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# MENTAL ILLNESS IN IRISH PRISONERS

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PSYCHIATRIC MORBIDITY IN SENTENCED,  
REMANDED AND NEWLY COMMITTED PRISONERS.

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## Summary

This is the first systematic and representative survey of mental health in the Irish Prison population, using standardised research diagnostic methods. Five samples have been compiled, including 7% of all men committed to prison in 2003, 50% of all men in custody on remand, 15% of all sentenced men, 9% of all women committed to prison in 2003 and 90% of all women in prison. A total of 1,396 men and 186 women were interviewed, 1,582 in all. Samples were closely representative of the total populations from which they were drawn. We also mapped the geographic origins of all those committed to prison over a twelve-month period.

We found that drugs and alcohol dependence and harmful use were by far the most common problems, present in between 61% and 79% of prisoners. Typically, prisoners were using multiple intoxicants, including alcohol, benzodiazepines, opiates, cannabis and stimulants.

For all mental illnesses combined, rates ranged from 16% of male committals to 27% of sentenced men, while in women committed to prison the rate was 41%, with 60% of sentenced women having a mental illness.

For the more severe mental illnesses, rates of psychosis were 3.9% amongst men committed to prison, 7.6% amongst men on remand and 2.7% amongst sentenced men. Women prisoners had psychosis in 5.4%. The rate of psychosis in remand prisoners is much higher than in comparable samples from abroad.

Major depressive disorder was present in 10% of male remand prisoners, 5% of male sentenced prisoners and 16% of female sentenced prisoners. On committal, 5.4% of men and 8.5% of women had major depressive disorder.

Most prisoners with mental illness including psychoses also had problems with drugs and alcohol.

We estimated that 3.7% of male committals, 7.5% of men on remand, 2.7% of sentenced men and 5.4% of female prisoners should be diverted to psychiatric services, while as many as 20% of male committals and 32% of female committals needed to be seen by a psychiatrist. This would require approximately 376 transfers from prison to hospital per annum, and between 122 and 157 extra secure psychiatric beds, in addition to extra mental health in-reach clinics.

Drug and alcohol problems are so pervasive that traditional 'clinic' models of service are unlikely to provide the best solution for most in prison. A generalised strategy which favours drug-free status and motivates inmates could have a significant impact on drug-subcultures in prisons and nationally.

Mapping the geographic origins of prisoners showed that urban districts with high scores for economic deprivation were over-represented, though rural deprived districts did not have the same problem. Dublin accounted for 41% of prison committals, compared to 31% expected for its population.

There is an excess of those with severe mental illnesses in all parts of the Irish prison population. This exceeds international averages for men on remand. There is an urgent need for measures to correct this, including legal structures and procedures for diversion of the mentally ill from the criminal justice system, increased capacity for transfer of the mentally ill from prison to hospital and a radical overhaul of prison regimes to change the pro-drug culture that prevails amongst inmates.

# INTRODUCTION

## PSYCHIATRIC MORBIDITY IN PRISONER POPULATIONS

### MULTIPLE DISADVANTAGE

It is now recognised that prisoner populations around the world have a very high prevalence of mental illness, substance abuse disorders, learning disabilities and other developmental disorders<sup>1</sup>. Prisoners also have high rates of physical illness, as recently demonstrated<sup>2, 3</sup>. There are specific health problems concerning blood-borne viruses in the Irish prison population, as in the prison populations of other jurisdictions<sup>4</sup>. Literacy is poor<sup>5</sup> and prisoners generally come from a background of family problems and multiple disadvantages<sup>6</sup>. The evidence from other jurisdictions is that all forms of psychiatric morbidity are increased, and co-morbidity is so common as to be typical of the prisoner population. Prisoners have a high rate of unnatural deaths and suicides, though the likely causes of this include the effects of substance abuse and dependence as well as other situational difficulties<sup>7</sup>.

### The Irish Male Prison Population

At the time of this survey, there were 466 men on remand in 7 places of detention, 2721 men serving sentences in 16 places of detention and 8673 committals per annum<sup>8</sup>.

### Psychiatric Morbidity

A recent meta-analysis<sup>9</sup> has demonstrated that there is great consistency in the prevalence of psychoses and major depression in samples from around the world. Irish studies have examined psychiatric morbidity in Mountjoy Prison at a time when it functioned as the

<sup>1</sup> Fazel S, Danesh J. 2002. Serious mental disorder in 23,000 prisoners: a systematic review of 62 surveys. *Lancet* **359**: 545-550.

<sup>2</sup> Hannon F, Kelleher C, Friel S. 2000. *General Healthcare Study of the Irish Prisoner Population*. Dublin: The Stationary Office.

