



NACDA

National Advisory
Committee on Drugs
and Alcohol

Estimating the Prevalence of Problematic Opiate Use in Ireland Using Indirect Statistical Methods



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Summary

This report presents the results of a study that used the four-sample capture-recapture method, along with the multiple indicator method, to estimate the number of opiate users in Ireland in 2014, along with trend information for 2011 to 2014. There were four data sources used within the analyses, three of which were derived from the Central Treatment List (CTL). These three CTL data sources were constructed from data relating to Clinics, GPs and Prison. The fourth source was derived from Irish Probation Service data.

Table 1 presents a summary of the main results of the study, stratified by age group, gender and by a Co. Dublin/Rest of State split.

In total there were an estimated 18,988 opiate users in Ireland in 2014. The 95% Confidence Interval (95% CI) for this estimate is 18,720–21,454. This corresponds to a prevalence rate of 6.18 per thousand population aged 15 to 64 (95% CI 6.09–6.98). The majority were male (69%) with approximately two thirds in the older 35 to 64 age group. The estimate for Co. Dublin (Dublin City, Dún Laoghaire-Rathdown, Fingal and South Dublin) was 13,458 (95% CI 12,564–14,220). The prevalence rate for Co. Dublin was higher than the rest of the

State at 15.15 per thousand population aged 15 to 64 (95% CI 14.14–16.00). Estimates were also provide for Cork City, Galway City, Limerick City and Waterford City, with Cork having an estimated prevalence rate of 5.67 per thousand population, Galway having an estimated prevalence of 1.93 per thousand, Limerick with an estimated prevalence of 8.82 per thousand and Waterford with a prevalence of 6.72 per thousand.

Estimates were also derived for Counties (n=30), Local and Regional Drugs Task Force areas (n=24) and Community Healthcare Organisation (CHO) areas (n=9) with the Drugs Task Force areas in Dublin having the highest estimated prevalence rates.

Estimates for 2011, 2012 and 2013 were compared to the 2014 estimates to provide information on changes in opiate use prevalence over time. Although the overall prevalence rates remain stable, the prevalence in the older age group (35 to 64 years of age) appears to be increasing and this may be due to an ageing cohort effect where existing opiate users are getting older while fewer younger people initiate into opiate use.

Table 1 Summary of prevalence estimates (2014)

Area	Estimate	95% CI	Rate	95% CI
Co. Dublin	13,458	12,564–14,220	15.15	14.14–16.00
Rest of State	5,530	5,406–8,023	2.53	2.47–3.67
15–24	1,092	1,076–1,234	1.88	1.85–2.13
25–34	6,672	6,578–7,539	8.84	8.71–9.98
35–64	11,224	11,065–12,681	6.46	6.37–7.30
Female	5,966	5,882–6,741	3.86	3.81–4.36
Male	13,022	12,838–14,713	8.52	8.40–9.63
STATE	18,988	18,720–21,454	6.18	6.09–6.98

Foreword

As Minister of State for Health Promotion and the National Drugs Strategy, I firmly believe in a health-led and person-centred approach to our drug problem. Recently An Taoiseach launched our national policy *Reducing Harm, Supporting Recovery, a health-led response to drug and alcohol use in Ireland* which will guide us over the years to come.

Prevalence estimates are very valuable for assessing treatment needs, and offer a realistic basis for estimating the social costs of drug problems. The production of estimates on a regular basis permits the tracking of changes over time, so that we can benchmark progress and ultimately highlight policy issues that arise.

The last national estimates for the prevalence of problem opiate use in Ireland date from 2006. Analysis of national trends in treated problem drug use show that the proportion of opiate users has stabilised over recent years. However this picture has increasingly been challenged by reports of a spread and/or increase of opiate use in certain parts of the country.

This study provides prevalence estimates of the number of opiate users in Ireland in each of the years 2011 to 2014. Estimates over a number of years provided information on changes in the prevalence of opiate use over time. I note that while the overall prevalence rates remain stable, the prevalence in the older age group (35 to 64 years of age) appears to be increasing and this may be due to an ageing cohort effect where existing opiate users are getting older while fewer younger people initiate into opiate use.

These results come at an opportune time and were very valuable in the development of *Reducing Harm, Supporting Recovery, a health-led response to drug and alcohol use in Ireland*.

I would like to express my appreciation of the work of Dr. Gordon Hay and his team, in producing this report. I would also like to thank Professor Catherine Comiskey, and the members of the NACDA for their input into this report.

Catherine Byrne T.D.

Minister of State with responsibility for Health Promotion and the National Drugs Strategy

Foreword

As Chairperson of the National Advisory Committee on Drugs and Alcohol I welcome this publication on estimates of the prevalence of problematic opiate use in Ireland from 2011 to 2014.

