend to measure when developing a performance measurement framework, and facilitates a shared understanding of this objective between the decision-maker, the analysts and the stakeholders.

In a theory-driven approach to evaluation, the expected operation of a programme is theorised in order to establish an *a priori* model of how interventions exert their influence. It is therefore well-suited to the assessment of public interventions or programmes which have clear goals. Uncertainty regarding the direction and strength of relationships is reduced by comparing the expectations inherent in the model with a set of empirical observations. The assumptions that are encoded by the theoretical model are thus tested empirically and the model is also informed by the findings of previous studies, including random control trials and pilot studies.

By developing an explicit Logic Model, we make several steps towards the specification of the data required to carry out an evidence-based performance assessment. Whilst data-driven approaches tend to apply exploratory analytical techniques to existing indicators – often without fully understanding what these indicators actually measure – confirmatory approaches lay great emphasis on the careful development of powerful and well-crafted indicators that capture precisely the definitions that are required.

³⁵ Chris, C. *et al.* 2011. ‘A Systematic Review of Theory-Driven Evaluation Practice from 1990 to 2009’. *American Journal of Evaluation*, 32(2): 199–226.

The main steps involved in Confirmatory Programme Evaluation may be summarised as follows³⁶:

1. Describe the various elements of the programme and the processes that are expected to affect outcomes using a Logic Model.
2. Identify how to measure outcomes over the short, intermediate, and long term using a Measurement Model.
3. Collect or obtain data on the key background variables that are necessary in order to obtain unbiased estimates of programme impacts. Identify possible mediators that intervene between background variables and outcomes.
4. Estimate the main effects of interventions for relevant groups, quantifying the temporality, size, gradient, specificity, consistency and coherence of programme effects.
5. Where main effects are detected, test the hypothesised causal mechanisms in an attempt to explain how these effects were generated.
6. Interpret the pattern of findings to facilitate knowledge transfer.
7. Identify ways of using the findings for programme improvement in a dynamic fashion over time.

This framework is perfectly suited to the task of developing a Performance Measurement Framework for the DATFs. As noted earlier, we begin by developing a Logic Model, drawing on what is known about problem substance use and its determinants. We then specify a Measurement Model that enables us to operationalise all the main concepts, starting with problem substance use itself. We use the resulting measures to estimate impacts and to explore the pathways involved. Finally, we draw provisional conclusions and seek to learn from examples of ‘good practices’. The last element of the Framework is of central importance, as its ultimate aim is to shape policies that can improve the performance of individual DATFs and the programme as a whole.

This overview of Confirmatory Programme Evaluation confirms the importance of understanding how a whole system of influences and effects functions, and how interventions to tackle problem substance use relate to this broader set of relationships involving a dense network of risk and protective factors operating at various levels. In other words, as well as measuring problem substance use itself, we must identify these factors and how they influence individual behaviour, we must understand the logic of different intervention strategies and we must use appropriate methods and statistical models to estimate overall performance. As we will see, this generally involves comparing the values that are observed with those that would be expected, given the characteristics of each DATF area.

Together, these theoretical, methodological and empirical elements provide solid foundations for the development of a Performance Measurement Framework that can guide policy and practice in coming years and contribute to continuous improvements in publicly-funded interventions to reduce the prevalence of and harm caused by problem substance use in Ireland. The Performance Measurement Framework presented in the following pages is dynamic and flexible, rooted in a theoretical understanding of the determinants of change and makes optimal use of available data.

3.2 Components of a Performance Measurement Framework

When seeking to develop a Performance Measurement Framework for DATFs, it is important to be clear about the relationship between policies, research and empirical evidence. At the most fundamental level, effective policies in relation to problem substance use must be based on an understanding of the risk and protective factors that influence this, as well as its impact on health and well-being.

These risk and protective factors include social, economic and cultural influences as well as behavioural, environmental and institutional aspects which vary across areas and over time. As well as

³⁶ Reynolds, A. J. (2005) ‘Confirmatory program evaluation: Applications to early childhood interventions’, *Teachers College Record*, 107(10): 2401-2425.

providing treatment and pursuing harm reduction strategies, a key concern of the DATFs is to evaluate the long-term effects of interventions to reduce the prevalence of problem substance use. This requires a sophisticated approach to measuring impacts which has as its ultimate objective the promotion of population health and well-being.

Effective evidence-based policy-making in this area requires a longitudinal framework for measuring the prevalence of substance use and problem substance use and for monitoring health and well-being. By analysing repeated measures and indicators, trends and emergent needs can be identified and resources can be targeted effectively on the basis of need. This longitudinal analytical framework provides the most appropriate and powerful means of assessing the impact of initiatives and interventions in the context of the National Drugs Strategy. In the context of performance measurement, this means that each successive wave of analysis complements and adds value to those which have preceded it, enabling us to identify areas where performance appears to be improving and those where there are signs of deterioration. It also means that the first set of performance estimates are the most difficult to analyse and interpret, as this dimension is lacking.

Performance Indicators

One common way of approaching the topic of performance measurement is by reference to four types of performance indicators, namely input indicators, output indicators, result indicators and impact indicators. This approach informed the 2006 Expenditure Review of Local Drug Task Forces carried out by Goodbody Economic Consultants³⁷.

Input indicators, in this context, might refer to the additional resources that the Drugs Initiative has made available to tackle problem substance use at local level, including (a) funds assigned directly to DATFs; (b) funds assigned to projects; (c) other new resources made available (such as premises, administrative support, services, placements etc.); (d) social capital, skills of staff members, cultural assets and other intangible resources.

Appropriate output indicators would include information on the number and types of measure supported and the number of people reached by each initiative. This information should be subdivided by type of initiative, using a comprehensive typology. The different types of projects supported under the DATF Initiative is included in Table 4.1 of the Goodbody report (p. 19) and reproduced in Appendix A of this report.

Result indicators typically capture the characteristics of the beneficiaries reached by a programme and facilitate the assessment and improvement of targeting. Different initiatives are targeted at various sub-populations – such as problem substance users, people at risk of using drugs or developing problems with substances, early school-leavers, homeless people, those with mental illnesses or living in disadvantaged areas – and it is essential to ascertain how successful they are at achieving this aim. In addition, appropriate indicators of results would measure the degree of involvement of each individual with project activities (such as the proportion of sessions attended, performance in any assessments or tests, degree of satisfaction etc.).

The Terms of Reference indicate that the new Performance Measurement Framework for DATFs should make progress towards ‘true’ impact assessment, implicitly acknowledging the difficulties that are inherent in this task. Meeting the challenge of measuring impacts in a realistic and reliable way is methodologically demanding and costly in terms of data and organisational resources. Credible impact assessments are quite rare in the Irish context, particularly when dealing with programmes that are implemented through multiple local structures/actors. There is therefore a gap between the ‘rhetoric’ of impact assessment and the ‘reality’ of evaluations and systems for performance

³⁷ Goodbody Economic Consultants (2006) *Expenditure Review of the Local Drug Task Forces*. Dublin: Goodbody Economic Consultants.

monitoring. We noted in the previous section that several different reports have called for impact assessment on various occasions over the past ten years (and more). In line with this requirement, this study concentrates on the measurement of impacts in relation to the work of the DATFs.

As far as inputs, outputs and results are concerned, we feel that previous reports have done an excellent job in summarising the main issues involved and explaining how the relevant information should be gathered and analysed. It is also apparent that good progress has already been made in implementing these recommendations at the project level, with the result that we now know a great deal more about how these are structured, about their aims and the number, characteristics and participation of key target groups. We know much less, however, about the impacts that these projects have had on problem substance use within each DATF area. The bulk of this report is therefore dedicated to this crucial question, with the aim of finally identifying a way of producing reliable knowledge on the performance of the DATFs and the impact of the drugs programmes at local level.

Definition of Problem Substance Use

The Performance Measurement Framework presented here centres on the measurement of problem substance use, and it is therefore appropriate to start by defining this term. Problem substance use obviously includes both problem alcohol and problem drug use, in line with the extension of the National Drugs Strategy to include misuse of alcohol. The National Drugs Strategy (2009-2016) uses this term more than a hundred times, in different contexts, whilst referring to different aspects of current situation, but never actually defines the term. This means that the meaning of the term remains implicit, and can only be reconstructed by carefully inspecting the different ways in which it is used.

The overall objective of the National Drugs Strategy 2009–2016 is “to continue to tackle the harm caused to individuals and society by the misuse of drugs through a concerted focus on the five pillars of supply reduction, prevention, treatment, rehabilitation and research”³⁸, and one of the five strategic aims is “to minimise problem drug use throughout society”. Insights into what constitutes problem substance use may be gleaned from the key performance indicators that are mentioned in the Strategy, including reductions in the number of opiate users, in the number of illicit drug users and in the level of drug use amongst school students. This clearly suggests that problem substance use includes the use of illicit drugs (particularly injecting heroin) and substance use more generally amongst vulnerable groups such as young people.

It is also interesting to look at the different ways in which this term has been used by the EMCDDA in recent years, although it recently shifted its focus from ‘problem drug use’ to ‘high-risk drug use’:

*"This key indicator collects data on the prevalence and incidence of high-risk drug use (HRDU) at national and local level. It was formerly called problem drug use (PDU). The indicator, which has recently been revised mainly due to the changing drug situation, focuses on recurrent drug use that is causing actual harms (negative consequences) to the person (including dependence, but also other health, psychological or social problems), or is placing the person at a high probability/risk of suffering such harms. This is operationalised by drug, with high-risk drug use measured as the use of psychoactive substances (excluding alcohol, tobacco and caffeine) by high-risk pattern (e.g. intensively) and/or by high-risk routes of administration in the last 12 months."*³⁹

Whilst extending the range of drugs considered, in light of changing patterns of use, the notion of HRDU is clearly related to the previous definition, which tended to prioritise intravenous opiate use.

³⁸ National Drugs Strategy Team 2009. *National Drugs Strategy (Interim) 2009-2016*. Dublin: Department of Community, Equality and Gaeltacht Affairs.

³⁹ See, for example: <http://www.emcdda.europa.eu/activities/hrdu>.

Despite the slight change in emphasis, problem substance use remains closely tied to the risk of harm to the user. However, what is notably missing from this definition is the notion of harm to others, including family members (and children in particular) and members of the community and wider society (as evident in the restricted use of local facilities, early school-leaving, modelling of risky behaviour, neighbourhood degradation, substance-related crime, substance-related morbidity etc.).

Many European countries have followed the EMCDDA in adopting a narrow, health-related definition of problem drug use. In the Irish context, policy documents have arguably established a much broader definition, which is reflected in the role of the DATFs and the innovative institutional architecture described in Section 2 of this report. As we suggested earlier, policies on substance misuse in Ireland have been strongly influenced by Partnership and by the positive experience of spatial targeting that took shape during the early years of local and community development programmes.

This is not merely an academic issue, as the centrality of the notion of problem substance use to the National Drugs Strategy and to the policy response more generally means that this concept must inevitably be positioned at the core of the Performance Measurement Framework. How are impacts to be evaluated, if not in relation to this key outcome measure? The ambivalent use of the term throughout the National Drugs Strategy and in official documents thus leads to a conundrum: how can we measure impacts if the strategic objectives of public programmes embrace such a wide range of different issues? If performance is to be assessed across all of these distinct arenas, how can we obtain a single overall measure of effectiveness?

We believe that the answer to these questions is already present in the National Drugs Strategy, although this is not rendered explicit. This is because all of the different problems that are referred to share certain common features. In essence, problem substance use coincides with a range of different situations in which substance use is harmful (either to individuals or society, to users or other people), and where there is a broad consensus regarding the need to tackle this situation. This definition aims to integrate behavioural, medical and social perspectives, and explicitly acknowledges that the term ‘problem substance use’ contains a relativistic and normative dimension. This definition is in line with the 2001-2008 National Drugs Strategy, which suggests that problem drug use is any form which causes “social, psychological, physical or legal difficulties as a result of an excessive compulsion to continue taking drugs”, drawing on a definition developed previously by the HRB⁴⁰.

At first sight, however, this definition appears to raise more questions than it purports to answer:

- (i) Although it is relatively straightforward to estimate the prevalence of substance use, it is much more difficult to measure problem substance use. Even if this could be achieved at national level using representative surveys, it certainly cannot be achieved at a spatially disaggregate level using existing data sources. In this regard, the limitations of the Drug Prevalence Survey – the most appropriate and powerful source of survey data in Ireland in this area – are discussed in Section 4.2.
- (ii) Whilst harm to the health status of individuals may, at least in theory, be measured, the wider and more indirect forms of harm experienced by individual users, their families and the wider community are extremely difficult to quantify.
- (iii) Possibly the most interesting aspect of the way in which the term ‘problem drug use’ is deployed in the National Drugs Strategy is the assumption that we – as members of society – have an obligation to do something about it. This implies that it is morally and politically unacceptable to ‘look the other way’ or to ignore the suffering and harm caused by substance misuse.

The concept of ‘problem substance use’ is arguably too complex to measure if we treat it as a set of normatively-defined negative impacts. The potential impacts are simply too varied, in terms of the domains affected and the different levels involved, to permit reliable quantification without making a

⁴⁰ Department of Tourism, Sport and Recreation (2001) *Building on Experience: National Drugs Strategy 2001-2008*. Dublin: Stationery Office, p. 24.

series of arbitrary decisions. This is one reason why previous evaluations have generated varying lists of dozens and dozens of indicators. The problem is that any list of indicators which aims to capture all aspects of problem substance use, as it affects different groups in society, is likely to be incomplete and contentious. How can we ever be sure that we have captured all of the harmful effects of substance misuse, as well as combining and weighting them in a meaningful way to obtain a measure of ‘overall problem substance use’?

We therefore believe that the only way that the concept of problem substance use can be operationalised is in relative terms. For example, we might base our operational definition on what is actually done at the moment to tackle problem substance use, assuming that problem substance abuse is greater in areas where more treatment is needed, where people commit more substance-related criminal offences, where they have more substance-related health problems and so on. Although a single indicator is sufficient to obtain estimates, our measure of problem substance use would clearly become more reliable if we add indicators, as these provide additional information on the same underlying variable. Rather than seeking to measure types of substance use or forms of harm, we measure the responses to this harm. This provides a way of automatically ‘weighting’ the contribution of different kinds of substance use and so on. We measure the resources allocated to treating addiction, dealing with health problems, tackling policing etc. and then we use this to infer the entity of problem substance use within each area.

The first question that comes to mind is whether this entails a circularity, as more resources not only imply a larger problem, but presumably also indicate a stronger response. How can we identify performance if we are measuring both the problem and the response to that problem using the same information? This is where the relativistic nature of the definition is useful: we do not ask whether performance is high or low in absolute terms, or whether problem substance use is high or low in absolute terms, we merely ask whether relative performance, given the underlying risks, is above, below or in line with the average. We will show in the following pages how these calculations are actually carried out, and explain why they provide a reliable indication of performance (subject to certain assumptions, as in all such models).

In summary, therefore, problem substance use can be defined in relative terms as relating to (a) specific forms of substance use behaviour which (b) are viewed by most members of society as causing harm and (c) trigger a response by the state and voluntary bodies to address this harm.

The behaviours, the definition of harm and the responses can all change over time and vary across different localities, giving this definition great flexibility. What we do is we calculate the ‘average’ set of responses using information from all localities, controlling for their underlying risk factors, and then assess whether the response in each of these areas is above, below or in line with the average, again controlling for social risk factors. An average performance is thus defined as being in line with the interventions that society, on average, considers is appropriate to undertake when faced with the harm caused by substance use. Poor performance may therefore consist in a quantitative or qualitative shortfall in the provision of services and supports, including drug treatment, family support, prevention, education, training, law and order, access to opportunities and so on.

The task of the Performance Measurement Framework is to identify DATF areas where the response to the harm determined by substance use is lacking in some way, to identify why this is the case and to stimulate a process of collective reflection which can generate systemic improvement and lead to the diffusion of good practices.

3.3 The Logic Model

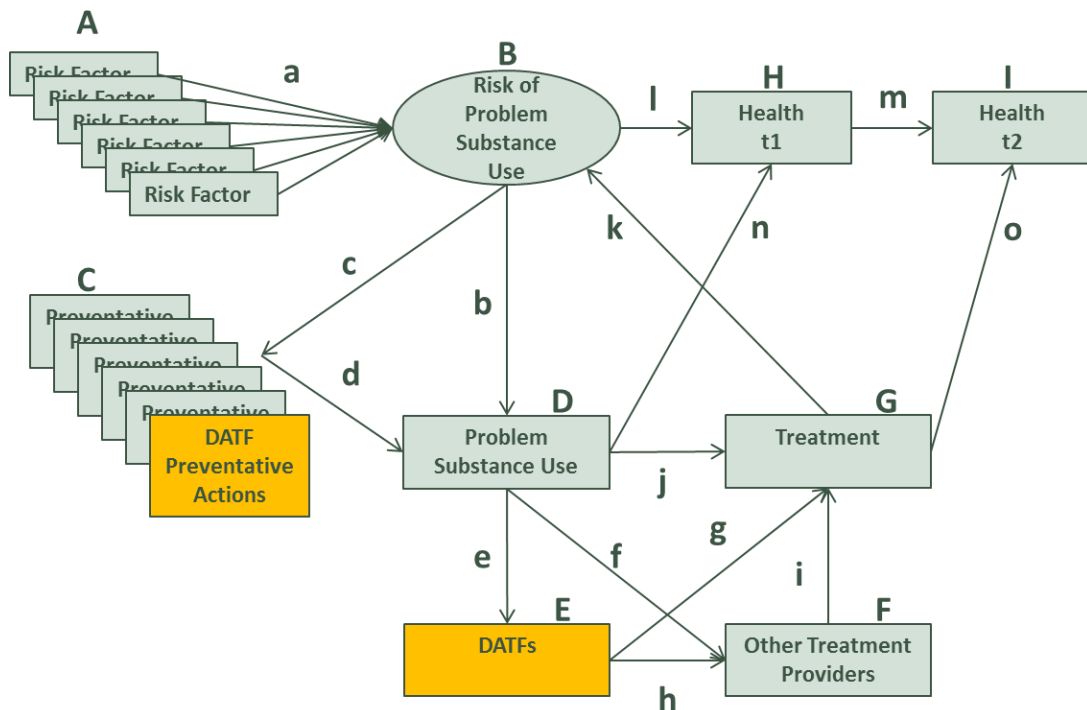
When discussing ways of assessing the impact of the work of the DATFs, it is necessary to distinguish between two different kinds of assessment. The first involves the individual-level impact of DATF interventions on people who are exposed to risks as a result of using substances. The second kind of impact relates to the aggregate-level effects of interventions that are targeted at a specific population. A significant part of the work of the DATFs falls under the heading of prevention, and is targeted at those who may be at risk of substance use. It would therefore be inappropriate to assess the DATFs exclusively in relation to their work with substance users. This is an obvious point for anyone who is familiar with the work of the DATFs, but it is important to underline its implications for performance assessment.

The first implication is that overall performance cannot be assessed by following the individual beneficiaries of DATF interventions. Indeed, it will often be impossible to follow or even identify them, if we consider the role of informational leaflets, posters, websites, training courses for teachers or community leaders, meetings with other community organisations and low-threshold services. But there is another more profound reason why impacts cannot be measured at the individual level, and that is because many interventions and services are targeted at a population rather than at a specific set of individuals.

At its core, the National Drugs Strategy has population-based objectives, and the various initiatives that are funded by the State to tackle problem substance use intervene within multiple domains of society. This means that local responses to problem substance use can only be evaluated by measuring their impact at a population level. This is an important point of departure which has quite far-reaching implications for our Logic and Measurement Models, as we will show below. It implies that our attention – and consequently our data – cannot be confined to service recipients alone. At the same time, we should have confidence in making this shift, as it reflects best practice and is entirely in line with the *Healthy Ireland* strategy.

As we indicated earlier in Section 3.1, at the heart of the Performance Measurement Framework lies a Logic Model that specifies how local initiatives and services affect problem drug and alcohol use. Figure 3.1 shows these components and pathways, and is followed by a brief description of each of these elements.

Figure 3.1 The Logic Model



Components

We will first describe the constituent parts of the Logic Model, denoted by the capital letters **A** to **I** and will subsequently discuss the pathways that link these, which are indicated by lower-case letters (**a** to **m**). At the centre of the Logic Model is the concept of problem substance use and we would like to determine the risk of problem substance use. Risk of problem substance use (**B** in the Logic Model) is a latent concept, which cannot be measured directly, although we have a series of risk factors (**A**) which can be used to predict it. The Logic Model also includes *actual* problem substance use (**D**), which can be measured in various ways, as we will see later.

As noted earlier, it is essential to distinguish between the *risk* of problem substance use, on the one hand, and *actual* problem substance use, on the other. The very purpose of preventive actions is to identify people who may be at risk of problems and to attempt to alter, reduce or prevent their use of substances. Preventive actions can take many forms and may engage directly with the individual or work through communities, schools, families or peer groups. These actions involve the DATFs and the statutory organisations, State Agencies, voluntary bodies and community associations that are represented within the DATFs.