<sup>3</sup> Long J, Allwright S, Barry J, Reaper Reynolds S, Thornton L, Bradley F, Parry JV. (2001). Prevalence of antibodies to hepatitis B, hepatitis C, and HIV and risk factors in entrants to Irish prison: a national cross sectional survey. *British Medical Journal* **323**: 1-6.

<sup>4</sup> Allwright S, Bradley F, Long J, Barry J, Thornton L, Parry JV. 2000. Prevalence of antibodies to hepatitis B, hepatitis C, and HIV and risk factors in Irish prisoners: results of a national cross sectional survey. *British Medical Journal* **321**:78-82.

<sup>5</sup> Morgan M, Kett M. 2003. *The Prison Adult Literacy Survey: results and implications*. Dublin: Irish Prison Service.

<sup>6</sup> O'Mahony P. 1997. *Mountjoy Prisoners: A Sociological and Criminological Perspective*. Dublin: Department of Justice.

<sup>7</sup> Gore SM. 1999. Suicide in prisons. Reflection of the communities served, or exacerbation of risk? *British Journal of Psychiatry* **175**, 50-55.

<sup>8</sup> Irish Prison Service Annual Report 2002.

<sup>9</sup> Fazel & Danesh Op cit

principle reception point for both sentenced and remanded prisoners. It was found that 4% of sentenced men in Mountjoy Prison had a psychosis<sup>10</sup>. A high prevalence of minor mental illnesses has also been reported<sup>11</sup>.

## Substance abuse and dependence

A previous study of men in Mountjoy Prison found high rates of substance misuse in Irish prisoners<sup>12</sup>. A qualitative survey of drug use among 29 prisoners in Mountjoy prison has indicated that a drugs culture is prevalent in Mountjoy Prison, manifest in the attitudes and behaviour of prisoners<sup>13</sup>. The misuse of alcohol and other intoxicants is by far the most prevalent disorder amongst prisoners. We have systematically examined the prevalence of all the commonly used intoxicants.

## Intellectual disability and personality disorder

There are particular methodological difficulties in the measurement of these problems in large-scale surveys. This arises from the high prevalence of educational failure for reasons other than intellectual disability, particularly in prisoner populations where educational failure is commonly due to multiple social, economic and family disadvantages, as well as conduct disorder. There are further difficulties in distinguishing between the impairments that arise from personality and intellectual difficulties when mental illness and substance abuse are so pervasive. An epidemiologically representative study of adult literacy in the general population of Ireland and other countries<sup>14</sup>, was recently repeated in a representative 10% sample of Irish prisoners<sup>15</sup>. This assessed prose literacy, document literacy and quantitative literacy. Over all, 53% of prisoners scored at the lowest two levels, compared to 23% of the general population; 31% of prisoners had moderate levels of literacy, compared to twice that figure in the general population; and 15% of prisoners scored in the highest levels, similar to the general population. These findings are similar to a finding in the U.S. prison population, where fewer prisoners scored in the top level<sup>16</sup>. These studies measure the effects of educational deficits rather than intellectual deficiency (mental handicap).

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<sup>10</sup>Smith C, O'Neill H, Tobin J, Walshe D, Dooley E. 1996. Mental disorders detected in an Irish prison sample. *Criminal Behaviour and Mental Health* 6(2):177-183

<sup>11</sup>Hannon F, Kelleher C, Friel S. 2000. *General Healthcare Study of the Irish Prisoner Population*. Dublin: The Stationary Office.

<sup>12</sup>O'Mahony P. 1997. *Mountjoy Prisoners*. Dublin: Department of Justice.

<sup>13</sup>Dillon L. 2001. *Drug Use Amongst Prisoners: an exploratory study*. Dublin: Drug Misuse Division, The Health Research Board.

<sup>14</sup>Morgan M, Hickey B, Kellaghan T. 1997. *International adult literacy survey: results for Ireland (A report to the Minister for Education)* Dublin: Government Publications.

<sup>15</sup>Morgan M, Kett M. 2003. *The Prison Adult Literacy Survey: Results and Implications*. Irish Prisons Service, Dublin.

<sup>16</sup>Kirsch IS, Jungeblut A, Jenkins L, Kolstad A. 1993. *Adult Literacy in America: a first look at the results of the National Adult Literacy Survey*. Washington: National Centre for Educational Statistics.