For policy and planning, one of the first questions that needs to be addressed within a country, a region or a service is, 'what is the scale or extent of the problem?' This report, by Hay and colleagues, on behalf of the NACDA, provides us with answers to this question, not only at a national level but at a Task Force, individual county and community health organisation level.

Thanks to previous estimates over the past twenty years, from the first estimates in 1996 to those published for 2006, Hay and colleagues can tell us that numbers are stabilising and that the current estimate is of 18,988 opiate users in Ireland in 2014. The 95% Confidence Interval (95% CI) for this estimate is 18,720 – 21,454 and that this corresponds to a prevalence rate of 6.18 per thousand population aged 15 to 64 (95% CI 6.09 – 6.98).

While the overall prevalence is stabilising, the spread of opiate use across the country is apparent. As a result of these new estimates we can see that although highest prevalence rates are still recorded in County Dublin, other cities across the State are also experiencing high estimates of problem opiate use. The timeliness of these estimates is crucial as we enter into a new period of implementing the new National Drug Strategy.

Findings within this report also highlight the chronic nature of problem opiate use, estimates highlight the possible increases in the numbers of people using opiates within the 35 to 64 year age bracket. This is a phenomena seen across Europe and indeed across other chronic conditions as populations age. Again, it is essential that the new National Drug Strategy addresses this challenge and the possible comorbidities that arise as any population ages.

As Chairperson, I thank all contributors, I am confident in the results and I look forward to their dissemination and use for planning and policy for the benefit of persons who use drugs.

Professor Catherine Comiskey, PhD

Chairperson, NACDA

Introduction

This report presents the main results of a study that provides local and national estimates of the prevalence of opiate use in Ireland, using indirect statistical methods. Previous studies have been carried out using data for 1996¹, 2000/01² and for 2006³ using the capture-recapture method. All previous estimates used data from the Central Treatment List (CTL), the Hospital In-Patient Enquiry (HIPE) scheme and from An Garda Síochána. This current study did not gain access to Garda data, however there are four sources of data that can be used within the capture–recapture analyses. Three of these data sources are constructed from the Central Treatment List (CTL) which records data from Clinics, GPs and Prisons separately. Data were also collected from the Irish Probation Service. Although HIPE data were collected from a number of hospitals across Ireland, these data were not used in the analyses. The study also gained access to the National Drug Treatment Reporting System (NDTRS) data which, although not directly used within the capture-recapture analyses, have been used in various additional analyses to explore the validity of the estimates presented in this report and have contributed to estimates by age group.

Methods

The capture-recapture method works by examining the overlap between two or more sources of data in which opiate users can be identified. The method works better when there are three, or preferably four data sources that can be used in the analyses as this helps meet some of the assumptions underpinning the method. A useful way of considering the capture-recapture method would be as follows.

It is unlikely that all opiate users in a particular area are known to treatment services, such as clinics that contribute to the CTL. If we take the town of Bray as an example, in 2014 there were approximately 100 individuals from that area included within the CTL clinic data. We therefore know that there are **at least** 100 opiate users in Bray and if it was

found that 100% of all opiate users in Bray were appearing in the CTL clinic data then the estimated number of opiate users would be 100. If, however, only half of the town's opiate users were in the CTL clinic data then it could be estimated that there would be 200 opiate users in the town (as 100 is half of 200). By examining the overlap between the CTL clinic data and the three other data sources (CTL GP data, CTL Prison data and Probation data) we can estimate the proportion of Bray's opiate users appearing in the CTL clinic data and therefore estimate the total number of opiate users (including those not identified from any data source). The analyses for 2014 suggest that just over a third of Bray's opiate users appeared in the CTL clinic data, therefore a more likely estimate of the total number of opiate users in the town would be about 300.

As it is likely that the proportion of opiate users appearing in the CTL clinic data varies across the State, it is important to carry out a specific analysis for each area. Due to the way that data on opiate users are collected, the two types of local level at which an analysis can be carried out are either the County⁴ level or at the level at which a Local Drug and Alcohol Task Force or a Regional Drugs and Alcohol Task Force operates (referred to in the rest of this report as a DTF area). As DTF areas straddle County boundaries, particularly in the Dublin, Kildare and Wicklow areas, there are a number of smaller areas in which additional analyses have been carried out in order to produce some of the estimates in this report.

As the capture-recapture method has a number of assumptions associated with it that are not always met⁵, a second method known as the multiple indicator method can be used to 'fill in the gaps' i.e. provide estimates for areas where the capture-recapture method does not offer a credible estimate. The estimates in this report are therefore a mix of those obtained from using capture-recapture and the multiple indicator method, and aggregated estimates (such as those at the Health Service Executive level or the State level) are a combination of both approaches.