Examples of preventive actions may involve the education sector (schools, curriculum, SPHE etc.), health (awareness campaigns), the justice system (Gardaí, community liaison, the courts etc.) or housing (housing conditions, estate management etc.). The precise nature of (**C**) needs to be defined, in order to gain greater clarity about the different actors and interventions which are operating on the ground, and this is the subject of Section 6 where we discuss the relationship between the DATFs and the organisations that are represented within them. However, it is already apparent that evaluating the DATFs means measuring the impact of all interventions carried out by the organisations that are represented by the DATFs and thus contribute to achieving the objectives of the NDS within a particular DATF area. As we pointed out in Section 2, the DATFs have a global responsibility and bring together all of the key actors involved in tackling problem substance use at local level. Assessing their performance involves evaluating the effectiveness of local responses to substance-related harm.

E refers to services provided by the DATFs, including treatment for substance use problems (**G**) and referral to other treatment providers (**F**). Other Treatment Providers (**F**) can be divided into Inpatient services (Medical Detoxification Treatment Units, Hospital-based Treatment Units, Residential Drug Treatment centres, Therapeutic Communities and Treatment Units in Prisons) and an Outpatient services (Specialised Drug Treatment Centres, Low-Threshold Agencies, Services provided through General Health Care Centres, General Practitioners, Treatment for Prisoners and Opioid Substitution (Methadone) Treatment). Measures **H** and **I** refer to the health status of people who are involved in problem substance use before and after receiving treatment.

Pathways

The pathway marked **d** indicates the direct effects of preventive interventions undertaken by the DATF and its constituent organisations at local level, including schools, health care providers, housing services, the Gardaí or other agents of the criminal justice system. Preventive interventions may be universal (addressed to a whole cohort or population) or targeted at groups with a relatively high risk of problem substance use. These paths are shown as **c**.

A similar set of direct and indirect pathways are indicated for treatment. Problem substance users may access treatment (**G**) through various routes. Treatment may have a positive effect by reducing problem substance use (**k**). Finally, the effect of treatment may be assessed by comparing the individual's health status before and after treatment (paths **n** and **o**).

3.4 The Performance Measurement Model

The Logic Model described in the previous section provides an overview of the complex network of effects that surround and shape problem substance use. It reflects the multiplicity of public and private actors who are involved in providing information, treatment, training, support, preventive interventions etc., and the wide range of factors which influence the risk of problem substance use. It is necessary to build the Performance Measurement Framework on an awareness of this complexity and on a recognition of the difficulties that it generates. We will now describe how we move from the Logic Model to the Measurement Model, bearing this in mind.

Several different aspects of performance must be considered in the Performance Measurement Model, including:

- (i) the effectiveness of **preventive actions** in reducing problem substance use within a given area
- (ii) the effectiveness of interventions in reducing the prevalence of problem substance use **via treatment**
- (iii) the effectiveness of interventions in reducing risks and improving the health of people who use substances, in terms of **harm reduction**

We will begin by discussing these three forms of intervention, before addressing the difficult questions raised above in relation to the measurement of the performance of the DATFs.

Measuring the effectiveness of preventive actions in reducing problem substance use

The risk of and actual problem substance use are closely related, although contingent factors and preventive interventions have the potential to prevent individuals who are at risk from becoming problem substance users. It turns out to be very difficult to demonstrate the effectiveness of preventive actions, however, and a recent review study⁴¹ was unable to identify unambiguous, high-quality evidence of effective actions. It is possible, in principle, to design experimental studies which use treatment and control groups to isolate the effect of various kinds of intervention. In practice, however, it is difficult to match these groups and/or control for the full range of factors that influence outcomes, whilst avoiding 'contamination' between them.

If an experimental study succeeds, in the future, in reliably identifying the impact of the kinds of preventive interventions undertaken in DATF areas, it may be possible to estimate their contribution to preventing problem drug use by measuring the quality and targeting of these interventions and by estimating or counting the number of participants. This would obviously be based on the assumption that interventions are effective and in line with models that have been shown to work. In the absence of this information, we must accept that improvements may be due to a combination of different interventions to prevent substance use and problem substance use, whose individual contribution may be difficult to identify.

Measuring the effectiveness of treatment in reducing problem substance use

Measuring treatment effects is somewhat easier than measuring the effectiveness of preventive interventions, because (a) we are dealing with a more precisely-defined sub-group of the population, (b) because interventions are typically more intensive and standardised, (c) because ongoing contact with recipients facilitates repeated measurements and (d) because more evidence is available regarding the impact of treatment.

The aforementioned review by Bates *et al.* identifies a number of high-quality studies that report on the effectiveness of various treatment regimes. Many such studies relate to particular forms of substance use and particular social groups. However, when reflecting on the great variety of interventions and treatments provided in DATF areas (see Appendix A), it is clear that not all treatments can be matched with intervention models of proven effectiveness.

The effectiveness of treatments provided through the network of inpatient services is more straightforward to identify than those provided in an outpatient setting. This is due to the nature of these services and the difficulties involved in collecting data in specific contexts. We know, for example, that the provision of data to the NDTRS by GPs is rather uneven, whilst the effects of low-threshold services are particularly difficult to measure. For all these reasons, we can once again estimate the impact of treatment services on problem substance use only by making assumptions, and only as part of a combined local response to problem substance use.

Measuring the effectiveness of interventions in reducing risks and improving the health of people who use substances

The third dimension of performance relates to the effectiveness of various kinds of interventions on the health of people who use substances and on the well-being of the wider population. This is often referred to as 'harm reduction', and encompasses a very wide range of interventions such as needle exchange, information leaflets, screening for blood-borne viruses, drug testing facilities, drug consumption rooms, procedures for reducing the risk of overdose and so on. Opioid substitution

⁴¹ Bates, G. *et al.* (forthcoming) *The effectiveness of interventions related to the use of illicit drugs: prevention, harm reduction, treatment and recovery - A "review of reviews"*. Liverpool: Centre for Public Health at Liverpool John Moores University.

programmes can involve *treatment* for problem drug use as well as *reducing harm* and associated risks. Studies have found evidence that such programmes are associated with significant reductions in use of opioids, injecting, sharing equipment, HIV and HCV infection and risk of overdose.

The ultimate aim of treatment is to improve the health and well-being of recipients and to reduce the risk of harm to the wider society. An important aim of service provision over the past decade has been to reduce harm, but few studies have looked at the long-term effects of treatment on the health and well-being of people involved in problem substance use. Instead, research tends to focus on proxies for future health status such as injecting drugs, presence of blood-borne viruses and risky sexual behaviours. Assessment of medium to long-term health impacts are complex and costly, as they require large samples and a longitudinal component, combined with an experimental design which includes problem substance users who do and do not receive treatment as well as people who do not use substances. This is another objective limit of current knowledge on the harm generated by substance use which constrains our ability to evaluate interventions.

Towards Performance Measurement

In previous paragraphs, we showed that measuring the performance of the DATFs involves assessing the combined impact of local interventions to tackle problem substance use at this spatial level. Understood in this way, the Performance Measurement Framework provides a potential for constant improvement in performance, and can itself evolve as new knowledge and data become available. As the latter improve, the Framework can move closer to ‘true’ impact assessment. In this sense, ‘true’ impact assessment should be treated as a reference point or a horizon, and performance measurement as a dynamic process whereby an organisation makes progress towards its goals.

This conceptualisation has a number of important aspects. Firstly, it entails a focus on the aggregate area level as opposed to the individual, thus allowing us to focus attention on the characteristics of specific populations as they evolve over time, which simplifies several aspects of performance measurement. Secondly, and in principle, it provides us with a way of measuring the impact of interventions whose effectiveness have yet to be demonstrated. These issues have already been discussed, we are merely highlighting the fact that they have a role to play within the Framework. Thirdly, it is not necessary to identify and trace all individuals who participate in prevention or harm-reduction programmes, which is clearly impossible. Fourthly, spatial indicators can be used as aggregate-level predictors, avoiding the need to gather data on individual-level risk factors. This is the ‘positive’ side of the limitations described above, and it means that the information requirements of the Performance Measurement Framework are relatively modest and will not inconvenience the DATFs or add to their tasks.

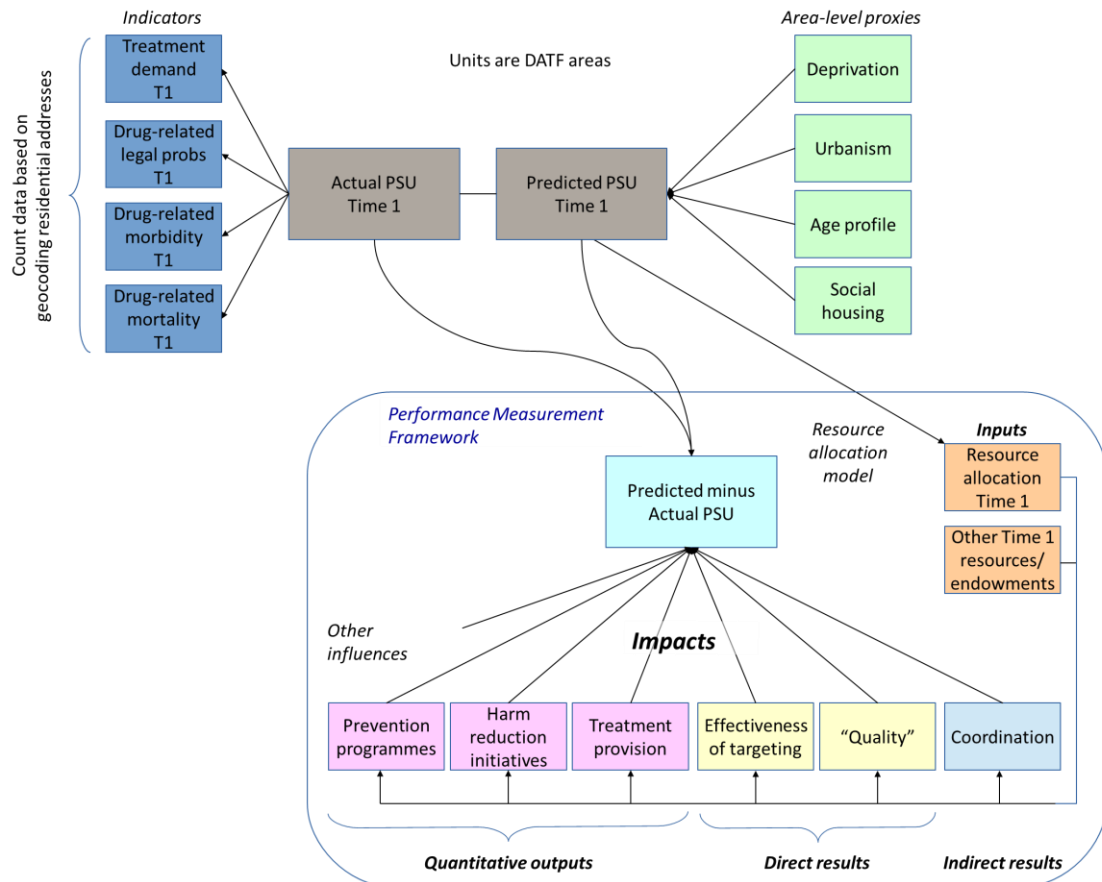
In brief, performance measurement should rely on data sources which are readily available and should draw on current knowledge. These sources are inadequate to reliably and accurately identify the *unique* contribution of schools, housing management bodies, doctors, hospitals, clinics, voluntary bodies, local groups and the Gardaí to reducing the harm associated with problem substance use in DATF areas. However, the other encouraging result of the previous discussion is that the combined impact of these separate contributions can nevertheless be evaluated at DATF level. As this is precisely what is required for the Performance Measurement Framework, the positive result of this conceptual discussion is that the latter is already, in principle, feasible given existing data.

At the DATF level, what we are measuring is the combined impact of the interventions that are undertaken locally, embracing all actors engaged in tackling problem substance use and reducing its negative effects. Rather than requiring expensive *ad hoc* research, which would not allow for regular updates of the Performance Measurement System, a well-designed system of routine data collection, combined with available aggregate-level data, can enable us to make important progress towards the operationalisation of the Framework.

We will now describe how an operational Performance Measurement System can be developed, with a view to providing robust evidence on whether interventions are effective in reducing problem

substance use and its negative consequences, against the backdrop of the underlying risks. This will provide a dynamic measurement environment for assessing performance at the Task Force level, as well as facilitating an evaluation of the effectiveness of the NDS as a whole, which is another objective of this project. Figure 3.2 describes the overall structure of this model of aggregate systemic performance, which we refer to as the Performance Measurement Model. This model is at the heart of the Performance Measurement System, which in turn operationalises the principles set out in the overarching Framework.

Figure 3.2 The Performance Measurement Model



At the core of the Performance Measurement Model lies the precise measurement of problem substance use. The latter is estimated here using data from the NDTRS and operationalised as the number⁴² of episodes of treatment provided for drug or alcohol problems during a given year. In Section 4, we will discuss how the measurement of aggregate-level problem substance use might be improved by drawing on other data sources, which are shown in the blue boxes to the left of Figure 3.2 (involving substance-related morbidity, mortality, criminal offences etc.).

An important aspect of the Measurement Model is the way in which it compares actual and predicted problem substance use. The former represents our best current information on the extent of problem substance use in a given area. It is based on the definition provided earlier, which refers to responses to problem substance use and can incorporate multiple, partial and imperfect measures to create a more powerful composite indicator. For example, it might rely on treatment demand as well as crime data and measures of morbidity and mortality related to drug use and alcohol consumption. A

⁴² The NDTRS records treatment episodes, although it is “de-duplicated” with respect to multiple treatments which are received by the same person from a given treatment provider.

discussion of potentially relevant data sources is provided in Section 4.1. By regressing this key outcome measure on a set of powerful aggregate-level predictors (population size, deprivation, local authority housing and a rural-urban classification of areas), we obtain a new variable: predicted problem substance use (and this can be done separately for drugs and alcohol, as required)⁴³. This variable captures the level of problem substance use that would be expected in each DATF area.

It is then possible to look at the variations which are not explained by the model, which can be summed to calculate the difference between predicted and actual problem substance use at the DATF level. This is a very valuable measure of the effectiveness of the DATFs and can direct attention at areas which are favourably or unfavourably classified. This exercise can be repeated over time and the resulting data series can be used to identify changes which are due to DATF interventions and to evaluate the ability of the DATF to address local problems or gaps in services. How this can be achieved, and its great potential in terms of achieving systemic improvements in efficiency and efficacy, will be described in Section 6.5.

Where there are significant changes in the difference between predicted and actual problem substance use over time, or large differences between DATFs, it will be possible to study these in greater detail. These differences may have to do with the availability/provision of preventive programmes, harm reduction initiatives or treatment. There may, alternatively, be differences in targeting or the quality of service provision. Thirdly, the social composition of the area may be changing due to the effects of development or decline, or it may have benefited or suffered in specific ways as a result of broader processes.

In other words, the Performance Measurement System facilitates a series of analyses and reflections on the effectiveness of the DATFs in the local context in which they operate. The DATFs themselves can play a crucial role in this process by reflecting on their actions and on their local environment. These *ad hoc* analyses can generate new hypotheses to be explored or tested, but cannot provide definitive evidence on causes, as it is always possible that unobserved factors influence the data. This does not need to be looked at as a drawback. On the contrary, any critique that draws attention to the omission of an important or relevant factor potentially leads to the formulation of a new hypothesis and an improvement in the model which can subsequently be tested empirically. This dynamic aspect of the Performance Measurement System is an explicit and desired element of the overall Framework.

Some guidelines can already be provided in relation to these assessments. If actual PSU falls below predicted PSU, then this suggests a favourable situation where models of good practice might be identified. If actual PSU is above predicted PSU, then an area may have recorded a below-average performance and questions may need to be raised. The latter situation does not necessarily imply poor performance on the part of the DATF, as exceptional circumstances may apply relating to the supply of drugs, for example, or local cultural norms.

In all these scenarios, by identifying the reasons for differences in outcomes we can gain valuable information to help the DATFs to improve their actions and to upgrade their interventions. Within the overarching framework of the NDS, the DATFs play a key role in coordinating responses to problem substance use within their respective areas. It is therefore appropriate that the DATFs should play a leading role in interpreting and interrogating the results of the Performance Measurement System, with the aim of understanding heterogeneities in risk factors, interventions and outcomes across time and space. This, in turn, means that the DATFs should have a full understanding of the Performance Measurement Framework and System and should, in principle, support its implementation.

⁴³ A Poisson regression model is estimated at the level of Small Areas (or clusters of Small Areas), and the resulting predictions summed to obtain a prediction for each DATF area.

4 Key Findings of the Data Analyses

For the Performance Measurement Framework described here to become an effective tool for improving the delivery of programmes for reducing problem substance use, it is desirable to create a consensus amongst stakeholders about its purpose and key components. In particular, it is important to develop a shared understanding in relation to:

- the measurement of problem substance use, treatment and preventive actions
- the strengths and weaknesses of available information
- the outcomes to be assessed
- the purpose of the Performance Measurement Framework

This, in turn, requires the following:

- reliable measures that quantify the extent of problem substance use
- a rigorous definition of the objectives of interventions
- evidence regarding the impact of preventive measures, treatment and harm reduction
- reliable measures of the different interventions undertaken

4.1 Potential Data Sources

At least nine data sources are relevant to the Performance Measurement Framework, namely the Drug Prevalence Survey, the National Drug Treatment Reporting System, the Central Treatment List, the Capture-Recapture Study, the National Drug-Related Death Index, the ESPAD survey, the Healthy Ireland Survey, the Hospital Inpatient Enquiry system and the CSO/Garda Síochána Crime Data. These are described below, in order to provide a brief overview of the possible sources of information on substance use in Ireland. Previous evaluation reports have provided similar overviews, and we draw partly on this information and partly on other sources. What is different from previous reports, however, is that we carried out an in-depth analysis of two of these data sources – the Drug Prevalence Survey and the National Drug Treatment Reporting System – and present the results of these studies in the following sections.

NACDA Prevalence Data

Drug prevalence data have been collected in Ireland since 2002 using a sample-based survey which is repeated every 4 years (2002/3, 2006/7, 2010/11, 2014/15). These surveys have always been conducted by IPSOS MORI/MRBI on behalf of the NACDA. The data facilitate the estimation of key indicators required by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). The Drug Prevalence Survey has the following characteristics:

- The target population comprises people aged 15 and over (from 2002-2010, people aged 15-64)
- An effective sample size of 7,000 for the most recent survey
- Data collection relies on Computer Assisted Personal Interviewing (CAPI)
- The sampling methodology follows EMCDDA guidelines and comprises a three-stage stratified cluster sampling design: (i) EDs are the Primary Sampling Units, (ii) A random sample of households is drawn from each PSU using the An Post/Ordnance Survey Ireland GeoDirectory, (iii) at household level, the “last birthday” rule is used to randomly select one adult for interview.

A detailed analysis of the 2014/15 Prevalence Data is provided in a separate document and a summary of an evaluation of its suitability for inclusion in the Performance Measurement System is included in Section 4.2 of this report.

The National Drug Treatment Reporting System (NDTRS)

The NDTRS is an epidemiological database that records treatments for problem drug and alcohol use in Ireland. Managed by the HRB, the NDTRS forms the basis for the Treatment Demand Indicators which are used by the EMCDDA, based on:

- Data on demographic characteristics, access to treatment, status (new versus existing patients), recent problem substance use, risk behaviours and initial treatment type
- Treatment is defined as “any activity which aims to ameliorate the psychological, medical or social state of individuals who seek help for their drug problems”
- Treatments include brief intervention, addiction counselling, medication-free therapy, alternative therapy, psychiatric treatment, medication and social/occupational reintegration
- Clients of needle-exchange services are not included
- Data collection for the NDTRS is continuous and based on reports from treatment providers. The protocol was revised during 2016 and will, in the future, include the Small Area code for the area of residence of the beneficiaries.

A detailed analysis of the 2014 NDTRS Data and its role in the Performance Measurement System is provided in Section 4.3.

The Central Treatment List (CTL)

The Central Treatment List (CTL) is administered by the Drug Treatment Centre Board (DTCB) on behalf of the Health Service Executive (HSE) and is a register of all patients receiving methadone treatment for problem opiate use. It has the following characteristics:

- When a person is considered suitable for methadone detoxification or maintenance, the prescribing doctor applies to the CTL for a place on the list and a unique code
- The CTL records the client’s name, address, date of birth, gender, starting date, type of treatment, prescribing doctor and dispensing pharmacist
- The CTL is considered to be complete with respect to the number of clients who start or recommence methadone treatment because of the statutory obligation for general practitioners to supply data to the CTL

Registration with the CTL is continuous and up-to-date, as this is an essential element in the management of methadone treatment. The authors have requested access to the full CTL data with a view to conducting an analysis which focuses on the identification of risk factors for problem (opiate) drug use and its spatial distribution. However, the data can only be used for the purposes of the Performance Measurement Framework if it is fully geocoded (i.e. if a Small Area code is provided for the residential address of each individual in the CTL) so that a spatial analysis of methadone treatment can be undertaken.