1 Comiskey CM and Barry JM (2001) A capture-recapture study of the prevalence and implications of opiate use in Dublin. *European Journal of Public Health*, 11, 198-200.

2 Kelly, A., Carvalho, M, Teljeur, C. (2003) Prevalence of Opiate Use in Ireland 2000 – 2001: A 3-Source Capture Recapture Study. National Advisory Committee on Drugs, Stationery Office, Dublin.

3 Kelly, A., Carvalho, M, Teljeur, C. (2003) Prevalence of Opiate Use in Ireland 2006: A 3-Source Capture Recapture Study. National Advisory Committee on Drugs, Stationery Office, Dublin.

4 As listed in the Central Statistics Office publications from the 2011 census <http://www.cso.ie/en/census/census2011smallareapopulationstatistics/saps/>

5 Hay, G and Richardson, C (2016) Estimating the prevalence of drug use using mark-recapture methods. *Statistical Science*, 31(2), 191-204.

In the Dublin, Kildare and Wicklow areas the main analyses were carried out at the DTF area level, whereas in the remaining areas the main analyses were carried out at the County level, then aggregated up to the DTF level. The decision to proceed in this way was taken after a large number of analyses were carried out using data split by different geographical levels. In total there were 24 DTF areas and, after merging some cities into their larger County (i.e. including Galway within a Co. Galway analyses) there were 30 counties including North and South Tipperary as separate Counties and the five 'Counties' within Co. Dublin (Dublin City, South Dublin, Fingal and Dún Laoghaire-Rathdown).

The focus of this report are the results for 2014. Data have also been collected for 2011, 2012 and 2013 and have been used to examine changes over time. Tables summarising the estimates at various geographical levels are presented in this report, along with estimates by age group and gender.

Data Sources

The four sources that have been included in the current capture–recapture analyses are:

- Clinics (CTL)
- GPs (CTL)
- Prison (CTL)
- Irish Probation Service

Central Treatment List

The Central Treatment List (CTL) provides information on those who have received treatment with methadone. The CLT regulates the dispensing of methadone treatment and the identifiers held by this data source are appropriate to warrant inclusion in a capture–recapture study. Because the CTL data differentiates between people prescribed methadone in prison, through clinics and through their GP, we can split this single source of data into three distinct data sources. The data from the Central Treatment List covers the full four years 2011 to 2014.

Irish Probation Service

The Irish Probation Service provided access to their data systems which allowed researchers (working on site) to create a Probation data source in which a list of Probation Service clients who had received a Level of Service Inventory–Revised (LSI–R) risk assessment identifying alcohol or drugs as an issue were screened and if there was a specific mention of opiate use within a Pre–Sanction Report they were included in the data source. The data covers the calendar years from 2011 to 2014.

National Drug Treatment Reporting System

The National Drug Treatment Reporting System (NDTRS) is a database that collates information on drug (and alcohol) treatment across Ireland. It collates information from a range of treatment services but does not include needle exchange data. It collects dates of birth and gender, along with geographical information, so attempts could be made to cross–reference with the other data sources to identify overlap cases, but as it does not collect forename and surname initial, and NDTRS reports only refer to 'treatment episodes' rather than individuals, it was not used within the main capture–recapture analyses. These data have, however, been used in additional analyses to check the validity of the estimates and have been used to generate estimates by age group and gender.

An Garda Síochána

An Garda Síochána provided data for the 1996, 2000/01 and 2006 studies, for example in the 2006 study it was reported that there were 1,948 opiate users identified from within the Garda data. The data was described as 'the relevant national Garda data on known opiate users'. However it transpired throughout the various stages of the current study, that An Garda Síochána does not capture data in a way that would assist in this study as drug related crime is recorded by reference to possession or possession for sale and supply. The Garda database is designed to capture crime types and it would require a lengthy process to search the narrative of each crime report to try and identify the drug involved. It is likely that in previous years, someone from within An Garda Síochána had screened all drug offences to identify opiate users. It was not feasible for An Garda Síochána to repeat this screening exercise for this study and there did not appear any simple way of extracting opiate offences (e.g. by searching specific fields within their electronic data system) therefore data from An Garda Síochána could not be included in this study.

Ethical Approval

Ethical approval for the study was given by the Liverpool John Moores University Research Ethics Committee (14/EHC/090). Prior to data collection commencing, advice was sought from the Office of the Data Protection Commissioner.

Results

In this section we first provide a summary of the headline results relating to the prevalence estimates at the local and national level. For each estimate an associated 95% confidence interval (95% CI) is provided. Table 2 presents estimates for the State along with a combined Dublin City, South Dublin, Fingal, Dún Laoghaire-Rathdown area (Co. Dublin) and the remainder of the State.

In total there were an estimated 18,988 opiate users in Ireland, (95% CI 18,720 to 21,454). This corresponds to 6.18 per thousand population aged 15 to 64 (95% CI 6.09 to 6.98).

Table 2 Estimates of the number of opiate users for Co. Dublin and the rest of the State, and rates per 1,000 population aged 15 to 64 (2014)

Area	Estimate	95% CI	Rate	95% CI
Co. Dublin	13,458	12,564–14,220	15.15	14.14–16.00
Rest of State	5,530	5,406–8,023	2.53	2.47–3.67
STATE	18,988	18,720–21,454	6.18	6.09–6.98

As can be seen from Table 2, the majority of opiate users in Ireland are resident in Co. Dublin, with 13,458 (95% CI 12,564–14,220) opiate users resident in remaining areas. The prevalence rate (per thousand persons aged 15 to 64) are far higher in Co. Dublin at 15.15 (95% CI 14.14–16.00) than in the rest of the State.

Table 3 presents prevalence estimates by Community Health Organisation (CHO) Area, which split Dublin City, with the north of the City combining with Fingal to form CHO Area 9, with the south of the City split into two areas which combine with areas of Kildare and Wicklow to form CHO areas 6 and 7.

Table 3 Estimates of the number of opiate users by CHO Area, and rates per 1,000 population aged 15 to 64 (2014)

CHO Area	Estimate	95% CI	Rate	95% CI
1 Cavan, Donegal, Leitrim, Monaghan, Sligo	263	178–1017	1.04	0.70–4.02
2 Galway, Mayo, Roscommon	295	245–539	1.00	0.83–1.83
3 Clare, Limerick, North Tipperary	684	585–909	2.72	2.33–3.62
4 Cork, Kerry	830	733–1,029	1.88	1.66–2.33
5 Carlow, Kilkenny, South Tipperary, Waterford, Wexford	1,005	896–1,366	3.09	2.76–4.20
6 Dublin (part), Dún Laoghaire-Rathdown, Wicklow (part)	1,620	1,426–2,162	6.69	5.89–8.93
7 Dublin (part), Kildare, South Dublin, Wicklow (part)	5,306	4,654–6,005	11.59	10.16–13.11
8 Laois, Longford, Louth, Meath, Offaly, Westmeath	1,630	1,447–2,016	4.22	3.74–5.22
9 Dublin (part), Fingal	7,355	6,810–8,497	17.46	16.17–20.17
STATE	18,988	18,720–21,454	6.18	6.09–6.98

In terms of regional differences, CHO Area 9 (North Dublin and Fingal) has the highest prevalence of opiate use at 17.46 per thousand population aged 15 to 64 (95% CI 16.17-20.17) followed by the CHO Area 7 at 11.59. CHO Areas 1 and 2, covering the Western/North Western parts of the State both have a relatively low prevalence of opiate use at approximately 1 per thousand.

Table 4 presents the prevalence estimates, along with rates per thousand population for the areas covered by the Local Drug and Alcohol Task Force areas and the Regional Drug and Alcohol Task Force areas (DTF areas).

Table 4 Estimates of the number of opiate users by DTF Area and rates per 1,000 population aged 15 to 64 (2014)

DTF Area	Estimate	95% CI	Rate	95% CI
Ballyfermot	578	538–622	37.87	35.25–40.75
Ballymun	697	582–1,209	63.24	52.80–109.69
Blanchardstown	564	454–881	12.03	9.69–18.80
Bray	310	224–532	27.59	19.94–47.35
Canal Communities	381	354–408	35.40	32.89–37.91
Clondalkin	1,001	861–1,147	17.55	15.10–20.11
Dublin 12	812	724–900	22.67	20.21–25.12
Dún Laoghaire-Rathdown	878	725–1,303	6.32	5.22–9.38
Finglas-Cabra	1,093	871–1,512	30.84	24.57–42.66
North Inner City	2,084	1,919–2,227	37.66	34.68–40.24
Dublin North East	1,451	1,168–2,012	22.41	18.04–31.07
South Inner City	1,235	1,091–1,382	22.47	19.85–25.14
Tallaght	1,205	1,041–1,427	20.01	17.28–23.69
Cork City	475	411–562	5.67	4.91–6.71
Southern	355	278–522	0.99	0.78–1.46
North West	95	35–863	0.57	0.21–5.19
Midlands	938	773–1,244	5.09	4.19–6.75
Western	295	245–539	1.00	0.83–1.83
Mid-Western	684	585–909	2.72	2.33–3.62
North East	860	749–1,069	2.98	2.59–3.70
South East	1,005	896–1,366	3.09	2.76–4.20
East Coast	432	342–605	4.70	3.72–6.58
South Western	672	486–1,283	2.81	2.03–5.37
North Dublin	888	406–1,361	4.61	2.11–7.07
STATE	18,988	18,720–21,454	6.18	6.09–6.98