An appropriate way of pursuing this objective is to help the DTCB to geocode the CTL themselves with the assistance of the HSE/Health Intelligence Unit/Health Atlas. The latter have already coordinated similar tasks with TUSLA and the Department of Education and Skills with regard to the complete geocoding of the Primary and Post-Primary Pupil Databases. We have proposed this course of action to the relevant actors (for whom there would be no additional costs) and are willing to provide support if the DTCB decides to pursue this possibility. Once geocoded data from the CTL become available, this will enhance our capacity to derive reliable estimates of problem drug use.

The Capture-Recapture Study

The 2014/15 Capture-recapture Study was carried out on behalf of the NACDA by Dr. Gordon Hay from the Centre for Public Health (Faculty of Health & Applied Social Sciences) at Liverpool John

Moore's University. It aims at deriving a more accurate estimate of the overall number of opiate users in Ireland using the following techniques:

- The study uses a 3-Source Capture-Recapture method. The three population sources used are the Central Treatment List (CTL), the Hospital In-Patient Enquiry Scheme (HIPE) and the Garda list of opiate users
- Capture-recapture studies were also carried out in 2003 and 2009

The Capture-Recapture study is effectively an extension of the CTL which draws on additional information from other data sources. It would acquire added value if the CTL itself were to be geocoded, as noted above, as it may shed light on the selectivity of treatment demand by area and/or social background.

The National Drug-Related Death Index (NDRDI)

The NDRDI is a complete register of drug-related deaths (such as those due to accidental or intentional overdose) and deaths among drug users (such as those due to Hepatitis C and HIV) in Ireland. It also records alcohol-related deaths. The NDRDI is collated by the HRB on behalf of the Department of Health and comprises annual data from 2004 onwards. This information is used to develop policy responses involving the health and social services. The number of deaths among drug users is also one of the EMCDDA key indicators.

The total number of drug-related deaths over a ten-year period (2004-2013) is 3,519 (about 350 deaths per annum). Even though the deaths are identified by DATF area, the numbers are too small to undertake meaningful analysis at this level of spatial aggregation.

The ESPAD Survey

The European School Survey Project on Alcohol and Other Drugs (ESPAD) is a collaborative effort of independent research teams in more than forty European countries and the largest cross-national research project on adolescent substance use in the world. It has the following characteristics:

- The overall aim of the project is to repeatedly collect comparable data on substance use among 15-16 year-old students in as many European countries as possible
- Ireland has participated in all ESPAD surveys, including 1995, 1999, 2003, 2007, 2011 and 2015
- The sample size for Ireland in 2015 was 1,470 pupils

On its own, data from the ESPAD survey are unlikely to contribute to the refinement of estimates of problem substance use. However, it may be worth investigating whether data from the ESPAD survey could inform preventive interventions.

The Healthy Ireland Survey (HI)

The Healthy Ireland Survey (HI) is a new annual survey of the population aged 15 and over based on face-to-face interviews. The sample size is about 7,500 and the survey has a repeated cross-sectional design. The first survey was conducted in 2014-15, and the second in 2015-16. The aim of HI is to provide an up-to-date snapshot of the health of the population, with particular emphasis on behavioural patterns that may negatively affect health outcomes. In-depth analysis of the first wave of data is soon to commence and results of the analysis are expected by September 2017.

Healthy Ireland is unlikely to contribute to the measurement of problem substance use at disaggregate level, although it may provide insights into problem alcohol use. It will facilitate identification of how risk behaviours cluster together, it can provide up-to-date estimates of the quantity of alcohol consumed and allow assessment of the impact of alcohol use on overall health.

This will complement the information provided by the NACDA Drug and Alcohol Prevalence Survey and provide additional insights regarding health effects.

The Hospital Inpatient Enquiry system (HIPE)

This archive of health data is managed by the Economic and Social Research Institute (ESRI) in association with the Department of Health and the HSE. It contains demographic, medical and administrative data on all admissions, discharges and deaths from acute general hospitals in Ireland. It was started on a pilot basis in 1969 and then expanded and developed as a national database of coded discharge summaries from the 1970s onwards (HRB, 2013). HIPE does not record information on individuals who attend A&E Departments but are not admitted as inpatients. It can be used to quantify non-fatal overdoses, more serious accidents and injuries related to substance use and treatments for conditions which are associated with substance use.

Given the (fortunately) relatively small number of deaths associated with substance use in Ireland, it may be appropriate to use data on drug-related morbidity to estimate problem substance use. The construction of this kind of indicator (substance-related morbidity) is well-established at international level, and has been studied in the course of previous projects funded by the HSE⁴⁴. It may therefore be possible to obtain independent estimates of the 'burden of disease' or 'preventable morbidity' associated with substance use in Ireland. As in the case of treatment data, the linkage of such data to Small Areas, EDs or DATF areas would undoubtedly require additional work and geocoding.

The CSO/Garda Síochána Crime Data

Since 2006, the management of crime data has been the responsibility of the Central Statistics Office (CSO). The CSO data are derived from the computerised systems used by An Garda Síochána. The vast majority of substance-related offences reported come under one of three sections in the Misuse of Drugs Act (MDA) 1977: section 3 – possession of any controlled drug without due authorisation (simple possession); section 15 – possession of a controlled drug for the purpose of unlawful sale or supply (possession for sale or supply); and section 21 – obstructing the lawful exercise of a power conferred by the Act (obstruction). Other MDA offences regularly recorded relate to the importation of drugs (section 5), cultivation of cannabis plants (section 17) and the use of forged prescriptions (section 18). Another category of substance-related offence relates to driving under the influence of drugs or alcohol, which are statutory offences in Ireland under the Road Traffic Acts, 1961-2002.

Doubts have been raised about the reliability of this source⁴⁵, and the 2013 National Focal Point report for Ireland makes the following additional observations:

*"It should be noted that drug offence data are primarily a reflection of law enforcement activity. Consequently, they are affected in any given period by such factors as law enforcement resources, strategies and priorities, and by the vulnerability of drug users and drug traffickers to law enforcement activities. Having said that, when compared with other data sources such as drug treatment for example, drug offence data can provide a useful indicator of overall drug trends."*⁴⁶

⁴⁴ Hope, A. 2008. *Alcohol Related Harm in Ireland*. Dublin: Health Service Executive - Alcohol Implementation Group. Available from <http://www.lenus.ie/hse/handle/10147/45838> (consulted October 2016).

⁴⁵ see, for example, CSO (2006) *Review of the quality of crime statistics*. Dublin: CSO; Loughran, H. and McCann, M. E. (2006) *A Community Drugs Study: Developing Community Indicators for Problem Drug Use*. Dublin: Stationery Office.

⁴⁶ Health Research Board (2013) *2013 National Report (2012 Data) to the EMCDDA by the Reitox National Focal Point. Ireland: New Developments and Trends*. Dublin: Health Research Board, p. 127.

Discussion

This summary overview of the main sources of information on substance use in Ireland shows that each of these datasets were designed with specific aims. The three surveys were intended to be used for monitoring but are of limited use at the sub-regional level where the sample size precludes reliable estimation. At the same time, each dataset is pertinent to the work of the DATFs and contains potentially useful information, which suggests that all could usefully be analysed in coming months and years with a view to supporting the National Drugs Strategy. As these are secondary data sources, this would be a cost-effective way of generating new and helpful forms of knowledge about substance use in Ireland.

As most of the sources comprise some element of longitudinal monitoring, there is considerable scope for identifying trends at national (and perhaps even regional) level. As far as performance measurement is concerned, however, it is less clear which data sources are likely to be most useful. For this reason, we evaluate in the following sections a survey-based data source and an administrative data source. The analysis of these two datasets – the Drug Prevalence Survey and the NDTRS – lead to relatively clear conclusions regarding the kinds of data that are needed in order to derive reliable estimates of problem substance use and related risk and protection factors. As we will see, the main finding is that administrative sources and registry data are particularly useful from this perspective, particularly when data collection protocols are backed up by statutory obligations.

4.2 Analysis of NACDA Drug Prevalence Data

The Drug Prevalence Survey is a valuable source of data on substance use in Ireland. As this is a relatively large sample survey, which is regularly repeated, it is important to assess whether and how it can contribute to the Performance Measurement Framework for DATFs. This assessment has three different aspects: (a) the identification of risk and protection factors for substance use; (b) identification of patterns of problem substance use and its extent; (c) estimation of the spatial distribution of problem substance use.

We will begin by providing an overview of the characteristics of the sample before – for the first time – presenting the results of a sophisticated analysis of risk and protection factors for substance use in Ireland using this under-utilised data source. We finish with a discussion of the utility of the Drug Prevalence Survey for informing the Performance Measurement Framework.

The most challenging aspect of drawing conclusions from the Drug Prevalence Survey for the work of the DATFs is due to conceptual difficulties in identifying *problem* drug and alcohol use from data on the frequency of substance use. For example, people may use tranquillisers and anti-depressants without perceiving this as a problem, and the effects for the individuals concerned (and for their families and the wider community) may even be positive. At what point should this kind of pattern of consumption be considered ‘problem substance use’? Similar observations apply to many other substances, and it is apparent that ‘problem substance use’ cannot be equated with consumption of a determinate quantity or a certain frequency of use alone, but only in terms of harm to the individual and others. Harm cannot generally be inferred from substance use *per se*, and must be measured using appropriate data.

As we saw in the previous section, many institutional actors have treated heroin use, or other illicit drugs, as inherently problematic. There is nothing particularly objectionable about this assumption, although this category of substance use has a low prevalence in the population. This means that it is extremely difficult to identify risk and protection factors reliably using sample surveys and to obtain sub-regional estimates. A further difficulty is that there is a relatively high level of experimentation with substances like ecstasy, LSD and cocaine, which is associated with relatively affluent social

groups and areas, whilst problem drug use is known to be associated with disadvantaged groups and deprived areas⁴⁷. If lifetime use or consumption of a given substance over the last year are used as indicators, this contradictory pattern can easily lead to confounding and misleading conclusions can be drawn. For all these reasons, we find this source to be rather problematic from the perspective of performance measurement.

Sample Characteristics

The key outcome variables in the Drug Prevalence Survey include:

- drug use during last month, last year or in lifetime for various substances (Tobacco, alcohol, pharmaceuticals, cannabis, ecstasy, amphetamines, cocaine, heroin, LSD)
- frequency of use/amount
- age of first use, and
- age of first regular use

The substances analysed in this section are illustrated in Figure 4.1 below. The categories we use are based not on the type of substance or its legal status, but on broad social distinctions in relation to how substances are used in contemporary society, as this provides us with greater statistical power to identify the determinants of substance use. Alcohol, tobacco and cannabis are treated separately, whilst heroin is grouped with methadone. Sedatives, tranquillisers, anti-depressants and anabolic steroids are grouped to form the category “Other legal drugs”, whilst cocaine, crack, ecstasy, LSD, amphetamines and mushrooms are taken together to form the category “Other illicit drugs”.

Figure 4.1 Main Categories of Substance Use in Drug Prevalence Survey



Available covariates include socio-economic group, employment status, respondent has held a paid job, chief income-earner currently has a paid job, employment status of chief income-earner, socio-economic group of chief income-earner, housing tenure, age ceased education, highest education

⁴⁷ A study by the Royal College of Psychiatry shows that use of all drugs is more common among people under 30 who are living in neighbourhoods classified as reasonably well-off or prosperous. However, injecting, dependence, polydrug use, heroin and crack cocaine use are more commonly found among deprived populations (Royal College of Psychiatrists and the Royal College of Physicians Working Party (2000) *Drugs: Dilemmas and choices*. London: Gaskell, p. 66; quoted in Loughran and McCann, 2006, p. 40).

level attained, gender, age, marital status, children, age of dependent children, ethnicity and disability. These are summarised in Figure 4.2 below.

The mean age of respondents is 43 years, and women account for 50.9 per cent of the sample. Almost two-fifths of respondents are married, whilst almost a third are single and just under a tenth are separated, divorced or widowed. One third have a dependent child under 16 years of age and the vast majority describe themselves as members of the 'white settled' population (1.9 per cent are Black, Asian or African). More than 60 per cent own their own homes, 17.4 per cent are in private rented accommodation and 6.8 per cent are renting from a Local Authority or Housing Association. Just over half are at work and 27 per cent are either retired, unable to work or on home duties. Almost 30 per cent left school having completed secondary education, followed by 22.8 per cent with a degree and 21.3 with a post-secondary certificate.

Figure 4.2 Explanatory Variables in Drug Prevalence Survey

Age Mean = 43.4 Range = 15-98	Marital Status Single = 31.9% Married/Cohab. = 59.3% Sep./Div./Widowed = 8.8%	Employment Status At work = 51.4% Unemployed/Scheme = 9.2% Retired/Home/Unable = 27.0% Student = 11.4% Other = 0.9%
Health Board Eastern = 707 Midland = 419 Mid-Western = 580 North-Eastern = 650 North-Western = 391 South-Eastern = 753 Southern = 1020 Western = 684 North Dublin = 721 South-Western = 1080	Dependent Child <16 No = 66.5% Yes = 33.5% Ethnic Group White settled = 97.1% Traveller/Roma = 0.6% African/Black/Asian = 1.9% Other = 0.4%	Chief Income Earner - Employment Status At work = 74.3% Unemployed = 9.1% Retired = 12.3% Other = 4.2% Social Class Classes A-B = 17.7% Class C = 45.9% Class D-F = 36.4%
Gender Female = 50.9% Male = 49.1%	Housing Tenure Owner occupier = 62.2% Private rented = 17.4% L. A./H. A. rented = 6.8% Other = 13.5%	Educational Attainments Primary only = 7.2% Lower secondary = 19.6% Upper secondary = 29.1% Post-secondary cert. = 21.3% Degree or higher = 22.8%

4.2.1 Identifying the Risk and Protective Factors for Substance Use

As mentioned above, we have prepared a rather detailed study of the prevalence of substance use by category, including its distribution across the former Health Board areas, and this is presented in a separate document. The emphasis here is on the results of individual-level logistic regression models where the dependent variable is a dichotomous variable that indicates whether a respondent used a given substance during the past year.

This analysis sheds considerable light on the risk and protective factors for substance use across the six categories described above (Figure 4.1). As noted earlier, this is the first time that multivariate statistical analysis techniques have been applied to data from the Irish Drug Prevalence Survey, and the results will be of considerable interest to researchers, policy-makers and practitioners who work in this area. It is also critical for the analysis of the NDTRS data presented in the Section 4.3 below. We will conclude this section by making some general observations regarding the relevance and utility of this data source from the perspective of the Performance Measurement Framework.

Table 4.1 Odds Ratios for Regression on Use of Substances in Last Year

Variables and Categories	Alcohol	Tobacco	Other legal	Cannabis	Other illicit
Health Board Area (Ref. Eastern)					
Midland	0.63*	0.62*	0.82*	0.93*	0.93
Mid-Western	0.80*	0.74*	0.74*	0.59*	0.49
North-Eastern	0.77*	0.95*	1.29*	1.33*	1.18
North-Western	0.43*	0.60*	0.46*	0.75*	0.84
South-Eastern	0.78*	0.76*	1.20*	0.72*	1.05
Southern	0.80*	0.66*	0.70*	0.78*	0.50
Western	0.69*	0.74*	0.75*	1.16*	1.48
North Dublin	0.79*	0.82*	0.92*	1.27*	0.84
South-Western	1.04*	0.98*	0.90*	1.23*	1.18
Age in Years	0.98*	0.97*	1.01*	0.93*	0.93*
Marital Status (Ref. Single)					
Married or cohabiting	1.21	0.87*	0.98*	0.78	0.48*
Separated, divorced, widowed	1.15	1.27*	1.53*	1.41	0.73*
Male Gender	1.54*	1.35*	0.66*	2.96*	3.61*
Ethnicity (Ref. White settled)					
Traveller or Roma	0.23*	0.57*	1.29*	0.79*	0.65
African, Black or Asian	0.14*	0.25*	0.35*	0.19*	0.00
Other ethnicity	0.31*	0.66*	2.71*	1.12*	2.39
Housing Tenure (Ref. Owner occup.)					
Private rented	0.70*	2.58*	1.13*	2.33*	2.56*
Local Authority rented	1.01*	2.46*	1.72*	2.72*	2.83*
Other housing tenure	0.83*	0.89*	0.95*	1.21*	1.34*
Has a young child	0.77*	0.95	0.94	0.52*	0.52*
Employment Status (Ref. At work)					
Unemployed or on scheme	1.14*	1.45*	1.48*	1.94*	3.88*
Retired, home duties, unable	0.75*	0.95*	1.83*	1.05*	2.58*
Student	0.41*	0.52*	0.77*	0.65*	1.30*
Other employment status	0.40*	1.34*	2.21*	1.28*	1.49*
CIE Employment (Ref. At work)					
CIE is unemployed	1.06	1.40*	1.70*	1.09	1.09
CIE is retired	0.98	1.01*	0.94*	1.06	0.56
Other CIE status	1.15	1.27*	1.54*	1.11	0.61
Social Class (Ref. A-B)					
Social Class C	0.89*	1.17*	1.09	0.82	1.83
Social Class D-F	0.72*	1.45*	0.93	0.86	1.64
Education (Ref. Degree or higher)					
No more than primary school	0.34*	1.72*	0.85	0.74*	0.53*
Lower secondary	0.47*	1.70*	0.93	0.89*	0.36*
Upper secondary	0.80*	1.84*	0.88	1.02*	0.37*
Post-secondary certificate	1.04*	1.45*	1.16	1.45*	1.31*
HP Deprivation Index	1.00	1.00	1.00	1.02*	1.05*
Constant	19.60	0.60	0.06	0.43	0.12

Source: 2014-15 Drug Prevalence Survey; * indicates statistically significant ($p \leq 0.05$)

"Ref." indicates the reference category for contrast-coded indicator variables

Table 4.1 contains the results of the multivariate analysis of a set of variables potentially associated with substance use. As already noted, heroin must be excluded from this analysis as the number of cases recorded is too small⁴⁸. The association between each attribute and substance use is expressed in the form of 'odds ratios', and categorical variables are broken down into a number of binary contrasts, for which the reference category is indicated. An odds ratio of one indicates that there is no empirical association between the variable in question and substance use. An odds ratio below one implies that a person with the respective characteristic is less likely to use a substance, whilst an odds ratio above one tells us that they are more likely to use the substance. We will now summarise the results of the analysis for each broad category of substance use.

Prevalence of Alcohol Use and Associated Risk and Protection Factors

As far as alcohol use over the past year is concerned, there are nine explanatory variables with a statistically-significant effect. These are age (older people are less likely to drink alcohol), gender (men are considerably more likely), having a young child (less likely to drink), ethnicity (white settled people are much more likely), education (those with higher educational attainments are more likely to drink), housing tenure (owner occupiers are more likely), employment status (those who are in the labour force are more likely to drink than those who are retired, studying, on home duties etc.), socio-economic group (higher status groups are more likely to drink) and former Health Board area (those living in the South-Western or Eastern areas are more likely to drink).

This suggests that recent drinkers of alcohol are more likely to be younger, male, white, economically active, home owners and of higher social class, indicating a relatively 'affluent' profile.

Prevalence of Tobacco Use and Associated Risk and Protection Factors

As far as tobacco use over the past year is concerned, there are again nine explanatory variables with a statistically-significant effect. These are age (older people are less likely to smoke tobacco), gender (men are more likely), marital status (those who are single, separated, divorced or widowed are more likely), ethnicity (white people are much more likely), education (those with lower educational attainments are much more likely to smoke tobacco), housing tenure (those who are renting their homes are more likely), employment status (those who are in the labour force – and unemployed, in particular – are more likely to smoke), employment status of chief income earner (those who live in households headed by an unemployed person are more likely to smoke), socio-economic group (lower status groups are more likely to smoke) and former Health Board area (those living in the Eastern area are more likely to smoke).

This suggests that recent tobacco smokers are more likely to be younger, male, white, unemployed, not married and of lower social class, indicating a relatively 'disadvantaged' profile.

Prevalence of Other Legal Drug Use and Associated Risk and Protection Factors

As far as other legal drug use over the past year is concerned, there are eight explanatory variables with a statistically-significant effect. These are age (older people are more likely to use these substances), gender (women are more likely), marital status (those who are separated, divorced or widowed are more likely), ethnicity (Travellers and Roma people are more likely), housing tenure (those who are renting their homes are more likely), employment status (those who are not at work or studying are more likely), employment status of chief income earner (those who live in households headed by an unemployed person are more likely to use these substances) and former Health Board

⁴⁸ Note: This is why access to a geocoded version of the CTL is important, as this is the most reliable data source on opiate use and can clarify issues surrounding the social profile of heroin users.

area (those living in the North-Eastern and South-Eastern areas are more likely to use other legal substances).