In terms of DTF area differences, the Ballymun area has the highest prevalence of opiate use at 63.24 per thousand population aged 15 to 64 (95% CI 52.80–109.69) followed by the Ballyfermot area at 37.87 per thousand population (95% CI 35.25–40.75) and Dublin’s North Inner City at 37.66 per thousand population (95% CI 34.68–40.24). The North West DTF has the lowest prevalence of

opiate use, at 0.57 per thousand population (95% CI 0.21–5.19) with the Southern and Western DTF areas both having prevalence rates of approximately 1 per thousand population aged 15 to 64.

Table 5 presents the estimates at the County level. It should be noted that for cities such as Limerick they are included along with the wider County in this table, but discussed in more detail in a later table.

Table 5 Estimates of the number of opiate users by County, and rates per 1,000 population aged 15 to 64 (2014)

County	Estimate	95% CI	Rate	95% CI
Carlow	253	171–438	6.98	4.72–12.08
Dublin City	8,645	8,312–9,416	22.68	21.81–24.71
South Dublin	2,672	2,124–2,975	14.77	11.74–16.45
Fingal	1,262	853–1,682	6.72	4.54–8.96
Dún Laoghaire-Rathdown	878	725–1,303	6.32	5.22–9.38
Kildare	315	261–499	2.22	1.84–3.51
Kilkenny	96	84–129	1.54	1.34–2.06
Laois	262	213–426	4.99	4.05–8.11
Longford	100	74–171	3.99	2.95–6.82
Louth	372	299–511	4.61	3.70–6.33
Meath	320	246–450	2.64	2.03–3.71
Offaly	261	172–465	5.24	3.45–9.33
Westmeath	315	199–453	5.53	3.50–7.96
Wexford	265	199–395	2.82	2.12–4.21
Wicklow	509	326–853	5.63	3.60–9.43
Clare	138	95–247	1.80	1.24–3.22
Cork	674	601–786	1.94	1.73–2.26
Kerry	156	95–310	1.64	1.00–3.26
Limerick	420	355–570	3.24	2.74–4.40
North Tipperary	126	83–246	2.78	1.83–5.42
South Tipperary	123	103–202	2.13	1.78–3.50
Waterford	268	213–555	3.60	2.86–7.46
Galway	186	162–232	1.10	0.96–1.37
Leitrim	14	11–64	0.69	0.54–3.17
Mayo	50	20–294	0.60	0.24–3.51
Roscommon	59	37–153	1.44	0.90–3.72
Sligo	16	9–75	0.37	0.21–1.73
Cavan	149	111–240	3.16	2.36–5.10
Donegal	65	19–808	0.63	0.18–7.87
Monaghan	19	12–69	0.48	0.30–1.75
STATE	18,988	18,720–21,454	6.18	6.09–6.98

In terms of County differences, Dublin City has the highest prevalence of opiate use at 22.68 per thousand population aged 15 to 64 (95% CI 21.81–24.71) followed by South Dublin at 14.77 (95% CI 11.74–16.45). Sligo has the lowest prevalence at 0.37 per thousand (95% CI 0.21–1.73 per thousand). The other Counties with prevalence rates of less than 1 per thousand are Donegal, Leitrim, Mayo and Monaghan).

Table 6 presents prevalence estimates for the five 'cities'⁶ of Dublin, Cork, Galway, Limerick and Waterford.

Table 6 Estimates of the number of opiate users by City, and rates per 1,000 population aged 15 to 64 (2014)

City	Estimate	95% CI	Rate	95% CI
Dublin City	8,645	8,312–9,416	22.68	21.81–24.71
Cork	475	411–562	5.67	4.91–6.71
Galway	108	87–153	1.93	1.55–2.73
Limerick	347	280–518	8.82	7.11–13.16
Waterford	211	165–475	6.72	5.25–15.12

With regards to city differences, Dublin City has the highest prevalence of opiate use at 22.68 per thousand population aged 15 to 64 (95% CI 21.81–24.71). Galway City has the lowest prevalence of opiate use at 1.93 per thousand (95% CI 1.55–2.73). Table 7 demonstrates the differences in prevalence between 'City' and 'County' in those areas.