This suggests that those who use tranquillisers, anti-depressants etc. are more likely to be older, female, economically inactive and of lower social class, which indicates a relatively 'disadvantaged' profile. However, by contrast with tobacco, the profile is distinctively older and more 'female'.

Prevalence of Cannabis Use and Associated Risk and Protection Factors

As far as cannabis use over the past year is concerned, there are again nine explanatory variables with a statistically-significant effect. These are age (younger people are more likely), gender (men are much more likely), marital status (those who are single, separated, divorced or widowed are more likely than those who are married), having young children (much less likely), ethnicity (those who describe themselves as 'White, settled' are more likely), housing tenure (those who are renting their homes are more likely), employment status (those who are unemployed are more likely), education (those with higher levels of education are more likely to use cannabis) and former Health Board area (those living in the South-Western Dublin and North Dublin areas are more likely to use cannabis).

This suggests that those who use cannabis are more likely to be younger, male, unemployed, single or separated without young children, to have a degree or post-secondary qualification and to live in North Dublin or South West Dublin. This indicates a mixed profile suggesting life-cycle effects, involving young people from relatively affluent backgrounds who are in transition from education to (possibly) stable employment. The particularly large coefficients for marital status, rented accommodation and unemployment suggest that people who are living on their own, and who are outside traditional family and work situations, are more likely to use cannabis.

Prevalence of Heroin/Methadone Use

It is not possible to determine the profile of heroin/methadone users, as just 0.3 per cent of the population used these substances over the past year.

Prevalence of Other Illicit Drug Use and Associated Risk and Protection Factors

As far as other illicit drug use over the past year is concerned, there are eight explanatory variables with a statistically-significant effect. These are age (younger people are more likely to use these substances), gender (men are much more likely), marital status (those who are single are more likely), having young children (much less likely), housing tenure (those who are renting their homes are more likely), employment status (those who are not at work are more likely), education (those with higher levels of education, such as a post-secondary qualification or degree are more likely to use other illicit substances) and deprivation score (those living in more affluent areas are more likely to use other illicit substances).

This suggests that those who use substances like cocaine, LSD, ecstasy etc. are more likely to be younger, male, outside the workforce, single or separated without young children, to have a diploma or degree and to live in rented accommodation in more affluent neighbourhoods. This indicates a mixed profile suggesting life-cycle effects, involving young people from relatively affluent backgrounds who are in transition from education to employment. The particularly large coefficients for gender, housing and unemployment suggest that people who are living on their own, outside traditional family and work situations, are more likely to use not only cannabis (see above), but also other illicit drugs.

Tables 4.2-4.4 below summarise the prevalence data analysed above, by category of substance and former Health Board area. Regional variations are due, at least in part, to compositional factors, involving the variables described above.

Table 4.2 Lifetime Use of Substances by former Health Board area

Health Board	Alcohol	Tobacco	Sedatives etc.	Cannabis	Heroin	Other illicit
Eastern	87.5	57.1	25.3	32.7	2.0	18.0
Midland	78.7	50.6	19.7	21.2	0.8	15.7
Mid-Western	84.0	49.3	19.7	18.7	0.1	10.4
North-Eastern	84.0	51.1	25.0	25.9	1.6	16.2
North-Western	71.4	46.2	16.4	13.0	0.2	11.2
South-Eastern	82.2	51.5	23.4	19.8	1.0	9.2
Southern	84.8	47.1	17.8	19.8	0.5	8.4
Western	78.0	47.2	19.7	15.8	0.0	9.7
North Dublin	82.9	51.9	21.7	31.4	1.4	15.2
SW Dublin	85.9	54.1	20.4	32.2	0.9	18.8

Source: 2014-15 Drug Prevalence Survey

Table 4.3 Use of Substances Over Past Year by former Health Board area

Health Board	Alcohol	Tobacco	Sedatives etc.	Cannabis	Heroin	Other illicit
Eastern	80.2	30.1	12.4	6.7	0.9	3.5
Midland	72.9	27.0	10.6	6.4	0.3	3.2
Mid-Western	77.6	27.3	9.2	3.9	0.0	1.4
North-Eastern	76.9	31.9	14.4	7.6	0.5	2.9
North-Western	63.8	25.5	6.7	5.2	0.2	2.6
South-Eastern	75.8	27.7	14.0	4.2	0.4	2.3
Southern	77.1	25.6	9.1	5.3	0.3	1.7
Western	73.5	26.3	9.1	6.8	0.0	3.9
North Dublin	77.3	29.2	11.1	8.2	0.1	2.9
SW Dublin	81.6	32.6	10.3	9.2	0.2	5.0

Source: 2014-15 Drug Prevalence Survey

Table 4.4 Use of Substances Over Past Month by former Health Board area

Health Board	Alcohol	Tobacco	Sedatives etc.	Cannabis	Heroin	Other illicit
Eastern	65.9	25.2	7.1	3.8	0.6	0.6
Midland	55.9	24.4	8.4	3.9	0.0	1.9
Mid-Western	59.4	23.1	5.8	1.6	0.0	0.6
North-Eastern	63.5	29.3	10.0	4.9	0.5	1.3
North-Western	52.8	23.7	5.4	2.6	0.0	0.6
South-Eastern	59.0	25.1	10.2	1.4	0.2	0.9
Southern	62.9	21.8	7.3	2.6	0.3	0.8
Western	59.4	24.6	6.8	3.7	0.0	1.6
North Dublin	65.8	24.6	9.3	4.3	0.0	0.8
SW Dublin	66.8	28.4	7.1	6.6	0.2	2.9

Source: 2014-15 Drug Prevalence Survey

4.2.2 Discussion

It is somewhat surprising that the NACDA Drug Prevalence Data have never before been used for analysing the risk and protective factors that affect substance use. This is a prime example of how the commissioning of secondary analyses of a survey which has been conceived for one purpose can nevertheless be of huge benefit for other uses, yielding new knowledge and insights. A number of important observations flow from this analysis of substance use and the factors that influence it:

- Risk factors vary greatly from one category of substance use to another
- There appears to be widespread experimentation with cannabis and other illicit drugs, with lifetime use for cannabis at 33.5 per cent among young people and lifetime use of other illicit drugs at 21.1 per cent⁴⁹
- Young, relatively affluent and well-educated social groups have a higher prevalence of last-year use of cannabis and other illicit drugs
- Smoking and using sedatives, anti-depressants etc. are associated with deprivation
- Drinking alcohol over the past year has a relatively 'affluent' profile
- Gender, marital status and housing tenure are very significant predictors
- There are significant differences between Health Board areas in terms of prevalence, although this variation is partly due to the demographic and social composition of each region

This suggests, firstly, that it is important to be careful when aggregating across different kinds of substances due to their different prevalence rates and risk profiles. The common practice of categorising substances into 'legal' and 'illegal' is likely to lead to confusing results, for example. By contrast, we would suggest that substances should be grouped on the basis of empirical patterns of use, rather than the chemical properties or legal status of the substances. This approach would also facilitate the mapping of risk factors, which is one of the core requirements for developing a Performance Measurement Framework.

Secondly, it suggests that prevalence data – even when combined with information on frequency of use – do not generally allow us to identify 'problem substance use' (see Section 3.1 for a detailed discussion of the issues involved here).

Thirdly, this analysis shows that problem substance use (e.g. use of heroin, problems deriving from alcohol use or cannabis) is a relatively 'rare' phenomenon in the population. This means that sample surveys do not yield a large enough group of problem substance users to allow us to derive reliable estimates for smaller areas. We do not have enough observations to obtain reliable sub-regional estimates of problem substance use, and certainly too few to make estimates for individual DATF areas.

Fourthly, this situation is compounded by the fact that lifetime and recent use of many substances is associated with indicators of affluence and indicators of specific phases in the life cycle. This is consistent with evidence of widespread 'experimentation' by relatively well-educated and resource-endowed young people. This poses numerous risks for society and for individual health, but is not unequivocally associated with 'problem substance use' as defined in Section 3.1. It is so widespread within society and within specific groups that it would be difficult to include this within the Performance Measurement Framework without undermining its ability to target more determinate forms of problem substance use involving addiction, repeated use, exposure to systematic health risks, involvement in criminal behaviour and powerful effects on other social roles.

⁴⁹ See Haase, T. and Pratschke, J. forthcoming. *Analysis of the 2014/15 Drug Prevalence Survey*. Dublin.

4.3 Analysis of NDTRS Data on Treatment

The Local DATFs originated as a response to the acute drug crises that emerged in specific urban areas in the early 1980s. 30 years on, problem drug use is no longer confined to a small number of areas, but affects almost every area in the country. Problem drug use, whilst being geographically dispersed, clearly does not affect all areas in the same way. There remains a strong urban-rural gradient and a significant association with deprivation (what is sometimes referred to as a ‘social gradient’). The measurement of these gradients is crucial for the development and implementation of the National Drugs Strategy. This is also critical for the definition of DATF intervention areas, the preparation of appropriate responses, the construction of resource allocation models and, above all, for the Performance Measurement Framework at the centre of this report.

The purpose of this section is to analyse the NDTRS data and to assess whether it can be used to measure problem drug and alcohol use at aggregate level. We will show that by linking treatment data with census data via area of residence, we can estimate the demand for treatment in all areas of the country, even those where the NDTRS do not have precise geographical identifiers.

The 2014 NDTRS Data

The 2014 NDTRS data were supplied by the HRB, including 13,545 individual-level records regarding problem alcohol use and 22,799 records regarding problem drug use. The data relate to treatment episodes, which means that individuals may be represented more than once in the file if they received treatments from different providers during 2014. However, where more than one treatment episode was provided by the same service provider within the same calendar year, this is counted only once. This potential double-counting has little (if any) effect on the measurement of demand for treatment at local level, as this is assessed on a purely relative basis. Table 4.5 shows the composition of the 2014 NDTRS data in terms of new/ongoing clients, reason for referral and acceptance.

Table 4.5 2014 NDTRS Data

Accepted into Treatment	Continued v. New Treatment	Main reason for referral				
		Alcohol	Illicit Drugs	Licit Drugs	Other Problem	Total
Yes	Continued Treatment	4,530	10,024	1,046	82	15,682
	New Treatment 2014	7,790	8,336	1,667	203	17,996
	Sub-total	12,320	18,360	2,713	285	33,678
No	Continued Treatment	8	73	4	1	86
	New Treatment 2014	1,217	1,324	325	1,370	4,236
	Sub-total	1,225	1,397	329	1,371	4,322
Total	Continued Treatment	4,538	10,097	1,050	83	15,768
	New Treatment 2014	9,007	9,660	1,992	1,573	22,232
	Total	13,545	19,757	3,042	1,656	38,000

Source: 2014 NDTRS

4.3.1 Estimation of Problem Substance Use

One of the key findings of the analysis of the drug prevalence data presented in Section 4.2 was that the socio-economic profile underlying alcohol use is distinctly different from that of other substance use, and we therefore decided to undertake two separate regression analyses using the NDTRS data. This is also appropriate given the relatively recent integration of alcohol misuse within the responsibility of the DATFs and the resulting need to use distinct and varying weights for these two categories of substance use in different contexts.

When drawing on the NDTRS to estimate the extent of problem substance use, we use the data in a rather different way to that found in the EMCDDA reports⁵⁰. The EMCDDA reports relate to those who have been accepted for treatment during a given year (shown in blue in Table 4.5). As we aim to estimate overall problem drug and alcohol use, we also include those who have *not* been accepted and those who are receiving *ongoing* treatment (this overall figure is highlighted in pink in the table).

Key to identifying area-level predictors of problem substance use is identification of the residential area of each user. The NDTRS contains incomplete information in this regard, as it provides the Electoral Division (ED) code only for individuals living in six Local Authority areas across Counties Dublin, Kildare and Wicklow. This partial coverage will dramatically improve in the near future, as the HRB changed its data collection protocol during 2016. This change is of utmost importance for the implementation of the Performance Measurement system, as it will ensure that, as of mid-2016 onwards, residential locations can be identified by Small Area (SA) throughout Ireland.

This partial coverage of geocoded data in the 2014 NDTRS dataset has ramifications for the calculations outlined in this section and for the Resource Allocation Model described in Section 5. In their current form, the estimates should thus be considered “proof of concept” calculations, as they are based on fairly rudimentary (but effective) estimation techniques. The data will gain in accuracy as the Performance Measurement Framework is implemented from 2017 and will be based on more precise count data. The estimation is described in detail in the Appendix. If we use treatment demand as an indicator of problem substance use, in line with the definition and considerations set out above⁵¹, these estimates allow us, for the first time, to derive ED-level estimates for the whole country. By showing where problem substance use is concentrated, it provides a new tool for DATFs to improve their targeting and enables the NDS as a whole to develop a rational resource allocation model that distributes resources on an objective, transparent and needs-related basis.

A number of consequences follow from this analysis, which have the potential to enhance the effectiveness of the DATFs. Firstly, the analysis confirms the utility of our earlier definition of problem substance use (see Section 3.1) and supports the hypothesis that the key drivers of the spatial distribution of problem drug use are social deprivation and the urban-rural spectrum. A report commissioned by the Combat Poverty Agency and published in 1998 showed that most people receiving drug treatment were unemployed, had low educational attainment and came from deprived areas in Dublin.⁵²

The mere fact that by using just two variables we are able to accurately predict the spatial distribution of treatment (see the Appendix B for details) points to the socially-structured nature of the phenomenon of problem drug use. This distribution is shown in Figure 4.3 for Ireland and Figure 4.4 for Dublin, Limerick and Cork. These unprecedented maps are of considerable relevance to the DATFs, and could help them to target their work and interventions more precisely and to gain a greater understanding of the local context.

⁵⁰ The EMCDDA reports exclude cases treated for alcohol as the main cause and episodes of care where a person has returned to treatment for a second or subsequent time (in the same centre) in the same year. Data from prisons are included. Therefore the number of cases reported by the EMCDDA is usually slightly lower than the national estimate, which currently excludes data from prisons but includes episodes of care where a person has returned to treatment for a second or subsequent time (in the same centre) in the same year. The NDTRS includes separate data on alcohol misuse (see <http://www.drugsandalcohol.ie/tables>)

⁵¹ As noted above, problem substance use can be conceptualised as a latent concept, i.e. one that cannot be measured directly and must be assessed using multiple indicators. This enables us to overcome shortcomings with individual indicators, such as the availability of treatment, willingness to seek treatment and so on. A crucial aspect of the dynamic development of the Performance Measurement Framework will be the enhancement of this outcome measure by drawing on additional data sources (see Section 5.3).

⁵² O'Higgins, K. 1998. *Review of Literature and Policy on the links between Poverty and Drug Abuse*. Dublin: Combat Poverty Agency/ESRI.

Figure 4.3 Estimated Prevalence of Problem Drug Use in Ireland

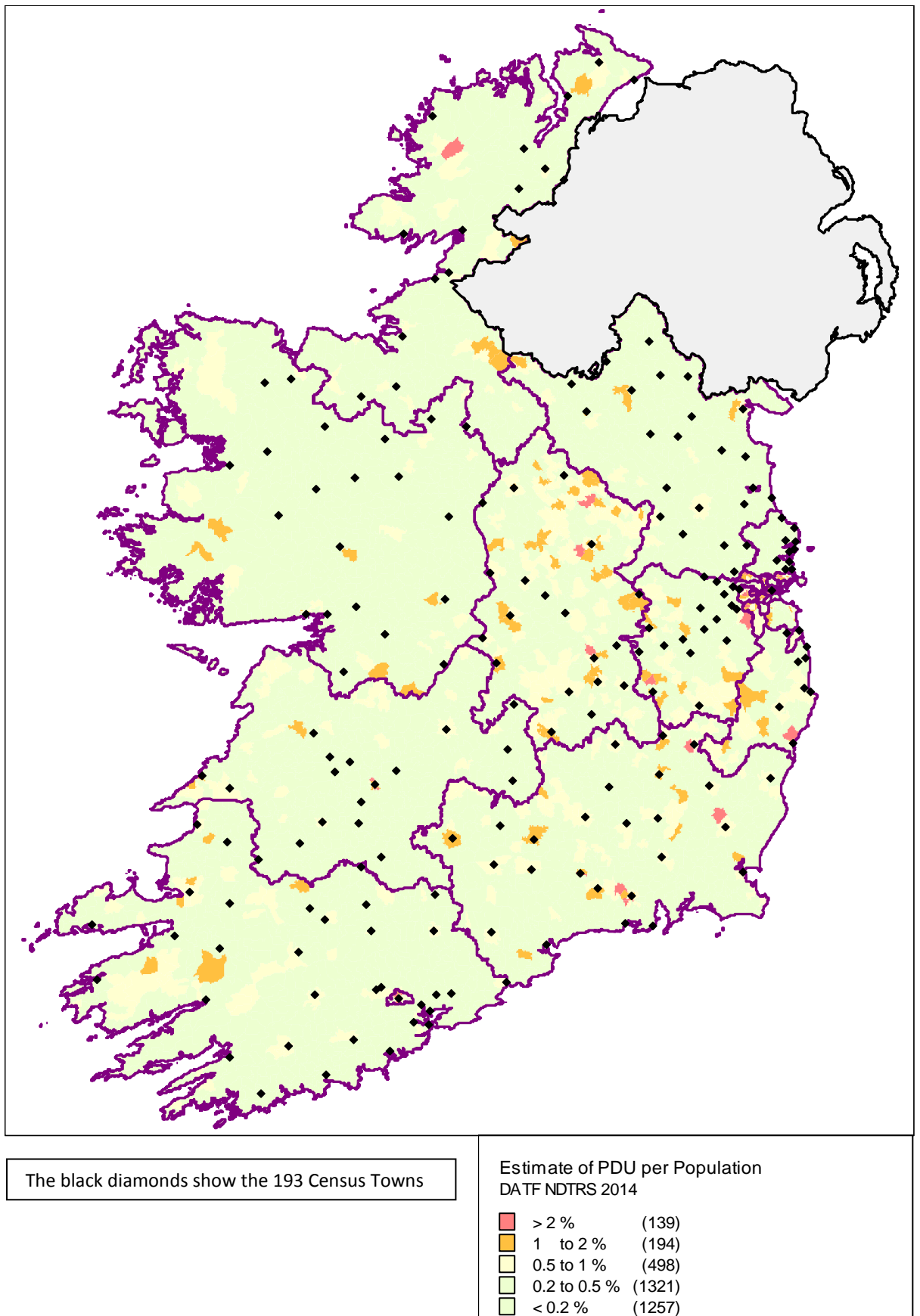


Figure 4.3 illustrates the concentration of problem drug use in the proximity of major cities and towns. Figure 4.4 shows areas of high and very high problem drug use, which generally coincide with well-known deprived urban areas. In Limerick, these include Moyross and Southill, in Cork the areas of Knocknaheeny, Gurranebraher, Togher and Mahon, and in Dublin, Coolock-Darndale, Ballymun, Finglas, Cabra, parts of Blanchardstown, North and South Inner City, Kilmainham, Cherry Orchard, Crumlin, Tallaght, and pockets in DunLaoghaire-Rathdown (following the compass points in an anti-clockwise direction).