Table 7 Estimates of the number of opiate users by City/County, and rates per 1,000 population aged 15 to 64 (2014)

Area	Estimate	95% CI	Rate	95% CI
Cork City	475	411–562	5.67	4.91–6.71
Cork (rest of County)	199	159–279	0.76	0.6–1.06
Co. Cork	674	601–786	1.94	1.73–2.26
Galway City	108	87–153	1.93	1.55–2.73
Galway (rest of County)	78	66–115	0.69	0.58–1.01
Co. Galway	186	162–232	1.10	0.96–1.37
Limerick City	347	280–518	8.82	7.11–13.16
Limerick (rest of County)	73	42–412	0.81	0.47–4.57
Co. Limerick	420	355–570	3.24	2.74–4.40
Waterford City	211	165–475	6.72	5.25–15.12
Waterford (rest of County)	57	49–103	1.32	1.14–2.39
Co. Waterford	268	213–555	3.60	2.86–7.46

6 Data were collected for the City of Kilkenny although the size of the City/County meant it was not possible to provide a meaningful estimate.

In Tables 8 and 9 we present the estimates and rates at the CHO area level, broken down into three age-groups; 15 to 24, 25 to 34 and 35 to 64. These are the age groups the European Monitoring Centre for Drugs and Drug Addiction ask EU member states to provide opiate prevalence estimates by. It should be noted that the age group estimates are derived using a range of data, including capture–recapture estimates, multiple indicator method estimates and information on the age breakdown in NDTRS and other data sources, therefore should be considered as providing an indicative breakdown by age group at the local and State level rather than ‘firm’ estimates as presented in the preceding tables.

Table 8 Estimates of the number of opiate users by CHO Area and age group (2014)

CHO Area	15–24 years		25–34 years		35–64 years		15–64 years	
	Est.	95% CI	Est.	95% CI	Est.	95% CI	Est.	95% CI
1 Cavan, Donegal, Leitrim, Monaghan, Sligo	21	14–81	108	73–416	134	91–520	263	178–1,017
2 Galway, Mayo, Roscommon	26	22–47	129	107–235	140	117–257	295	245–539
3 Clare, Limerick, North Tipperary	94	80–125	325	278–433	265	226–352	684	585–909
4 Cork, Kerry	141	124–174	384	339–476	305	270–378	830	733–1,029
5 Carlow, Kilkenny, South Tipperary, Waterford, Wexford	161	143–219	486	434–661	358	319–486	1,005	896–1,366
6 Dublin (part), Dún Laoghaire-Rathdown, Wicklow (part)	59	52–79	562	495–750	999	879–1,333	1,620	1,426–2,162
7 Dublin (part), Kildare, South Dublin, Wicklow (part)	172	151–195	1,763	1,546–1,995	3,371	2,957–3,815	5,306	4,654–6,005
8 Laois, Longford, Louth, Meath, Offaly, Westmeath	183	163–227	817	725–1,010	630	559–779	1,630	1,447–2,016
9 Dublin (part), Fingal	235	218–272	2,098	1,942–2,423	5,022	4,650–5,802	7,355	6,810–8,497
STATE	1,092	1,076–1,234	6,672	65,78–7,539	11,224	11,065–12,681	18,988	18,720–21,454

Table 9 Estimates of the prevalence of opiate use by CHO Area and age group and rates per 1,000 population aged 15 to 64 (2014)

CHO Area	15–24 years		25–34 years		35–64 years		15–64 years	
	Est.	95% CI	Est.	95% CI	Est.	95% CI	Est.	95% CI
1 Cavan, Donegal, Leitrim, Monaghan, Sligo	0.44	0.29–1.69	1.95	1.32–7.51	0.90	0.61–3.48	1.04	0.70–4.02
2 Galway, Mayo, Roscommon	0.47	0.40–0.85	1.92	1.59–3.49	0.82	0.68–1.50	1.00	0.83–1.83
3 Clare, Limerick, North Tipperary	1.92	1.64–2.55	5.77	4.94–7.69	1.81	1.55–2.41	2.72	2.33–3.62
4 Cork, Kerry	1.72	1.52–2.13	3.70	3.27–4.59	1.19	1.05–1.47	1.88	1.66–2.33
5 Carlow, Kilkenny, South Tipperary, Waterford, Wexford	2.70	2.40–3.67	6.66	5.95–9.06	1.86	1.66–2.53	3.09	2.76–4.20
6 Dublin (part), Dún Laoghaire-Rathdown, Wicklow (part)	1.24	1.10–1.67	9.62	8.47–12.84	7.34	6.46–9.79	6.69	5.89–8.93
7 Dublin (part), Kildare, South Dublin, Wicklow (part)	1.97	1.73–2.23	13.78	12.09–15.60	13.90	12.19–15.73	11.59	10.16–13.11
8 Laois, Longford, Louth, Meath, Offaly, Westmeath	2.58	2.30–3.20	8.87	7.88–10.97	2.82	2.50–3.48	4.22	3.74–5.22
9 Dublin (part), Fingal	2.91	2.70–3.36	17.32	16.03–20.00	22.91	21.21–26.47	17.46	16.17–20.17
STATE	1.88	1.85–2.13	8.84	8.71–9.98	6.46	6.37–7.3	6.18	6.09–6.98