Figure 4.4 Estimated Prevalence of Problem Drug Use in Limerick, Cork and Dublin

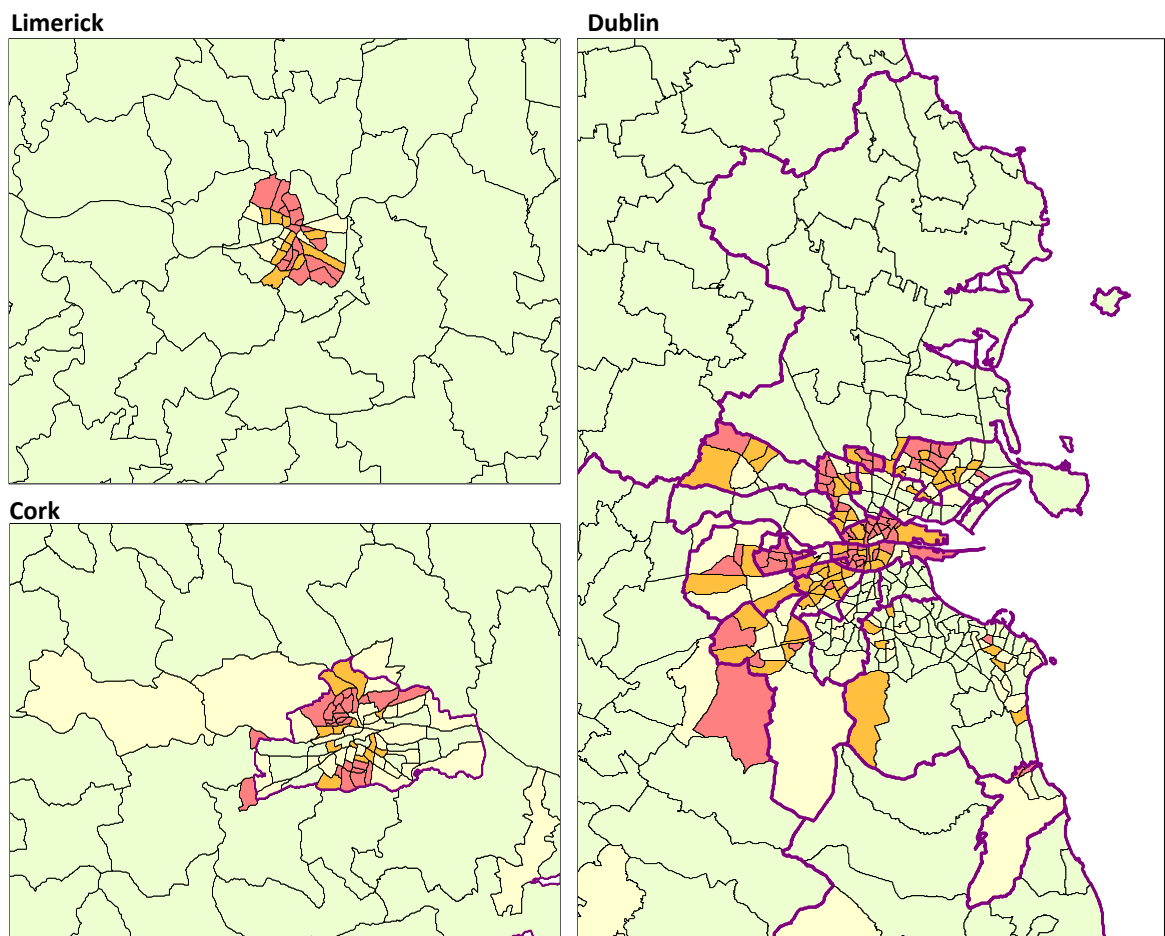


Table 4.6 shows the estimates that we obtain after aggregating to DATF area. The first data column shows our estimate of the number of people requesting treatment (the details of this calculation will be provided in Section 5). The second data column shows the number of treatment episodes recorded in the NDTRS (including both actual as well as requested treatment). The third column shows the adult population in each area and the fourth column indicates the prevalence of problem drug use (people requesting treatment as a percentage of the adult population). The table is sorted from the highest levels to the lowest and allows us to make a number of additional observations:

- The broad distinction between Local and Regional DATFs finds support in the prevalence of estimated problem drug use. Local DATFs have levels above 1 per cent, whilst regional DATFs have concentrations below 1 per cent.
- The only exception to this pattern is Dún Laoghaire-Rathdown, which is more similar in its values to the Regional DATFs.
- As the maps indicate, this does not mean that Regional DATFs do not include, within them, major concentrations of problem drug users who are typically clustered in deprived urban areas. This

means that the RDATAFs must adopt effective methods for targeting interventions within their catchment area.

- In the case of the Southern Region, Cork City is designated as a separate Local DATAF. By contrast, Limerick and Waterford Cities are treated as forming part of their respective Regional DATAFs.
- Questions might be raised about the comparatively small number of problem drug users found in some DATAFs and whether there is a strong enough rationale for their continued existence. This issue is addressed in Section 5.6.

Table 4.6 Estimation of the Extent and Treatment of Problem Drug Use by DATAF Area

DATAF Name	Estimated PDU	Observed Treatments	Adult Population	Prevalence of PDU
LDTF: Ballymun	470	469	12,399	3.78
LDTF: Canal Communities	363	362	12,333	2.94
LDTF: North Inner City	1606	1604	60,222	2.66
LDTF: Ballyfermot	458	457	17,677	2.59
LDTF: Dublin South Inner City	1557	1554	60,513	2.57
LDTF: Finglas-Cabra	769	768	43,142	1.78
LDTF: Tallaght	896	899	65,936	1.36
LDTF: Dublin North East	1,061	1,056	80,022	1.32
LDTF: Cork LDTF	1,337	1,339	101,733	1.32
LDTF: Blanchardstown	698	650	50,052	1.30
LDTF: Dublin 12	560	560	45,666	1.23
LDTF: Clondalkin	731	734	60,720	1.21
LDTF: Bray	130	254	24,659	1.03
RDTF: South East	2,155	2,524	387,700	0.65
RDTF: Midland	876	1,244	216,057	0.58
RDTF: Mid-West	1,653	1,409	298,681	0.47
RDTF: East Coast	289	473	101,889	0.46
LDTF: Dun Laoghaire-Rathdown	994	763	168,726	0.45
RDTF: South West	1,005	1,072	269,045	0.40
RDTF: North Eastern	1,125	1,190	333,776	0.36
RDTF: North Dublin City and County	794	766	219,028	0.35
RDTF: Southern	1,134	1,245	423,946	0.29
RDTF: Western	1,022	805	352,277	0.23
RDTF: North West	703	411	202,463	0.20
Total	22,386	22,608	3,608,662	0.63

Source: Estimates based on analysis of 2014 NDTRS data

Summary

The analysis presented above confirms the existence of a strong ‘social gradient’ in relation to problem drug use and indicates that this is particularly concentrated in (deprived) urban neighbourhoods. The rationale for maintaining a dual approach, involving Local and Regional DATAFs, receives support. Nevertheless, it may be helpful to develop a clearer understanding of how the local and regional *approaches* differ and where they should be implemented. As noted earlier, there are Local DATAFs which may have to adopt a more ‘extensive’ approach to tackling problem drug use, whilst there are Regional DATAFs which may have to adopt a more ‘intensive’ approach in their urban centres. These aspects of the NDS should be developed on an objective evidence base.

Of greatest importance, for the purpose of developing a Performance Measurement Framework, is the fact that the NDTRS data provide impressive initial estimates of the spatial distribution of problem drug use. As we are primarily interested in the relativities between areas, it is of little concern to us whether treatment demand underestimates the true extent of problem drug use. What is important is that these two variables are correlated. Moreover, these estimates will significantly improve as the

new HRB data collection protocol for the NDTRS takes effect, providing SA-level data on the residential location of problem substance users across the country. This will mean that the separate estimation described in the Appendix will now longer be required. As we indicated when discussing the Performance Measurement Model in Section 3, these data can – and should – be complemented by insights from other data sources, and we will return to this issue below.

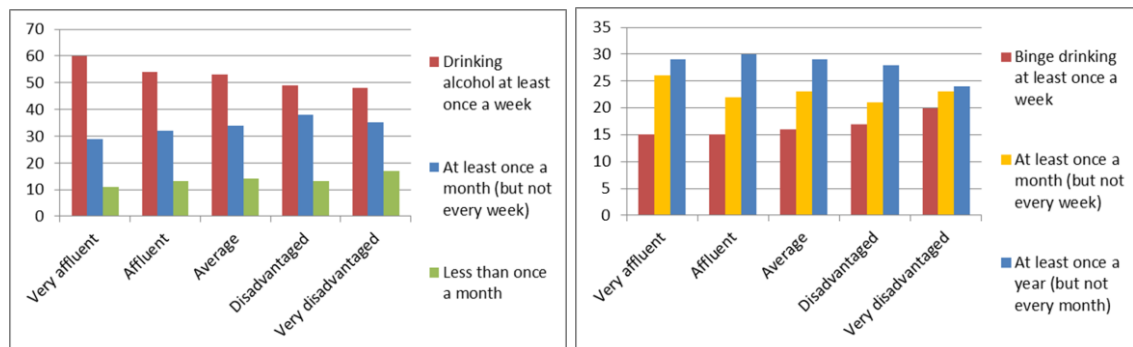
4.3.2 Estimation of Problem Alcohol Use

As already indicated, the drug prevalence data presented in Section 4.2 suggests that the socio-economic profile underlying alcohol use is distinctly different from that of other substances, and it is possible that the covariates of alcohol misuse also differ from those associated with drug misuse. To test this hypothesis empirically, we estimated the extent of problem alcohol use using the same procedure described above for problem drug use.

All of the predictors of problem drug use are also statistically significant predictors of problem alcohol use. Population size, the urban-rural spectrum and the percentage of households in local authority rented accommodation yield coefficients that are statistically significant at the 0.01 level. The HP Deprivation Index is significant at the 0.05 level. As expected, when comparing the coefficients for predicting problem alcohol use with those for problem drug use, the coefficients for problem alcohol use are smaller, indicating shallower social and spatial gradients. Problem alcohol use is concentrated in urban and deprived neighbourhoods, but not to the same extent as problem drug use.

This is a very important finding and is entirely in line with the findings of the 2015 Irish Health Survey (IHS), which were recently published by the CSO⁵³. Using quintiles of the HP Deprivation Index, the IHS data show that regular consumption of alcohol increases with affluence, but regular binge drinking is more prevalent in disadvantaged areas (see Figure 4.6 below).

Figure 4.5 Alcohol Consumption, 2015 Irish Health Survey



⁵³ See <http://www.cso.ie/en/releasesandpublications/ep/p-ihs/irishhealthsurvey2015/>

5 A Resource Allocation Model for DATFs

5.1 Building on Good Practice

In this chapter we will develop a Resource Allocation Model (RAM) for DATFs, which is an important part of the proposed Performance Measurement Framework. As performance is always expressed relative to resources and context, there are compelling arguments for targeting resources at underlying need. This means that funding, and other forms of resource provision (personnel, premises, etc.), should take account of the distribution of problem substance use at a geographical level. A further implication is that interventions should be defined in relation to the specific local context in which DATFs are operating and that performance should be assessed in relation to these aspects of their situation. These are logical implications, rather than being based on theoretical or empirical reasoning: public programmes can only be effective in reducing problem substance use if resources are distributed appropriately and if interventions are targeted in accordance with the distribution of problem substance use.

We are in the fortunate position of being able to build on our prior experience in developing resource allocation models for major government initiatives in the social inclusion arena. In recent years, the HSE Health Intelligence Unit and Trutz Haase jointly developed the HSE Resource Analyser. This provides a tool for the spatial analysis of existing resource allocations throughout the HSE, as well as providing a means for deriving target allocations from rational objectives and criteria. Whilst the Resource Analyser does not make decisions – these are made by the relevant policy-makers and personnel – it does provide a tool that can greatly facilitate the decision-making process in a rational, objective and transparent manner.

The development of the HSE Resource Analyser was preceded by more than a decade of experience and experimentation with the development of Resource Allocation Models for the local development partnerships under the auspices of POBAL. In 2013, a similar RAM was adopted by the City of Dublin Youth Services Board (CDYSB) and, in 2014, a formal RAM was developed for expenditure under the LEADER programme. More recently, TUSLA decided to reorganise the delivery of all services using the Resource Analyser and the Department of Education and Skills is currently reconfiguring the designation and funding of DEIS schools along the same lines.

5.2 Conceptual Design

Whilst there are minor variations in each of the aforementioned RAMs, there are several common elements which we will now describe. Firstly, these RAMs were specifically designed for expenditure programmes where the key outcome(s) – be it in health, education or other arenas – have a ‘social gradient’. The existence of a social gradient in health implies that poorer people tend to have poorer health, all else being equal, and thus have a greater need for health services. A similar set of implications follow from the existence of social gradients in other domains.

Secondly, social inclusion programmes are typically developed in response to crises which become visible at a particular point in time and in particular geographical areas, with expenditures being driven initially by perceptions regarding the extent and distribution of the problem. It is only with time that the need for more formal and more transparent resource allocation methods is appreciated.

Thirdly, the core rationale for the RAMs developed by the authors in the past is that modern computing methods, data and information technology make it possible to model the underlying relationships that drive social and spatial gradients in each of these sectors. In particular, access to geocoded census and administrative data greatly facilitate this task. By bringing together reliable outcome measures, spatial definitions and aggregate-level indicators (including composite measures of deprivation, for example), it is possible to define a model for equitable resource distribution. This is

often a very effective way for public organisations and agencies to meet their strategic goals, as resources that are targeted at areas of need are more likely to yield overall improvements.

Fourthly, an important step towards achieving this goal is to identify a core outcome measure which can provide a focus for the overall model. By analysing the relationship between this outcome and a deprivation measure, a set of weights can be obtained which effectively captures the social gradient. The final element of the system is a set of carefully measured control variables which is necessary in order to isolate the specific influence of deprivation and to identify other important factors.

Fifthly, these coefficients are used to design a formal RAM which allocates resources in accordance with the objectives of the programme and in line with the social gradients that have been identified. Outcomes which are characterised by a sharper social gradient warrant a higher level of targeting of resources, whilst those which have a more uniform distribution in the population demand a lower level.

A sixth component which is common to all of these RAMs is the method by which the social gradient is determined. In most cases, we have access to detailed client data regarding the outcome measure (health, educational outcomes etc.), but do not have reliable information on the beneficiary's socio-economic position. This is obviously a prerequisite for measuring the social gradient, but these data are not routinely included in administrative databases, for quite obvious reasons. To overcome this problem, it is possible to geocode the residential area of each client and to use the Pobal HP Deprivation Index as a proxy for socio-economic position. When aggregated to functional areas (such as catchment areas, Health Board areas, DATF areas etc.), this yields a reliable indicator of socio-economic composition.

The overall purpose of the RAM is to shift the focus away from a discussion of 'historical' funding levels and towards the key objectives of each programme. These objectives can be given a weight within the RAM, allowing for an optimal distribution of resources. The actual allocations are thus computed using an evidence-based algorithm that accounts for the social and spatial gradients previously identified and weighted in accordance with the priorities associated with the objectives of each aspect of the programme.

5.3 First Round Allocations

Data Sources

The aim of this report is to develop a Performance Measurement Framework which specifies the structure and components of a system that can be agreed upon and implemented now, as well as being improved upon and extended in the future. This provides a dynamic element to the evolution of the Performance Measurement Framework. With a view to facilitating this process, we have ensured that the foundations of the framework are solid and its structure flexible enough to accommodate future improvements. This means that we have included some components which cannot be fully exploited at the current point in time.

As we indicated in our evaluation of existing data sources (Chapter 4), none of these datasets was originally designed with a Performance Measurement Framework in mind. This means that it is often necessary to carry out further work to bring the data into line with the requirements of the framework and thus realise their potential. Our emphasis here is on the importance of finding ways of amending these protocols (e.g. for administrative or registry data), rather than collecting new data. These existing sources are the most useful for performance assessment, as they provide comparable data on an ongoing basis at a minimal cost. As noted earlier, one key change that we would welcome – in this as in other areas of policy delivery – is the routine geocoding of residential addresses. This procedure is cheap and easy to apply, and should arguably be carried out with every survey and (particularly) with every periodic set of administrative data. As far as surveys are concerned, it is also

possible to identify straightforward improvements in sampling designs that can improve their efficiency.

As we showed in Section 4.1, the Drug Prevalence Survey proved to be of little use from the perspective of the Performance Measurement Framework. This is largely because it is a survey, and straightforward representative surveys do not have a large enough sample size to reliably identify people with substance use problems. Problem drug use is a relatively rare phenomenon within the population and its accurate measurement at sub-national level requires the application of dedicated methodological techniques.

In Section 4.2, we observed that if we focus on the use of drugs or alcohol over the lifetime, in the last year or even in the last month, what emerges is primarily a pattern of experimentation with substances. This phenomenon is widespread amongst young people and is correlated more strongly with affluence than with deprivation. This means that not only does problem drug use disappear from view (due to sample size constraints), but the picture that emerges in its place is centred on experimentation with substances.

By contrast, the NDTRS data (Section 4.3) proved to be of great utility when seeking to identify social and spatial gradients for problem drug use. We believe that this data source can provide a firm basis for a first-round calculation of the DATF-RAM. As we mentioned earlier, attempts have been made to achieve geocoded data from the CTL and other data sources. If this happens in the future, the CTL, Capture-Recapture Study and the NDRDI may all have a contribution to make to the Performance Measurement Framework, together with substance-related morbidity and crime data.

Design and Calculations

We begin by distinguishing between three levels of problem drug use: where the number of problem drug users is below 1 per cent of the adult population, where it is above 1 per cent and where it exceeds 2 per cent. The rationale is that the latter two categories identify areas of high prevalence where we might expect problem drug use to have a more significant impact on the community and where preventive and harm-reduction interventions are likely to be of particular importance. Thus, each category gives rise to a specific set of differentials between DATF areas and can be used to calibrate funding.

Predicted problem alcohol and drug use is based on the analysis of NDTRS data described earlier and uses the formulae shown in Tables 5.1 and 5.2. The formulas build directly on the coefficients identified in the two regression analyses reported in Section 4.3⁵⁴. A separate calculation is undertaken for each stratum, and the declining prevalence rates as we move from Dublin Inner City to rural areas is reflected in the shrinking of the constant⁵⁵. The population size, HP Deprivation Index and Local Authority Housing have identical weightings in each stratum but the influence of deprivation, in particular, is smaller in the formula for problem alcohol use compared to problem drug use, as explained in Section 4.3.

⁵⁴ The terms are expressed using the original logit coefficients, which must be applied and then exponentiated.

⁵⁵ Dublin City is the reference category and has a constant of 2.4 for problem alcohol use and 3.65 for problem drug use. As we move from urban to rural, a growing share is deducted from this constant in line with the waning prevalence.

Table 5.1 Estimation of Problem Alcohol Use

Stratum	Estimation
Rural Areas	$\text{EXP}(2.4 - 2.0 + \text{ADTPOP11} \cdot .000113 - \text{HP2011rel} \cdot .01 + \text{LARENT11} \cdot .015)$
Small Towns	$\text{EXP}(2.4 - 1.0 + \text{ADTPOP11} \cdot .000113 - \text{HP2011rel} \cdot .01 + \text{LARENT11} \cdot .015)$
Towns 5,000+	$\text{EXP}(2.4 - 0.5 + \text{ADTPOP11} \cdot .000113 - \text{HP2011rel} \cdot .01 + \text{LARENT11} \cdot .015)$
Other Cities	$\text{EXP}(2.4 - 0.5 + \text{ADTPOP11} \cdot .000113 - \text{HP2011rel} \cdot .01 + \text{LARENT11} \cdot .015)$
Dublin and Environs	$\text{EXP}(2.4 - 0.9 + \text{ADTPOP11} \cdot .000113 - \text{HP2011rel} \cdot .01 + \text{LARENT11} \cdot .015)$
Dublin Inner City	$\text{EXP}(2.4 + \text{ADTPOP11} \cdot .000113 - \text{HP2011rel} \cdot .01 + \text{LARENT11} \cdot .015)$

Source: Parameters based on analysis of 2014 NDTRS data (see Section 4.2)

Table 5.2 Estimation of Problem Drug Use

Stratum	Estimation
Rural Areas	$\text{EXP}(3.65 - 4.3 + \text{ADTPOP11} \cdot .000135 - \text{HP2011rel} \cdot .052 + \text{LARENT11} \cdot .020)$
Small Towns	$\text{EXP}(3.65 - 2.5 + \text{ADTPOP11} \cdot .000135 - \text{HP2011rel} \cdot .052 + \text{LARENT11} \cdot .020)$
Towns 5,000+	$\text{EXP}(3.65 - 1.8 + \text{ADTPOP11} \cdot .000135 - \text{HP2011rel} \cdot .052 + \text{LARENT11} \cdot .020)$
Other Cities	$\text{EXP}(3.65 - 1.7 + \text{ADTPOP11} \cdot .000135 - \text{HP2011rel} \cdot .052 + \text{LARENT11} \cdot .020)$
Dublin and Environs	$\text{EXP}(3.65 - 1.2 + \text{ADTPOP11} \cdot .000135 - \text{HP2011rel} \cdot .052 + \text{LARENT11} \cdot .020)$
Dublin Inner City	$\text{EXP}(3.65 + \text{ADTPOP11} \cdot .000135 - \text{HP2011rel} \cdot .052 + \text{LARENT11} \cdot .020)$

Source: Parameters based on analysis of 2014 NDTRS data (see Section 4.2)

An important aspect of the RAM that should be noted is that it does not imply any particular distribution of overall resources between these four categories of problem substance use; i.e. problem alcohol use, problem drug use and high and very high prevalence of problem drug use. The weighting of these programme aims should be determined in line with the NDS, involving the Department of Health and other key stakeholders in a broad discussion of objectives. In essence, the degree to which resources are targeted at areas where problem drug use is more prevalent will depend on the weights associated with the last two categories. The RAM is thus a tool for supporting and orienting decision-making.

The RAM is based on the predictions from the regression model rather than the recorded number of treatments. The Poisson regression models generate these predictions on the basis of the composition and characteristics of each ED, and the ED-level counts are then aggregated to DATF level. If we were to base the DATF-RAM directly on the number of treatments, this would tend to reinforce prevailing patterns of service provision rather than reflecting underlying need. The use of a model to generate predictions has the effect of averaging across areas with different degrees of service access and different experiences of preventive interventions. In this way, the DATF is not unduly influenced by specific local services and the historical legacy of past interventions.

This distinction is also important from the perspective of change over time. For example, if a DATF is particularly successful in reducing problem drug or alcohol use through preventive actions, this would lead to a reduction over time in demand for treatment. If we were to use recorded treatments as a measure of problem substance use, this kind of decline in demand would lead to a reduction over time in the resources allocated to 'successful' DATFs. During the stakeholder consultations that were held during this project, it was suggested that this kind of negative feedback mechanism should be avoided. We are therefore in no doubt that resource allocation should be based on the *risk* of problem substance use rather than *actual* substance use or *responses* to substance use.

Figure 5.1 Prospective Resource Allocations for DATFs

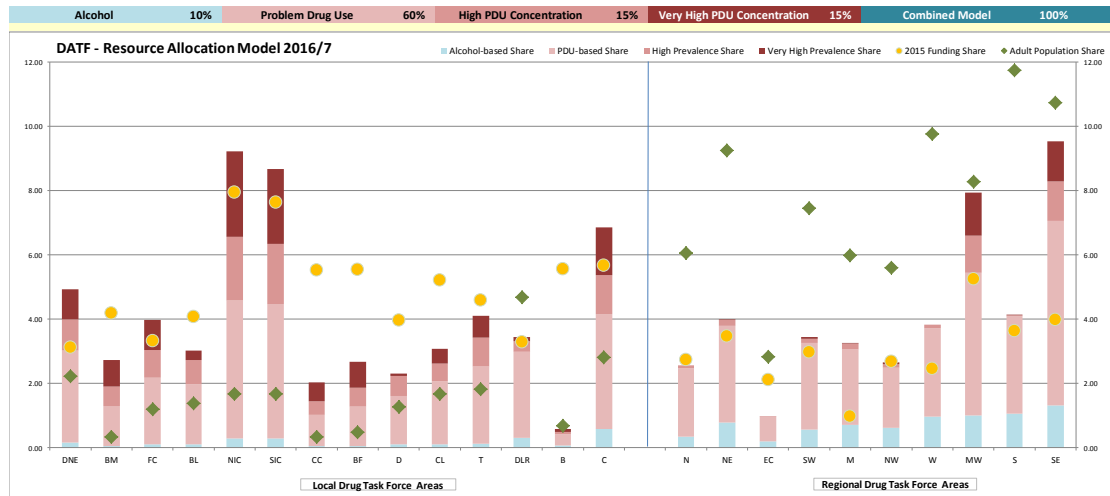


Figure 5.1 is a snapshot from the cover worksheet of the DATF-RAM⁵⁶. On the bottom, we have abbreviations for the 24 DATFs, divided into Local and Regional Task Forces. These two groups are further subdivided by grouping together the LDATFs which are located North and South of the Liffey and the RDATFs of the North-Eastern and Dublin-Midlands regions, on the one hand, and the Western and Southern regions, on the other.

Each component shown in the RAM is expressed as a percentage and can be measured on the same percentage point scale. The green diamonds show the share of the total adult population in a DATF. As might be expected, the LDATFs have significantly smaller population shares than their regional counterparts. The core of the RAM are the stacked bars, which indicate the funding share that each DATF would receive under the proposed system.

Each stack bar is made up of four components: their share based on the extent of problem alcohol use (light blue), problem drug use (light pink), high-prevalence problem drug use (medium pink), and very high-prevalence problem drug use (dark pink). As can be seen, problem alcohol use constitutes a comparatively larger part of the funding to RDAFTs, as it is more closely related to the size of the adult population. The proportions allocated for high and very high prevalence problem drug use, by contrast, are concentrated in the deprived urban areas. The yellow dots indicate the share of funding received by DATFs in 2015.

As pointed out before, the RAM does not prescribe any specific set of funding shares, but facilitates the systematic application of rules or principles, in line with the objectives of the NDS. The share allocated to each component of funding can be altered and should be based on discussions among stakeholders. The digital form of the DATF-RAM facilitates simulations and projections, allowing different hypotheses to be tested.

Attention is drawn to the fact that there are three DATF areas where the actual number of treatments differs significantly from the model-based prediction. These are shown in Table 4.7, and involve (i) Bray LDATF, where the actual number of treatments is about twice the predicted level; (ii) the East Coast RDATF, where this is about 1.6 times higher; and (iii) the North-West RDATF, where the number of treatments is significantly lower. As can be seen from Figure 5.1, in the cases of Bray and the East-Coast DATFs, this could be a result of the high level of funding currently provided to these areas relative to their population, their urban-rural mix or socio-economic composition.

⁵⁶ DATF-RAM v54 (25/01/2016)

5.4 Some Comments on the Existing Distribution of Resources

The combined funding by the Department of Health and HSE to the DATFs during 2015 is shown by the yellow points in Figure 5.1 and a number of observations can be made with regard to the current distribution of resources. We will discuss these in the following three sections, starting with the distribution between Local and Regional Drug and Alcohol Task Forces.

Imbalances between Local and Regional Drug Task Forces

At the outset of this study, it was evident that the Local and Regional DATFs tend to have rather different perspectives on the criteria to be used for the distribution of resources. The Regional DATFs generally feel that problem drug use has spread beyond the capital city to reach smaller towns and rural areas, justifying a more uniform distribution of resources. The Local DATFs, however, fear that this could lead to a penalisation of deprived urban areas where problem drug use reaches much higher levels and where there is a stronger rationale for engaging in community, family and school-based preventive and harm-reduction actions.

Our analysis of the NDTRS presented in Section 4.2 gives support to both views: problem drug use has indeed become a spatially diffuse phenomenon, although high incidences are almost exclusively observed in highly deprived urban areas. A key element of the analysis presented in this report is that we should not be overly concerned with the distinction between Local and Regional DATFs, but rather should seek to systematically measure and quantify these social spatial gradients at a fine spatial scale (currently EDs and SAs in the future). In this way, we can account for the underlying composition and associated risk of problem substance use for each DATF, be it Local or Regional.

As we noted earlier, some Local DATFs need to adopt a model of relatively ‘extensive’ interventions, whilst some Regional DATFs need to adopt a model of ‘intensive’ intervention in specific areas. To the extent that the NDS identifies prevention and harm reduction as priorities in areas of high incidence of problem drug use, a proportionately higher share of funding for more deprived urban DATFs is arguably justified. At the same time, Regional DATFs which include deprived urban areas (i.e. Cork, Limerick and Waterford) will also receive a higher relative share of funding for the same reasons, because they would be expected to intervene in these deprived areas using a more ‘intensive’ approach.

Imbalances within the Dublin Region

When looking at the pattern of aggregate funding across Dublin, an interesting picture emerges. If we use a RAM based on a weighting of 10 per cent (problem alcohol use), 60 per cent (problem drug use), 15 per cent (high-prevalence PDU) and 15 per cent (very high-prevalence PDU), the share allocated to Northside LDATFs is equal to 23.9 per cent, compared to a 2015 funding share of 22.7 per cent. In other words, the RAM suggests an optimal share that is roughly in line with the current distribution. If we compare the equivalent figures for Southside LDATFs, their collective prospective funding share (26.9 per cent) is well below their current share of funding (41.3 per cent). This suggests that the latter group of LDATFs receive a disproportionate share of total funding.

This way of aggregating the data overcomes the objection that certain DATFs deserve a larger share of funding because they play a role in providing services to problem substance users from outside their designated areas. Once we have aggregated the DATFs to form two blocks (Northside and Southside), this argument loses much of its force, as it is rarely claimed that clients migrate systematically from North to South to receive treatment, nor should this be necessary.

The point that we are making here is not that certain Dublin LDATFs receive a disproportionate share of funding, although this is arguably the case. A broader and more important issue must be tackled regarding the distribution of funds at the macro level. Unless a much stronger justification is advanced

for the systematic over-funding of LDATFs in Southside Dublin, it is difficult to avoid the conclusion that a redistribution of resources is required.

Imbalances between Regions

A similar observation can be made with regard to the RDATFs. If we group the North-Eastern and Midlands RDATFs, and compare these with the Western and Southern ones (including Cork LDATF in the latter), the RAM suggests a share of 14.3 per cent might be provided to the former, compared to a current funding share of 12.3 per cent. These two figures are well-aligned, but the same is not true for the Western and Southern RDATFs, which would receive a share of 35.0 per cent under the RAM, compared to a current funding share of just 23.7 per cent.

It would therefore appear that the Regional DATFs have not been given the resources needed to provide the kinds of community, family and school-based programmes to residents in the deprived urban areas of Cork, Limerick and Waterford that their Dublin counterparts are accustomed to receiving. In overall terms, therefore, the new NDS will need to address a fundamental issue: what level of services and interventions should be provided in different kinds of areas, given our current knowledge of the prevalence of problem substance use? Once this has been decided, it is relatively straightforward to determine its consequences for the distribution of resources using the resource allocation model presented here.

Transitional Arrangements

These observations raise another question, namely how to manage the introduction of a new system of funding allocation which implies a significant redistribution of resources compared to current practice. If the RAM were to be introduced in its present form, the funding share of some DATFs would be significantly reduced, whilst others would receive a significantly larger share. This possibility is always present when a rational framework for resource allocation is introduced, as the *status quo* is rarely in line with the distribution of social need. 'Historical' allocations are rarely based on an assessment of underlying risk, but are the product of changing perceptions of how problems have emerged and evolved.

We do not suggest that the RAM depicted in Figure 5.1 be immediately implemented. This would create a risk of paralysis, with some DATFs unable to maintain their current activities and others unable to spend their newly-acquired funding. However, we do think that it is important to start thinking about how the resources of all of the public programmes which fund interventions and services to tackle problem substance use in DATF areas are allocated. This debate should be as open and transparent as possible, and the DATFs and other relevant actors should be empowered to reflect collectively on the criteria to be used in the RAM. However, once a specific set of criteria has been adopted, and the reasons for this decision are clear to all, the consequences of this decision should also be shared and respected by all actors.

If a formal RAM is introduced, a gradual transition from current funding shares to the new shares is inevitable, not least because of current contractual obligations. It is obviously important to ensure that continuity is maintained and that negative consequences for staff members and others involved in the delivery of services are reduced or avoided. Moreover, DATFs should be given enough time to plan for this transition so that any disruption is reduced to a minimum. New funding allocations might be designed so as to move one-half or one-third of the way from 'historical' funding shares to the new funding shares indicated by the RAM.

At the same time, there are strong ethical principles at stake, and it is clearly inequitable for services and resources to be targeted in a sub-optimal way, potentially leaving problem drug users without the support and treatment that they require, and potentially exposing disadvantaged communities to even greater risks. In short, the transition from one system to another is likely to be painful in some areas and beneficial in others, but this process should be discussed in advanced, prepared for and

then managed in a responsible way. All actors involved should identify with and accept the basic principles which motivate the transition, which provides the overall system of DATFs with the coherence and consensus that it requires in order to overcome any (temporary) difficulties and allows it to face future challenges in a stronger state.

It is also important to note that the RAM outlined above represents a first-round estimation that is based on data with certain limitations. As we will show in the following pages, these estimates will improve over time, making the measurement of problem drug and alcohol use and the calculation of funding shares more precise. A relatively gradual adoption of the RAM will thus incorporate robust safeguards against any small changes in shares that may occur when using improved data, or when additional indicators of problem substance use are introduced.

5.5 Future Improvements

The Request for Tenders specifically required that the Performance Measurement Framework be designed in a dynamic fashion so that it can act as an evolving system with scope for refinement over time. It is already possible to provide an outline of some potential areas of improvement where the Resource Allocation Model could be developed in the future.

Improvement of the Measurement of Problem Substance Use within the NDTRS

We have already discussed in some detail how the NDTRS data are destined to improve in the immediate future on the basis of the new data collection protocol introduced by the HRB. This will involve residential locations being coded to SA level for the whole of Ireland and will represent a great improvement over the data used in this report. The new data protocol was introduced during 2016, although it may take some months for data providers to comply with its requirements.

A second improvement to the NDTRS will flow from greater compliance with the data transmission protocols. At the moment, stakeholders believe that there are significant differences between different areas of the country in terms of record-keeping and data collection. Differential compliance has the potential to influence the coefficients used to measure the social and spatial gradients underlying the RAM. For example, systematic under-reporting of treatments in certain areas could lead to lower estimates for problem drug use in these kinds of areas. This would penalise DATFs with similar area characteristics, as they would appear to have lower levels of problem drug use than is actually the case.

The RAM creates an incentive for all DATFs to improve data collection and reporting procedures amongst local organisations and to place pressure on neighbouring (or similar) DATFs to do the same. This is a welcome process, although it could also create the impression that problem substance use has worsened in certain kinds of areas. It is important, in these cases, to identify from the NDTRS data where any such developments represent a real change in treatment and where it merely reflects improved compliance with data reporting procedures. As the RAM is based on predicted rather than actual problem drug use, changes within individual DATFs will not unduly influence the overall funding distribution. This means that we can always use the latest and most accurate indicators to make decisions about resource allocations and to evaluate performance.

6 The Performance Measurement System

6.1 Towards 'True' Impact Assessment

When outlining our methodological approach to the construction of a Performance Measurement Framework for DATFs in Chapter Three, we stressed that it is important to be clear about the relationship between empirical evidence, research and policy-making. At the most fundamental level, effective policies in relation to problem substance use should be based on an understanding of the risk and protective factors that influence this as well as its impact on the health and well-being of substance misusers, those around them and other members of society.

We also observed that impact assessment remains an elusive objective, particularly when dealing with programmes that are implemented through a multiplicity of local actors. A core aim of this study is to move towards developing a framework for 'true' impact assessment and to narrow the gap between a pervasive 'rhetoric' of impact assessment and the reality of less useful approaches to evaluation and measurement.

As a consequence, we placed considerable emphasis on the development of a precise and well-defined measure of the key outcome of drug and alcohol programmes. We defined the outcome of DATF interventions as reductions in problem substance use, which is a central concept in the National Drugs Strategy. In Section 3.1 we discussed how to define this concept and in Section 5 we compared historical funding patterns to the results of an evidence-based resource allocation model.

In Section 3 we also described the main components of the Performance Measurement Framework, including a Logic Model that specifies how inputs are thought to affect problem substance use via specific kinds of interventions and a Performance Measurement Model. In Section 4 we explored possible data sources and discussed the requirements of the Framework.

In Section 2 we noted that DATFs are not independent organisations, but a structure that brings together all relevant service providers in a given area. The precise relationship between the direct and indirect influences of the DATFs and the agencies represented on them is a complex one, and these distinct effects can only be distinguished if we have access to large amounts of very precise information. This leads us to treat 'true' impact assessment as a theoretical reference point, although we showed that it is already feasible to evaluate DATFs by comparing actual and predicted rates of problem substance use. This brings us to the heart of the Performance Measurement System, which is the topic of this Section, and represents the operational form of the Performance Measurement Framework when it is implemented using appropriate data.

6.2 The Purpose of a Performance Measurement System

We begin, therefore, by distinguishing between the Performance Measurement *Framework* and the Performance Measurement *System*. The former responds to the question of how we understand actions to affect outcomes and impacts, as depicted in the Logic Model, and how we believe that these key variables can be operationalised (Measurement Model). The Performance Measurement *System* describes how we apply this knowledge in a systematic manner to achieve better programme outcomes. The Performance Measurement *System* thus forms part of the overall Performance Measurement *Framework*.

As we indicated in a previous section, a change management process needs to be engaged in that seeks to achieve the widest possible agreement on the nature and parameters of the Performance Measurement Framework amongst the stakeholders involved in the delivery of the NDS prior to engaging in performance measurement. This will contribute to a shared vision of how to define key concepts, how to use and interpret data and how to evaluate the effectiveness of the DATFs.

As we showed in Section 2, one of the aims of the 2006 expenditure review, commissioned by the Department of Community, Rural and Gaeltacht Affairs and carried out by Goodbody Economic Consultants, was to set out how a Performance Measurement Framework might be implemented. Ten years later, a Performance Measurement System still needs to be defined and implemented, which suggests (a) that this is a more complex task than was initially assumed by policy-makers, (b) that previous evaluation reports have been of limited use in this respect and (c) that this situation is related, at least in part, to the complexity of the organisational forms and funding mechanisms that characterises the Drugs Initiative since the beginning.

The Need for a Performance Measurement Framework

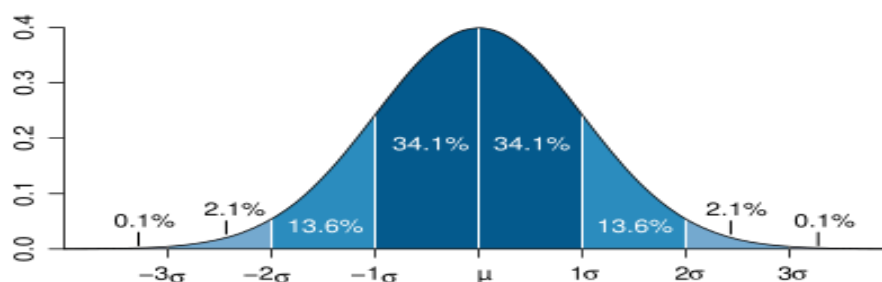
As noted in Section 2, responsibility for funding, monitoring and evaluating ‘mainstreamed’ projects rests with the relevant Departments/Agencies, which also undertake actions which are related to substance misuse without being directly related to the DATFs or the Drugs Initiative. Thus, one of the first questions we need to tackle relates to the role of the DATFs in relation to the full range of interventions carried out at local level. Although the DATFs have a global role of coordination and monitoring in relation to local services and projects, they are only directly responsible for a small proportion of these. As we indicated earlier, the DATF comes to represent the collective response to problem substance use of statutory and voluntary bodies within a given area. If this is found to be weak, then the organisations represented on the DATF also have a collective responsibility to address this situation.

6.3 Evaluating the Performance of DATFs

The Performance Measurement Framework is conceptually simple, and is based on the relationship between actual problem substance use and the risk of problem substance use in a given area. If the ratio is “1”, it means that the DATF is in line with average performance. If the ratio is below “1”, this indicates better-than-average performance, and if it is above “1”, this suggests that performance may be below-average.

The Performance Measurement System indicates how far the DATF area is situated from mean performance. It may be useful to think about this in terms of distributions of performance scores. With enough observations, such scores often trace a normal (‘bell-shaped’) curve (see Figure 6.1). Statistical theory indicates that, in the presence of such a ‘normal’ distribution, about two-thirds of scores are within one standard deviation of the mean (shown as the dark blue area in Figure 6.1). About 16 per cent fall below -1 standard deviation units, indicating a performance significantly below the average, and the same number of DATFs perform above 1 standard deviation (i.e. significantly above the average).

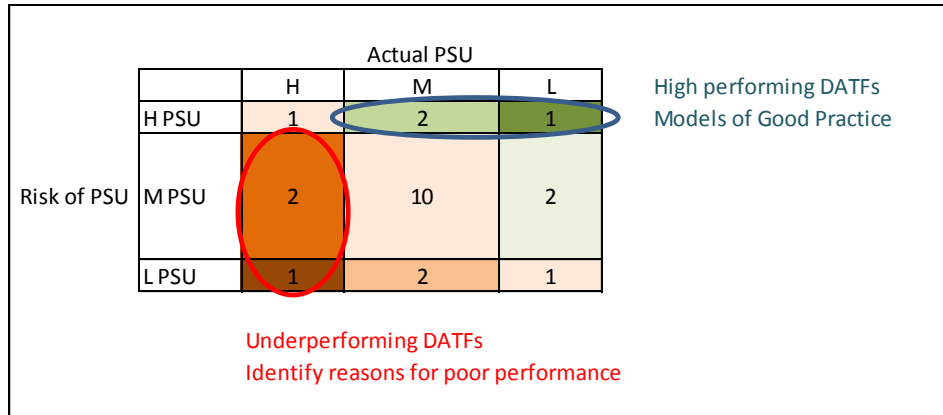
Figure 6.1 Distribution of Performance Scores under the Assumption of Normality



We can therefore group the DATFs in terms of low, medium and high performance, using standard deviation units to mark these distinctions. If we subdivide the values of our measures of the risk of

problem substance use and actual problem substance use in the same way, we obtain a 3x3 performance matrix (Figure 6.2).

Figure 6.2 Hypothetical Performance Matrix



On the leading diagonal (light beige), we see 12 DATFs which have average performance. The green segments to the top right of the Figure show the high-performing DATFs. These have medium to high risk of problem substance use, but the actual rate will be lower than this. This means that something has happened in these DATFs to counteract the risks and to reduce problem substance use. As this is the principle aim of the NDS, these DATFs have the potential to provide models of good practice, meaning that it is relevant to explore how those DATFs (and all the agencies represented on them) differ from the rest.