Within the 15 to 24 age group, CHO Area 9 (North Dublin and Fingal) has the highest prevalence of opiate users at 2.91 per thousand (95% CI 2.70–3.36) followed by CHO Area 5 (corresponding to the South East DTF area) at 2.70 per thousand. CHO Areas 1 and 2 both had rates under 0.5 per thousand population for that age group had the lowest rates within the 15 to 24 age group at 0.25 and 0.78 per thousand respectively. With regards to the 25 to 34 age group, CHO Area 9 had highest rate at 17.32 per thousand (95% CI 16.03–20.00). The lowest rate for this age group were again in CHO areas 1 and 2; both at just under 2 per thousand population. Within the older 35 to 64 age group, CHO area 9 had the highest rates of opiate use at 22.91 per thousand population (95% CI 21.21–26.47). The lowest rates were again found in the Western/North Western parts of the State (CHO Areas 1 and 2).

Table 10 takes the information in Table 8 (the estimates of the number of opiate users in each age group at the CHO Area level) and presents this information as the estimated percentage of opiate users in each age group (i.e. the percentage age breakdown in each area).

Table 10 Percentage of opiate users in each age group by CHO Area (2014)

	CHO Area	% aged 15 to 24	% aged 25 to 34	% aged 35 to 64
1	Cavan, Donegal, Leitrim, Monaghan, Sligo	7.95	40.91	51.14
2	Galway, Mayo, Roscommon	8.80	43.60	47.60
3	Clare, Limerick, North Tipperary	13.71	47.58	38.71
4	Cork, Kerry	16.94	46.28	36.78
5	Carlow, Kilkenny, South Tipperary, Waterford, Wexford	16.00	48.39	35.61
6	Dublin (part), Dún Laoghaire-Rathdown, Wicklow (part)	3.64	34.71	61.65
7	Dublin (part), Kildare, South Dublin, Wicklow (part)	3.24	33.22	63.54
8	Laois, Longford, Louth, Meath, Offaly, Westmeath	11.24	50.10	38.66
9	Dublin (part), Fingal	3.20	28.52	68.28
	STATE	5.75	35.14	59.11

From Table 10, there appears to be regional differences in the proportion of opiate users in the younger age group. In all of the CHO areas that cover Dublin, the estimated percentage in the 15 to 24 age group is consistently less than 5%. This contrasts with proportions of approximately 8% and 9% in the Western/North Western parts of the State and over 10% in the areas which cover

the Mid-West, Midlands, South East and Southern DTF areas (along with Counties Louth and Meath). In all of the CHO areas that cover Dublin, the proportion in the older (35–64 years) age group is consistently over 60% (the State average).

Table 11 presents the estimated proportion of opiate users who are female, along with the estimated male proportions.

Table 11 Percentage of opiate users who are Female by CHO Area (2014)

	CHO Area	Female		Male	
		Estimate	%	Estimate	%
1	Cavan, Donegal, Leitrim, Monaghan, Sligo	74	28.25	189	71.75
2	Galway, Mayo, Roscommon	87	29.60	208	70.40
3	Clare, Limerick, North Tipperary	209	30.52	475	69.48
4	Cork, Kerry	243	29.26	587	70.74
5	Carlow, Kilkenny, South Tipperary, Waterford, Wexford	329	32.69	676	67.31
6	Dublin (part), Dún Laoghaire-Rathdown, Wicklow (part)	476	29.41	1,144	70.59
7	Dublin (part), Kildare, South Dublin, Wicklow (part)	1,708	32.19	3,598	67.81
8	Laois, Longford, Louth, Meath, Offaly, Westmeath	448	27.48	1,182	72.52
9	Dublin (part), Fingal	2,392	32.52	4,963	67.48
	STATE	5,966	31.42	13,022	68.58

There is little variation by gender across the nine CHO areas. In total there are an estimated 5,966 female opiate users (95% CI 5,882–6,741) and 13,022 male opiate users (12,838–14,713).

As previously noted, this study collected data from all sources for a four year period 2011 to 2014. Therefore the opiate use prevalence estimates for

2014 can be compared with estimates 2011, 2012 and 2013. Table 12 shows that there has been an increase in each year, rising from 17,387 in 2011 to 18,988 in 2014, however, this is not a statistically significant increase over time (either year on year or comparing 2011 with 2014) due to the confidence intervals overlapping.

Table 12 Estimates of the number of opiate users by year, and rates per 1,000 population aged 15 to 64 (2011–2014)

Year	Estimate	95% Confidence Interval	Rate	95% Confidence Interval
2011	17,387	16,098–20,965	5.66	5.24–6.82
2012	17,555	15,699–21,517	5.71	5.11–7.00
2013	18,696	17,832–21,814	6.08	5.80–7.10
2014	18,988	18,720–21,454	6.18	6.09–6.98

The changes over time can also be examined within each age group, as presented in Tables 13 to 15.