The opposite applies to the DATFs in the red squares to the bottom left of Figure 6.3. Here actual problem substance use is significantly higher than estimated problem substance use. This constitutes significant under-performance relative to other DATFs, and this is worrying as we know that higher performances in comparable situations can be achieved. It has to be made absolutely clear in this context that the purpose of the Performance Measurement System is not to “blame and shame”. Penalising is not an option, as problem substance users in these areas must already deal with a below-average response. Hence, the only option is to identify the reasons behind the poor performance and to remedy the situation by whatever means possible.

By raising poor performers to at least average performance, average performance is also improved significantly across the DATFs, and this is the main way in which the Performance Measurement System can lead to better systemic performance. Of course, it is always possible that exceptional circumstances prevail in a specific area, as we noted earlier. What initially appears to be poor performance may therefore turn out to be an effect of drug markets, migration flows or adverse labour market events in the local area. This is also crucial knowledge, as these unmeasured risks can be brought into the Framework and used to develop more effective policies. It is thus important to maintain a constructive attitude towards the Performance Measurement System as a tool for learning and understanding through sustained engagement with data, other actors and models.

Finally, we would like to pre-empt concerns about whether the Performance Measurement System can actually be operationalised. Far from being utopian, a similar system has been adopted by the HSE-HIU to analyse Hospital In-patient Enquiry (HIPE) data. This system records the characteristics of well over 1 million hospital stays every year and (broadly) covers the 40 acute hospitals. The HSE Resource Analyser relies on the same principles as the DATF-RAM and Performance Measurement System. It allows each ISD-10 entity to be assessed, comparing the performance of different hospitals relative to the mean and using a traffic light system to mark low, average and high performance. The system controls for the intake of patients in terms of relative affluence/deprivation, which can affect comorbidities and medical complexity, just as the risk of problem substance abuse can influence outcomes in DATF areas.

A similar system was also devised to evaluate progress in all acute and a selection of community hospitals under the Hospice-friendly Hospital Programme, which aims to improve end-of-life care. In another significant development, TUSLA is implementing a change management programme which will reorganise service delivery in light of the HSE Resource Analyser. Finally, the Department of Education and Skills is currently undertaking a redesign of its Delivering Equality of Opportunity in Schools (DEIS) programme, which will base both the designation of disadvantaged schools and the resource allocation model on similar criteria. Far from being utopian, therefore, the Performance Measurement Framework and System presented here reflect a strong trend or movement in Public Sector Management in Ireland and other Anglo-Saxon countries. By participating in this process, the National Drugs Strategy, DATFs and the Drugs Initiative as a whole will be in an excellent position to defend their funding levels, to situate themselves at the forefront of evidence-based policy-making and to make progress on their central objectives in coming years.

6.4 Review of DATFs with High and Low Performance

We referred in previous sections to the importance of identifying DATFs which may be performing either significantly above or below the average. In this section, we elaborate on how these results might be interpreted and explained.

The nature and determinants of DATF performance are illustrated in the Logic Model (Figure 3.1) and Measurement Model (Figure 3.2), highlighting the complex relationships that must be considered. This is further illustrated by the funding patterns shown in Table 2.1: in 2015, funding to the DATFs, including mainstreamed projects, amounted to €30 out of a total of €232.7 of direct drugs-related public expenditure. This means that the DATFs were directly about sixteen per cent of national spending on substance-related programmes. Of course, not all of this expenditure has a regional or local dimension, but Table 6.1 shows that the main items of expenditure include areas which are likely to have an effect on the relative performance of the DATFs. Clearly, another question one has to ask is whether an appropriate share of substance-related expenditure across all of these programmes has been benefitting DATFs, in light of the underlying risk of substance misuse.

It is interesting to consider what kind of information might be needed to offer a response to this question. As a first step, it would require a breakdown of the expenditure items shown in Table 6.2, but by DATF area. To our knowledge, disaggregate funding data of this type do not exist and may be difficult to construct. We did highlight, at an earlier stage in this report, that an unambiguous assessment of the performance of each actor within the complex DATF system would require complete and perfect information on the mechanisms involved, including data on the resources deployed in each DATF area. This serves to dispel ingenuous beliefs about performance assessment, and underlines the exploratory nature of this process.

What we aim at here is an assessment that treats all of these programmes as determining a single systemic impact which we equate with the DATFs. We then try to identify areas where some combination of systemic factors has pushed problem substance use above or below the level that one would otherwise have expected, given their size, socio-economic characteristics and location. This finding is only the beginning, however, as we must then study the local context in order to identify the 'active ingredient'.

Table 6.1 Selective Substance-related Public Expenditure Affecting DATFs, 2013⁵⁷

Agency/Service	Purpose of Expenditure	Expenditure €m
Department of Health	Total Expenditure	30.524
Local DATFs	Treatment and rehabilitation services	19.110
Regional DATFs	provided to drug users	8.935
Department of Children and Youth Affairs	Total Expenditure	20.310
YPFSF Round 1	Youth programmes with drug-specific	5.905
YPFSF Round 2	initiatives	13.209
Department of Education and Skills	Total Expenditure	0.810
DATF Area Projects	Drug education and prevention projects	0.398
Drug Court – education support	Drug Court - education support	0.412
Health Services Executive	Total Expenditure	90.392
Drug-related health services	Drug-related health services	63.662
National Drug Treatment Service	Drug-related health services	7.462
Primary Care Reimbursement Service	Drug-related health services	19.268
Department of Social Protection	Total Expenditure	13.434
Community Employment Programme	Training and rehabilitation places for drugs	12.772
LDATF mainstream projects	referred clients on Community Employment	0.662
Department of Justice and Equality	Total Expenditure	18.553
Irish Youth Justice Service – Education	Youth crime diversion programmes	16.734
Irish Prison Service	Drug treatment services in prisons	4.500
An Garda Síochána	Policing and investigation costs	44.000
Revenue's Customs Service	Supply reduction – border policing and anti-smuggling	18.624

One of the central roles of the DATFs, in the context of the NDS, is to improve the coordination and funding of local actors who seek to reduce problem substance use and the harm that it can cause to individuals and communities. This means that the DATFs have overall responsibility for investigating why high or low levels of actual problem substance use are observed in some areas, relative to expectations. They will thus be the key actors in identifying factors that may have contributed to these performance outcomes.

Addressing Underperformance

Addressing underperformance is a key purpose of the Performance Measurement Framework, and the Performance Measurement System provides the means to identify when and where it occurs. However, identifying underperformance is not enough; we also have to identify how it can be addressed and ameliorated. By identifying the factors that contribute to underperformance, we put ourselves in the position to address these issues and to provide better outcomes. This means first and foremost better services to those either at risk of or actually engaging in problem substance use, including better health outcomes and a reduction in the harm to families and communities. Simply put, if we improve the performance of the worst performing DATFs, then average performance will be improved in the next cycle.

We should also be aware that we will never be able to ‘move beyond underperformance’. Underperformance is defined in strictly relative terms and this means that some DATFs will always, by definition, be defined as ‘underperforming’. This is a strength, not a weakness: the Performance

⁵⁷ HRB 2014. 2014 National Report (2013 Data) to the EMCDDA by the Reitox National Focal Point. Ireland: New Developments, Trends. Dublin: Health Research Board, p. 29.

Measurement System provides an evolving and flexible measure of performance which will always drive forwards improvements in overall performance. This dynamic element was explicitly requested in the term of reference and is an important aspect of all successful Performance Measurement Frameworks.

So, how do we then proceed with respect to DATFs whose performance has been found to be significantly below average? A first step would be to explore whether any specific mechanisms contributed disproportionately to this outcome, such as:

- (i) The amount of resources allocated to the area
- (ii) The poor performance of specific agencies or bodies
- (iii) The poor performance of the DATF in coordinating services and supports
- (iv) Exceptional local factors

We will briefly elaborate on some of these possible explanations.

Resource Allocations:

Resource allocation comprises funding accessed through the DATF system (including mainstreamed projects) and funding with a local/regional dimension (such as educational and health services or voluntary treatment providers) that is not part of the DATF system. As noted above, 'direct' funding could amount to as little as one-tenth of the total expenditure to be evaluated.

With respect to this 'direct' source of funding for projects and measures, we have to take into account that the performance of DATFs will continue to be significantly affected by historical spending patterns, which may not be in line with need, as this is captured by the DATF-RAM. In other words, the legacy of sub-optimal resource distribution in the past will continue to influence the performance of DATFs into the foreseeable future.

It is, of course, rather difficult to ascertain whether the expenditure of Government Departments and State Agencies in DATF areas have been commensurate with the population, degree of deprivation and population density. We have been told by many DATFs that this question regularly surfaces in their discussions, but that these Departments and Agencies are often not in a position to provide a clear response to this question, even where they are represented on the DATF. This anecdotal evidence hints at the continuing existence of a culture of reticence regarding the criteria underlying expenditure decisions. Without full accountability by Departments and Agencies which are represented on the DATF (either directly or indirectly) with regard to spending which affects residents in the DATF area, the Performance Measurement Framework is likely to fail. This has to be identified as one of the major risks facing the Framework and as one of the great challenges that evidence-based policy-making faces in its real-world battle against *realpolitik*.

On the positive side, breaking down expenditures and resources for individual entities by DATF area no longer poses particular technical problems, given the great progress made by information technology and Geographical Information Systems over past decades⁵⁸. Evidence-based policy-making appears to contain an expansive systemic dynamic which makes it difficult to accept the continued existence of inefficient and irrational management criteria. Evidence-based policy-making is ultimately about accountability; if Government requires DATFs to be accountable to tax-payers, then this accountability requirement logically extends to all actors represented on and by the DATFs.

⁵⁸ For example, many of the issues raised by Loughran and McCann (2006) regarding the uneven size of EDs, their failure to coincide with the boundaries of local communities and the difficulty of obtaining data for LDTF areas, can now be overcome.

Performance of DATF as organising entity:

We turn now to the performance of the DATFs themselves, involving how they work, how they reach decisions and how they coordinate the work of local actors/organisations. There is likely to be a degree of unevenness in the success of the DATFs in creating a climate of mutual respect and constructive coordination of services and interventions. This will have to do with personalities, roles, organisational cultures, local traditions and other factors. An interesting issue relates to the authority of individuals who are seconded to the DATF: the more influence they have within their respective spheres, the more decision-making power they will be able to 'bring to the table'.

This is a well-known phenomenon in area-based initiatives in Ireland. If area-based entities become too small, it is inevitable that they will be populated by more junior figures who are likely to occupy a less influential position within their respective Departments or State Agencies. This will inevitably lead to difficulties in reaching decisions, as these individuals may not have a mandate to commit organisational resources and may not have the authority to introduce new priorities or ways of thinking. It is interesting, in this context, to note the emphasis placed in the 1999 and 2011 *Handbooks* on the importance for Government Departments to fully support their representatives within the DATFs and to value the role of the latter. To what extent is this actually happening? How can the Performance Measurement System provide information on this crucial point?

This consideration has ramifications for the number of Local DATFs which should be maintained and for their characteristics. A recurrent theme in previous reviews of the DATFs suggests that the number of DATFs ought to be reduced in order to facilitate participation by important Departments, Agencies and Voluntary Bodies. In Section 7, we make some recommendations in relation to this issue, supporting the immediate amalgamation of the two smallest DATFs into their neighbouring or surrounding DATFs. We do not believe that there is a case for making any other changes to the network of DATFs at this point in time. The further rationalisation of the DATF network should arguably be on a *quid pro quo* basis: as the members of the DATFs bring more decision-making power to the table it is possible that smaller DATFs come to see mergers as a positive option and a way of increasing their capacities.

This leads us to the second consideration, which relates to the decisions that DATFs actually take, which obviously relate to a number of different issues. The quality of these decisions will be influenced by the degree to which there is a shared understanding within the DATF about the nature and spatial articulation of problem substance use. The analysis in this report of underlying risk factors and their spatial distribution thus has the potential to encourage such a shared understanding and response to problems.

Exceptional factors:

We should not exclude the possibility that exceptional factors might contribute to the impression of poor performance by a DATF. However, care needs to be taken not to expect too much from such explanations. In our experience, there is a tendency for local area-based initiatives to overstate the importance of the local. But if a good case can be made that powerful local factors exist which are outside the scope and influence of the DATF, these should certainly be considered. If these are considered important systemic factors, then they must be integrated into the Performance Measurement System and used to evaluate all DATFs. Otherwise, there is a risk of simply 'explaining away' poor performance by appealing to arbitrary and possible irrelevant local conditions.

The Need for a Review Body:

Finally, we have to address the question of what happens if a low-performing DATF has undertaken a review and has identified a set of explanatory factors. It clearly makes sense for these to be set out in a brief report and for them to be discussed by the NCC or other appropriate organ. The key purpose of this deliberation is to assist the DATFs in their reflection on the causes of relative underperformance and to assist them in undertaking the steps needed in order to improve their performance. One important aspect of this review process is to identify situations where a specific Department, Body or Agency is not dedicating sufficient attention or resources to a given area. It

would be helpful for each entity that is involved in the DATF system to already start reflecting on this issue.

Identifying Models of Good Practice

Equally important to identifying the factors that may have contributed to underperformance is the identification of models of good practice. In essence, the steps involved mirror the previous considerations, and we will restrict ourselves here to highlighting some additional considerations.

It is important to recognise that high performance may simply be the result of a historically high level of funding, relative to need. In Section 5 we showed, for example, that certain Local DATFs in South Dublin appear to have received disproportionate allocations. Hence, we would expect these DATFs to also have above-average performance, all else being equal (i.e. merely assuming that the expenditure of key Departments and Agencies is not systematically biased against them). This means that resources may have to be gradually reduced for DATFs which, hitherto have been ‘over-funded’, even if they are performing well, which appears to be counter-productive. But it is important to remember that resource allocation is about expenditure for services to reduce harm to individuals and communities: unfair distributions can lead to disproportionate and avoidable harm, which demands attention. Of course, this result would also be encouraging, as it would provide a *prima facie* case that higher expenditure yields significant returns, and may constitute good value for money.

Overall, the identification of models of good practice and their dissemination among DATFs is one of the most important aspects of the Performance Measurement Framework. We would therefore view the reviews prepared by high-performing DATFs as being just as important as those written by DATFs that appear to be performing below the average.

6.5 Timeline for Implementing the Performance Measurement System

It may be helpful to provide a provisional timeline for the implementation of the Performance Measurement System. In line with the terms of reference, this study aims to develop a Performance Measurement Framework that can be embarked upon from early 2017 onwards. We have written this report with this in mind, and with the hope that the Performance Measurement Framework and System can contribute to the National Drugs Strategy and to the realisation of its goals.

However, this does not mean that evaluations can be made in early 2017, as the system is designed to be prospective rather than retrospective. Instead, a change management process should be started immediately with the view to agree on the key aspects of the Performance Measurement System. If successful, first evaluations can be made in Spring 2018, using data for the whole of 2017. This means that the parameters and processes involved in the System can be discussed with stakeholders and agreed upon before carrying out any assessments. It would also provide the time for following up the recommendations contained in the next Section relating to data sources and improvements to existing datasets.

In fact, the data that are currently available are not yet of the required quality for building a Performance Measurement System like this, with the aims and objectives specified in the terms of reference of this study. We are of the opinion that to carry out such a retrospective evaluation at this point in time would do more harm than good. On the positive side, improved data collection is already ensured for 2017 on account of the new data collection protocol for the NDTRS, which will mean that better small-area data will be available. We feel that a first wave of DATF evaluations can be undertaken in early 2018, using data for the full 2017 calendar year. The Gantt chart presented in Figure 6.3 details the timeline we currently foresee for the implementation of the Performance Measurement System over the next three years. The tasks identified in the chart are described in detail below.

- 2017_02: **Task 1.2** entails discussions about the role of the Performance Measurement Framework in relation to the NDS, and leads to a number of final decisions (on weightings and transition phases, etc.). Ideally, the Performance Measurement System would be adopted as an integral part of the NDS. For the DATF-RAM to be finalised, additional information will be required on the direct funding provided by at least some of the main actors, starting with the HSE.
- 2017_03: **Task 1.3** involves discussion of the Performance Measurement Framework and System with key stakeholders.
- 2017_06: DATFs could then review their spending plans in light of the final allocations. **Task 1.4** comprises a discussion by each DATF of the four allocations which make up their total funding, as these are related to NDS objectives with regard to problem alcohol and drug use.
- 2017_06: **Task 1.5** addresses shortcomings in relation to the definition of DATF areas. As the implications of the DATF-RAM should by now be understood, this discussion could take place against the backdrop of projections regarding the resources that could be provided to these entities in the future. A small working group could address the “cleaning-up” of DATF boundary definitions to delineate contiguous areas which make sense from the perspective of service provision.
- 2017_09: **Task 1.6** As soon as discussions on the PMF and PMS have been concluded (Task 1.3), the DoH could take steps to negotiate access to relevant data sources, including the need for geocoding administrative datasets if this is not already done.
- 2017_12: **Task 1.9** DoH should address 2018 resource allocations.
- 2017_12: **Task 2.1** involves commissioning the first performance assessment of DATFs, to be carried out by March 2018.
- 2018_01: **Task 2.2** repeats Task 1.4, and requires DATFs to review their spending plans in light of the new allocations under the 2018 DATF-RAM.
- 2018_03: **Task 2.3** results in the first actual performance measurement of DATFs for the year 2017.
- 2018_04: Having identified average performance and DATFs which performed significantly above or below the average, these will be asked to undertake an internal review to identify and discuss the factors that may have contributed to this outcome (**Task 2.4**).
- 2018_07: These reports will need to be considered by an appropriate national body to ensure that collective learning occurs and appropriate steps are taken to identify and share models of good practice and to tackle the causes of local problems (**Task 2.5**).
- 2018_08: **Task 2.6** follows on from the previous task, and may include high-level consultations with the main bodies and actors represented by the DATFs (e.g. HSE, Education, Crime etc.)
- 2018_12: **Task 2.9** DoH should address 2019 resource allocations.
- The tasks for 2019, and any year thereafter, simply repeat the tasks for 2018, but also include an important new task: a review of the longitudinal aspect of performance measurement and a review of the PMS itself.
- 2019_06: First Review of the PMS.

7 Findings and Recommendations

In this section we summarise the key findings of this study and list the recommendations that flow from the analysis presented here. *Findings* include the foundations of the Performance Measurement Framework and Performance Measurement System, which should ideally be agreed upon by key stakeholders. These arguably form part of the evolving National Drugs Strategy. As we suggested earlier, participation in discussions and agreement with the criteria to be used for performance measurement can themselves generate progress towards evidence-based improvement. *Recommendations* highlight the specific actions that need to be taken in order to advance the development of the Performance Measurement Framework and System.

7.1.1 Adoption of Performance Measurement Framework

Findings with regard to the Logic Model

The Logic Model is described in Section 3 and depicted in Figure 3.1, leading to the following findings:

- Every geographical area (small area, community, DATF area) has an underlying risk of problem substance use which can be estimated using aggregate-level demographic and socio-economic variables.
- The level of actual problem substance use in an area is influenced by the underlying risk of problem substance use, together with the legacy of past actions as well as local/contingent factors.
- The effectiveness of interventions to counter problem substance use is influenced by past and current strategies of DATFs and local service providers.
- We cannot measure the effectiveness of each kind of intervention without carrying out complex and expensive control trials, and there are considerable gaps in the literature on effects. This means that many of the measures funded under the Drugs Initiative must be assumed to have an impact, and that performance measures must focus on combined impacts.

Findings with regard to the Performance Measurement Model

At its core, the Measurement Model described in Section 3 distinguishes between ‘predicted problem substance use’ and ‘actual problem substance use’. By comparing these two variables we can determine whether problem substance use is above or below the level that we would have expected, given the characteristics of the DATF area.

The variable ‘predicted problem substance use’ may be operationalised using the results of a Poisson regression model on NDTRS data, and indicates the level of problem substance use that we would expect to find in a given area, given its size, social composition and location. Actual problem substance use may be operationalised using data on treatment demand. In the short to medium term, rather than using a single impact measure (demand for treatment), it would be preferable to integrate multiple data sources, following the recommendations presented below.

The Performance Measurement Model does not require any additional data to be collected by the DATFs. Instead, it is constructed on a logic of periodic evaluation based entirely on the intelligent use of existing secondary data sources and advanced statistical techniques. This provides a powerful evidence base that can support the aim of reducing problem substance use by encouraging innovative local interventions.

Recommendation

A Change Management Process should be initiated with a view to adopting and implementing the Performance Measurement Framework.

7.1.2 Accessing Data

As the Performance Measurement System relies entirely on secondary data sources, access to these datasets is of crucial importance. An important part of this project was dedicated to analysing and screening data sources, which enables us now to formulate the following findings and recommendations.