Table 13 Estimates of the number of opiate users aged 15 to 24 by year, and rates per 1,000 population (2011–2014)

Year	Estimate	95% Confidence Interval	Rate	95% Confidence Interval
2011	1,631	1,233–2,540	2.81	2.12–4.38
2012	1,336	1,015–2,207	2.30	1.75–3.80
2013	1,218	994–1,680	2.10	1.71–2.90
2014	1,092	1,076–1,234	1.88	1.85–2.13

Table 14 Estimates of the number of opiate users aged 25 to 34 by year, and rates per 1,000 population (2011–2014)

Year	Estimate	95% Confidence Interval	Rate	95% Confidence Interval
2011	7,773	6,384–10,580	10.29	8.45–14.01
2012	7,395	5,878–10,477	9.79	7.78–13.88
2013	7,225	6,172–9,487	9.57	8.17–12.56
2014	6,672	6,578–7,539	8.84	8.71–9.98

Table 15 Estimates of the number of opiate users aged 35 to 64 by year, and rates per 1,000 population (2011–2014)

Year	Estimate	95% Confidence Interval	Rate	95% Confidence Interval
2011	7,980	6,699–10,355	4.59	3.85–5.96
2012	8,824	7,111–11,771	5.08	4.09–6.77
2013	10,253	8,961–13,121	5.90	5.16–7.55
2014	11,224	11,065–12,681	6.46	6.37–7.30

In terms of statistically significant differences, there has been a significant increase in the older age group between 2011 and 2014 and also between 2012 and 2014, but not between 2013 and 2014. There was a statistically significant decrease in the younger age group between 2011 and 2014 (but not across any other two years).

Discussion

This headline report provides the main results from a study that aimed to estimate the prevalence of opiate use at the local and national level in Ireland. The headline figure for the State is that there are an estimated 18,891 opiate users in 2014, with

an estimated 13,458 in Co. Dublin and 5,530 in the rest of the State.

Table 16 summarises the results of the last opiate prevalence study, carried out using data for 2006.

Table 16 Estimates of the number of opiate users for Co. Dublin and the rest of the State, and rates per 1,000 population aged 15 to 64 from the 2006 study

Area	Estimate	95% CI	Rate
Co. Dublin	14,904	13,737–16,450	17.6
Rest of State	5,886	4,399–7,126	2.9
STATE	20,790	18,136–23,576	7.2

There is limited validity in making direct comparisons between the two studies, however, if comparisons are to be made, then none of the slight decreases are statistically significant. What can be seen by comparing the previous study with this one is that there is a definite ageing cohort effect, with Table 1 – showing more than half of the State's opiate users in the older 35 to 64 age group. In the previous study, less than a third were in the oldest age group. The age distribution of both the known (i.e. identified from contributing data sources, including NDTRS) and estimated opiate using populations warrant further examination.

There have been important changes since the 2006 study. In the most recent study HIPE or Garda data were not included in the analysis. The choice not to include HIPE data was taken after data from a number of hospitals across Ireland were collected and it was considered that adding this data source (which was not consistent across the State) would not improve the estimates. While the impact of not having data from An Garda Síochána is mitigated by having two other 'criminal justice' data sources (Prison and Probation) it would have been useful to obtain the data to examine how it could contribute to the analyses.

The other important change is the additional geographical data that were available, which allowed analyses to be carried out at a more detailed local level and thus estimates at the County, DTF and HSE area levels could be produced. This sometimes required the use of a second method, the multiple indicator method, however, comparisons between such estimates and the estimates derived from a

large range of other analyses carried out but not presented suggest that this was an appropriate approach to take when deriving estimates at different local levels. One main drawback of the multiple indicator method is that the estimates derived using that approach have relatively wide confidence intervals.

In terms of the wider limitations of the study, the data for many areas outside of Co. Dublin were relatively sparse leading to wide confidence intervals for some of the county level estimates that were derived using the capture-recapture method. This issue is less pronounced when looking at aggregated estimates at the CHO or State area level.

Finally, in terms of the data collection, it should be noted that much of the resources for that task were taken up by visiting hospitals to collect HIPE data which was subsequently not used. The study collected data for the calendar years 2011, 2012, 2013 and 2014, with the results of the first three years to be presented in a separate report. To repeat that data collection for 2015 and 2016 and analyse the data to provide estimates moving forward in time would be relatively straightforward given the links made with the contributing data sources, particularly the Irish Probation Service (the only data source that involved researchers screening data from an existing database).



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