Findings

Drug Prevalence Survey

We carried out an in-depth analysis of the 2014/15 NACDA Prevalence Data, the results of which are reported in Section Four. This study provides insights into the socio-economic risk factors associated with various kinds of substance use, but proved to be of little use in relation to the measurement of problem substance use and above all failed to provide evidence at the level of DATF areas due to the small sample size.

One important insight, however, that emerges from the analysis of the Drug Prevalence Survey is that most measures of substance use over a predefined period of time reflect experimentation by younger people living in comparatively more affluent areas. By contrast, problem substance use is known to be concentrated in deprived areas (particularly urban areas), as our analysis of the NDTRS confirms. As the DATFs are concerned primarily with tackling problem substance use, superficial use of the drug prevalence survey could be particularly misleading for the targeting of interventions.

NDTRS

The analysis of the NDTRS Data exceeded our expectations, yielding highly-relevant insights into the spatial distribution of problem substance use. We were able to model the prevalence of problem substance use using proxies from the Census of Population, namely (a) the adult population, (b) the socio-economic composition of areas, as measured by the Pobal HP Deprivation Index, (c) urban/rural character, as measured by an adjusted version of the CSO classification of areas and (d) the percentage of households living in Local Authority rented accommodation. The results show a significant social and spatial gradient, and the risk of problem drug use increases with urban deprivation, whilst problem alcohol use has a more uniform spatial distribution.

Other Data Sources

To develop a more precise measure of problem substance use, it is important to go beyond the NDTRS. This has the potential to improve the Performance Measurement System by increasing the reliability, validity and sensitivity of the key outcome variable.

Recommendations

Drug Prevalence Survey

We advise pursuing the geocoding of respondents' addresses to Small Area level and bringing the sampling design in line with the CSO model for household surveys, with stratification by deprivation score.

NDTRS

The HRB has altered the NDTRS data protocol, which now includes the recording of SA identifiers for each record. It is therefore feasible to use this data source in the Performance Measurement System from 2017 onwards. We recommend communicating this intention to the HRB and agreeing a timetable for receiving annual data.

Other Data Sources

Government departments and statutory agencies should work together to ensure access to other data sources relevant to the Performance Measurement System. Above, all, this will involve convincing data holders of the importance of geocoding their data and making the SA-level identifiers for each record available. This may require setting up protocols for the release of Research Micro-data Files (RMF), possibly in conjunction with the CSO. We recommend following up the following data sources

by obtaining a **geocoded RMF** and carrying out a preliminary analysis to assess quality and relevance. Table 7.1 below shows the full list of impact indicators that might be considered.

Table 7.1 Core Impact indicators to be provided by other Data Holders

Indicator	Definition	Source
Patients requesting treatment for problem substance use	Number of patients who requested treatment for problem drug use during calendar year	Health Research Board (NDTRS)
Patients receiving methadone	Number of patients on the Central Treatment List on 31 December of each year	The Drug Treatment Centre Board (CTL)
Drug-related offences	The number of possession, supply, obstruction and other offences under the Misuse of Drugs Act during calendar year	An Garda Síochána (PULSE)
Drug-related hospital discharges	The number of inpatient cases with a principal diagnosis of poisoning by opiates, sedatives, hypnotics, stimulants and psychotropic agents or involving accident or injury under the influence of these substances, over calendar year	Department of Health (HIPE)
Drug-related deaths	The number of deaths due to poisoning by opiates, sedatives, hypnotics, stimulants and psychotropic agents or accident/injury under the influence of these substances, over calendar year	Central Statistics Office (NDRDI)

Relevant Government departments and agencies should work together to optimise existing surveys, institutional and administrative data sources in order to align with the requirements of the requirements of the Performance Measurement System. This would include such issues as collecting and coding residential addresses, improving the sampling design and identifying new indicators relating to such areas as health, housing, education and the criminal justice system.

7.1.3 Implementation of the Performance Measurement System

Findings

The Performance Measurement System is based on a relativistic approach which seeks to avoid arbitrary, normative targets. This system compares actual problem substance use with the underlying risk, which is calculated by referring to socio-demographic composition and characteristics. This allows us to estimate the performance of each DATF, accounting for the attributes of the area, leading to the identification of DATFs which are performing significantly above or below the average.

The provisional analysis of data from the NDTRS suggests that the broad distinction between Local and Regional DATFs is reflected in the estimated level of problem substance use. Local DATFs have estimates above 1 per cent of the adult population, whilst regional DATFs have concentrations below

1 per cent⁵⁹. The Regional DATFs include, within their boundaries, some major concentrations of problem drug users who are typically clustered in deprived urban areas. This means that the RDATFs must adopt effective methods for targeting their interventions at local level.

Recommendation

The implementation of the Performance Measurement System should be approached as part of the Change Management Process for the adoption of the Performance Measurement Framework (Recommendation 7.1.1).

7.1.4 Learning from the Performance Evaluation

Findings

The purpose of the Performance Measurement Framework for DATFs is to identify good practices and to generalise these throughout the system. It is therefore essential to discover which factors contribute to the performance of the DATFs, which raises a number of complex issues. Throughout the study, we have argued that true performance measurement can only be done with reference to the combined effect of all drug-related interventions in a given DATF area. As a consequence, it is essential for the DATFs to analyse all of these interventions, regardless of how they are financed, and to assess their adequacy in qualitative and quantitative terms.

Recommendation

DATFs that are found to perform significantly above or below the average should be required to undertake a review. The findings of this review should be submitted in written form to the NDS Oversight Structures. Following discussion, NDS Oversight Structures should provide detailed recommendations for all DATFs, involving (i) good practices to be emulated, in line with the specificities of the local context; (ii) new criteria to be integrated into the Performance Measurement System, in order to control for potential confounding factors; (iii) advice to individual DATFs regarding issues that might be tackled, areas requiring greater attention, services that could be improved etc.

⁵⁹ The only exception to this is Dún Laoghaire-Rathdown, which is more similar in its values to a Regional DATF.

7.1.5 Resource Allocations

Findings

A Resource Allocation Model (DATF-RAM) is developed and described in this report, comprising an interactive tool. The RAM distinguishes between: problem alcohol use, problem drug use, areas of high problem drug use and very high problem drug use. Each of these elements represents a spending component.

There are three DATF areas where the demand for treatment appears – on the basis of the provisional analysis presented here – differs greatly from the expected values: (i) Bray LDATF, where the actual number of treatments is about twice the expected value; (ii) East Coast RDATE, where this is about 1.6 times higher; (iii) North-West RDATE, where the number of treatments is significantly lower than the expected value. In the first two cases, the DATFs in question appear to receive a high level of funding relative to their populations, urban-rural character and socio-economic composition.

Recommendations

As indicated in the Gantt chart included in Section 6, the first task to be carried out will involve the determination of allocations to DATFs. We recommend that this be done using the RAM, which means that the DPU will have to determine some of the parameters to be used, including the relative weight of the four components and how to move from historical spending to an evidence-based system.

The consultants recommend initially applying a 10/60/15/15 weighting and a 1/3 transition from previous to new allocations. We also recommend consulting the DATFs to discuss these measures and to consider how they might be implemented as soon as possible.

A dimension of improvement which we touched upon during the consultation process, but were unable to pursue as part of this study, is the question of measuring the quantity of resources required by different categories of intervention. People will only be able to access services if they are funded and made available to them at accessible locations. And improved knowledge of the resource implications of meeting certain protocols in the treatment of problem substance use may help us to target services at the areas and individuals who need them. We recommend exploring this question in greater detail in the future, with a view to assessing the ability of the system to support the transformation of resources into differentiated outputs that can be used to provide comparable services to people with similar needs, independently of where they live.

7.1.6 Review of Administrative Boundaries

Findings

Two issues need to be addressed: (i) the case for merging certain DATFs and (ii) the perceived need to 'clean up' the boundaries of the DATFs, where these include areas which are not contiguous, for example. Because of contingent issues during the establishment of the DATFs, there are some boundary issues involving EDs that were not part of the original LDTF designations, and now form part of regional DATFs without forming contiguous areas. This is rather arbitrary and is contrary to the logic of service provision and spatial planning.

It has been suggested, in the past, that the large number of Local DATFs creates administrative difficulties and unnecessary complications in the relationship with other service providers. The latter are often forced to interact with multiple LDATFs within a given catchment area. The desire to rationalise the structure of LDATFs is understandable, and has some good arguments in its favour. For

example, a report by the Department of Health in 2012 proposed reducing the number of task forces from 24 to 19 by merging some and expanding the boundaries of others⁶⁰.

However, the analysis presented in this report provides a number of equally good arguments that point in the opposite direction, as there are clearly-identifiable urban neighbourhoods within RDATFs that experience much higher levels of problem drug use than the surrounding areas. Where this concentration gives rise to a significant clustering of problem drug users, it arguably merits well-targeted and intensive community, family and school-based interventions. This will often only be possible if an LDATF is established with the resources and knowledge required to intervene intensively. In short, we find that the distinction between Local and Regional DATFs is an important one and should continue to be applied and perhaps even extended to Limerick City.

Recommendations

Two DATFs are very small in size and could be merged with their neighbouring/surrounding DATFs. We recommend that Ballyfermot and Canal Communities DATFs be merged to form a single entity, and that Bray LDATF be integrated into the East Coast RDATF. These mergers have been proposed in previous reviews and appear even more urgent now, in light of previous recommendations. In particular, the recommended shift to evidence-based funding criteria is destined to penalise these DATFs, given their relatively small populations, undermining their autonomy.

The rationale for further mergers rests, as far as we are concerned, with the need to involve influential members of Government Departments, State Agencies and Voluntary Bodies in the DATFs. This would enable the DATFs to have a greater say in relation to local services and would arguably improve their ability to coordinate existing interventions and identify gaps. Such mergers should, however, only be considered when a formal review process has been established and on the basis of the results of the Performance Measurement System.

We recommend that a working group be convened under the aegis of the NDS oversight structure to make recommendations regarding DATF boundary issues.

⁶⁰ Department of Health (2012) *Report on the Review of Drugs Task Forces and the National Structures Under Which They Operate*. Dublin: Department of Health.

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9 Appendix A Interventions under the Drugs Initiative

Figure A1 LDTF Measures and Types of Activity⁶¹

Measure Category	Types of Activity
Access to Treatment and Rehabilitation	<ul style="list-style-type: none"> Outreach Assessment and Referral Pre-induction programmes Drop-in services Attending local resident groups/community groups Mail shots and other advertising Contacting drug users in prison
Treatment and Harm Reduction	<ul style="list-style-type: none"> Methadone dispensing service One to one counselling Group therapy Holistic therapies Needle exchange
Rehabilitation	<ul style="list-style-type: none"> Stabilisation programmes Job seeking skills Vocational training Prison link services
Education and Prevention	<ul style="list-style-type: none"> Group Education Drugs awareness courses/sessions Parenting skills Information dissemination Information events (open days etc) Personal development of young people Improving school attendance Early school leaver programmes Youth diversion programmes Develop peer drug educators
Family Support	<ul style="list-style-type: none"> Information and advice One to one counselling Group counselling Discussion groups Residential respite breaks Childcare services Drop in services
Supply Control	<ul style="list-style-type: none"> Community information Community policing for a
Education and Training of Drug Workers	<ul style="list-style-type: none"> Community addiction training courses
Research	<ul style="list-style-type: none"> Research Studies

⁶¹ Source: Goodbody Economic Consultants 2006. *Expenditure Review of the Local Drugs Task Forces*. Dublin: Goodbody Economic Consultants, p. 19.

10 Appendix B Deriving ED-level Estimates of Treatment Demand

Using the counts of (i) problem drug use relating to illicit and licit substances and (ii) problem alcohol use from the 2014 NDTRS data for the 493 EDs that make up the Dublin, Kildare and Wicklow region, it is possible to undertake Poisson regressions using just four explanatory variables derived from the 2011 Census of Population:

- the size of the Adult Population (aged 15+)
- an adjusted CSO classification of the urban-rural spectrum (5 categories)
- the Pobal HP Deprivation Index score
- the percentage of households in Local Authority rented accommodation⁶²

The reason for the inclusion of these four variables closely follows the arguments developed in the previous section, as well as extensive analysis by the consultants on the impact of socio-economic position on a large number of health outcomes.⁶³

Unlike small areas (SA), which are practically standardized in size⁶⁴, EDs vary considerably, with as little as 50 households in some rural locations and in excess of 36,000 persons in Blanchardstown-Blakestown in 2011. By including the size of the adult population in the Poisson regression, we simply scale the incidence to the size of the respective area.

Inclusion of the urban-rural spectrum is the most common way to account for regional variations. Rather than including dummy variables for each region, which could not be meaningfully interpreted, inclusion of a variable to reflect the urban-rural spectrum provides for an analytical dimension which can directly be interpreted and used for policy making.

The HP Deprivation Index is a multi-dimensional construct which represents the relative affluence/deprivation of an area (or spatial unit of analysis) on an exact measurement scale. The scale ranges broadly from -30 (most deprived) to + 30 (most affluent) with a mean of zero and a standard deviation of 10. The HP Index is based on indicators of educational attainment, social class, unemployment, lone parenthood, as well as indicators related to rural deprivation. It thus directly corresponds to the socio-economic indicators identified as posing risk factors in the analysis of the drug prevalence data (Section 4.2) and. The HP Index has been shown to provide a superior predictor compared to the use of individual indicators when trying to measure the social gradient in health, education, housing and other outcomes which are characterised by strong social gradients and serves as the explicit reference in recent population health research in Ireland.⁶⁵

Inclusion of the percentage of households in Local Authority rented accommodation follows directly from the analysis presented in Section 4.2, which points to a strong additional effect over and above educational attainment, social class and employment status. As the variable is not included in the HP Index, it offers itself as a good variable to test in combination with the others already identified.

Whilst there are strong *prima facie* reasons to include these four variables in the Poisson regressions, their actual predictive power obviously has to be empirically tested. We are first applying this analytical model to the problem drug use indicator in the 2014 NDTRS data (Table B1) and subsequently to problem alcohol use (Table B2).

⁶² When updating the regression analysis using the 2016 data of the NDTRS and Census of Population, consideration should be given to including the percentage of housing provided by Voluntary Bodies together with Local Authority housing, as well as demographic indicators.

⁶³ Haase, T. and Pratschke, J. (forthcoming) *Deprivation and Health Impact Weighting*. Study commissioned by the HSE/Health Intelligence Unit.

⁶⁴ For confidentiality reasons, SAs are designed to contain a minimum of 50 households and a minimum of 75 persons. The average is just under 100 households.

⁶⁵ See Haase, T. and Pratschke, J 2012. *Optimising the sampling Methodology for CSO Household Surveys*. Dublin: CSO.

Table B1 **Estimated Coefficients from Poisson Regression for Problem Drug Use**

Stratum	Coefficient	Significance
Intercept	3.580	0.000
Rural Areas	-3.844	0.000
Small Towns	-2.297	0.000
Towns 5,000+	-1.099	0.000
County Boroughs and Environs	-0.985	0.000
Dublin Inner City	0.000	0.000
Adult Population ('000)	0.130	0.000
HP Deprivation Index	-0.050	0.000
Percentage of Households living in Local Authority Housing	0.019	0.000

Parameters based on analysis of 2014 NDTRS data.

If we take Dublin Inner City as the reference point for the urban-rural spectrum, the parameters for each other category of this spectrum tells us by how much exactly the incidence of problem drug use changes relative to the reference category. The stepwise increase in the negative coefficient describes a coherent gradient as we move from Dublin Inner City to county boroughs, large towns, small towns and finally to rural areas, whereby the incidence of problem drug use becomes each time less likely relative to the previous category. The coefficient for the adult population simply tells us that the incidence will increase as the population of the area considered becomes larger.

The negative coefficient for the HP Deprivation score tells us that with every unit increase on the HP Index scale, problem drug use will become smaller. As the HP Index scale ranges from -30 (most deprived) to +30 (most affluent), this indicates a strong social gradient, in line with the social gradients detected in the analysis of the Drug Prevalence data in Section 4.2; i.e. problem drug use is greater the more deprived an area is.

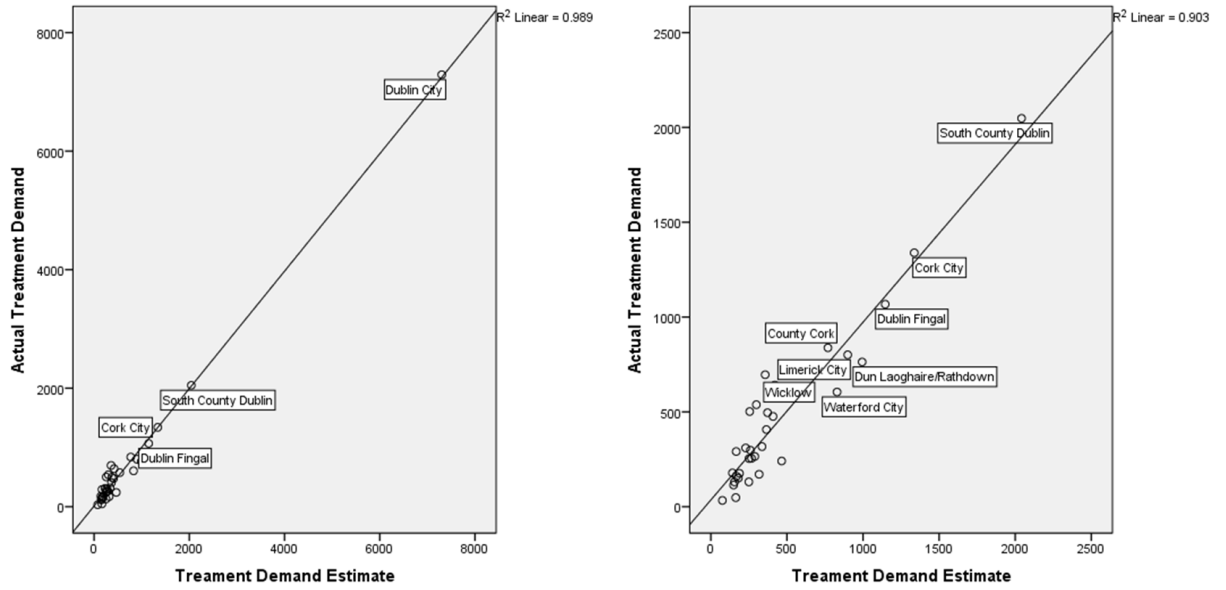
The last coefficient shows the increase in problem drug use for every unit increase in the percentage of local authority housing, again exactly as postulated from the analysis in Section 4.2. In summary, all coefficients behave exactly as we had postulated and are statistically significant at <1 per cent, indicating that the results are robust and not due to chance.

As the NDTRS data used in the regression analysis relate to only 6 out of 34 Local Authority areas, the next step involves extrapolating the predictions based on the regression model to the rest of the country. To this end, we included an extra variable which separates the estimates for County Dublin from those of the four other County Boroughs (Cork, Limerick, Galway and Waterford), as the capital city is known to have higher rates of problem drug use than the other major cities.

We then aggregated the estimates for EDs to county level and compared them with the NDTRS totals, which can be calculated using the 2014 data. In an iterative process, we adjusted the regression coefficients slightly to improve the fit with the known county totals. The final coefficients are shown in Chapter 5 (Table 5.2). Comparing the resulting estimates with the known treatment counts from the NDTRS, we obtain an R^2 of .989 and, when excluding Dublin City (an influential data point, given its high observed count), we get an R^2 of .903. In other words, more than ninety percent of the inter-county variation in problem drug use, as measured by the NDTRS data, can be estimated using just four Census variables. This is a remarkable finding and reinforces the simple message that the relative concentration of problem drug use in certain areas is strongly influenced by a social (deprivation-affluence) and a spatial (urban-rural) gradient, as well as reflecting population size. Figure B1 shows the predicted counts plotted against the observed values, by Local Authority area.⁶⁶

⁶⁶ The reason for presenting this analysis at the level of local authority areas here simply derives from the fact that, outside Dublin, Kildare and Wicklow, this is the lowest spatial indicator available in the 2014 NDTRS data.

Figure B1 Predicted and Actual Problem Drug Use by Local Authority Area



In order to obtain ED estimates of problem alcohol use, we enter the same explanatory variables into a new Poisson regression and obtain the coefficients shown in Table B2 below.

Table B2 Estimated Coefficients from Poisson Regression for Problem Alcohol Use

Stratum	Coefficient	Significance
Intercept	2.185	0.000
Rural Areas	-2.771	0.000
Small Towns	-1.226	0.000
Towns 5,000+	-0.210	0.001
County Boroughs and Environs	-0.542	0.000
Dublin Inner City	0.000	0.000
Adult Population ('000)	0.113	0.000
HP Deprivation Index	-0.007	0.004
Percentage of Households living in Local Authority Housing	0.015	0.000

Source: Parameters based on analysis of 2014 NDTRS data.