## Suicide

The incidence of suicide in prisons is generally found to be high<sup>17</sup>. All western societies are currently experiencing an epidemic of suicide amongst young men, a relatively recent phenomenon, which is not due entirely to mental illness<sup>18</sup>. Since prisoners are predominantly young men, it has recently been argued that the suicide rates in prisons may be no more than is expected for this demographic group. The relationship between heroin use and suicide in prisoners is strong enough to account entirely for the excess of suicides in prisoners in England and Scotland<sup>19</sup>. In Ireland, the suicide rate in prisons is almost equal to that in Scottish prisons, about twice that in English prisons, in keeping with the increased prevalence of heroin use in Scotland and Ireland as compared to England. The relationship between alcohol and self-harming behaviour is increasingly recognised as very strong<sup>20</sup>. Based on published figures<sup>21</sup>, the crude suicide rate in Irish prisons is about twice that in the general population, before correction for age and sex. The evidence suggests that the suicide rate in prisons is merely a reflection of the broader societal problem, concentrated in prisons where young men with drugs and alcohol problems are collected, rather than a toxic effect of imprisonment. The opportunity to intervene means that there is a pressing need to identify who is at risk and to guide future policies for service delivery.

### This survey

This survey was undertaken to assess the extent of need for psychiatric services for the Irish prisoner population. The prison population is excluded from access to community mental health services, which are organised to provide services to defined catchment area populations according to residence. Prison inmates typically present with a range of problems which distinguish them from the general population. Prison inmates are often thought to present special problems concerning risk of harm to others as well as to themselves.

This report presents the results of five systematic surveys, each intended to give an accurate epidemiological picture of a distinct sub-group in the larger prison population

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<sup>17</sup> Liebling A & Ward T. (eds.) 1994. *Deaths in custody*. London: Whiting & Birch.

<sup>18</sup> Jonas K. (1992). Modelling and suicide: a test of the Werther effect. *British Journal of Social Psychology* 31(Pt 4) 295-306. Lester D. (1988). A critical-mass theory of national suicide rates. *Suicide and Life-Threatening Behaviour*. 18(3): 279-84.

<sup>19</sup> Gore SM. 1999. Suicide in prisons. Reflection of the communities served, or exacerbation of risk.? *British Journal of Psychiatry* 175, 50-55

<sup>20</sup> Murphy GE, Wetzell RD. 1990. The lifetime risk of suicide in alcoholism. *Archives of General Psychiatry* 47, 383-392.

Borges G, Rosovsky H. 1996. Suicide attempts and alcohol consumption in an emergency room sample. *Journal of Studies on Alcohol* 57, 543-548.

Hufford MR. 2001. Alcohol and suicidal behaviour. *Clinical Psychology Review* 21, 797-811.

Cheripetel CJ, Borges GL, Wilcox HC. 2004. Acute alcohol use and suicidal behaviour: a review of the literature. *Alcohol Clinical & Experimental Research* 28(5 Suppl) 18S-28S.

<sup>21</sup> Woods J (chairperson) 1999. *Report of the National Steering Group on Deaths in Prisons*. Dublin: The Stationary Office.

and together yielding an assessment of the whole prison population. The survey samples were:

1. Males admitted to the prison population (referred to as receptions or committals), whether sentenced or remanded into custody. We interviewed 7% of all adult males committed in a year, divided equally between remand and sentenced committals.
2. A cross-sectional survey of male remand prisoners. We interviewed 50% of men remanded in custody.
3. A stratified random survey of 15% of all sentenced men in the Irish prisons population.
4. Newly committed women prisoners. We interviewed approximately 9% of female committals per year.
5. A cross-sectional study of all female prisoners. We interviewed approximately 90% of female prisoners, of whom 24 were on remand and 68 were sentenced.

## **METHODS**

### PSYCHIATRIC EPIDEMIOLOGY IN A POPULATION SELECTED FOR DEVIANCE

#### **OVERVIEW**

The Irish prison population is distributed across sixteen places of detention. Prisons for committal / receptions serve specific geographic catchment areas defined by a list of courts. Other prisons have national functions catering for those serving longer sentences, or those requiring higher or lower levels of security. It was essential therefore to design a sampling framework which ensured that the sample selected for the survey was representative.

#### **Ethics**

We sought informed voluntary written consent from all those approached to participate in the study. This study was approved by the Research Ethics Committees for the Irish Prisons Service and the Central Mental Hospital, Dundrum. It was a condition of the approval that those declining to participate were not pressed to participate in any way. We did not have access to the medical charts or notes of those who declined. We were however permitted to obtain grouped, anonymous data from the prison medical staff concerning the frequency of major mental illnesses amongst those who refused interview.

#### **Power Calculations**

A short pilot study of prison remand committals had suggested that 2.2% of individuals newly committed to the prison had a psychosis. We estimated that the lifetime community prevalence of psychosis is of the order of 1%. We wished to be able to detect a prevalence of psychosis of over 2% with a 5% significance level. We calculated that for each sample, at least 300 interviews would be required to accomplish this. Because the female samples are of necessity smaller, the statistical power was less, but this has not proved to be an obstacle.



## Interview

We used the Schedule for Schizophrenia and Affective Disorders, Lifetime version (SADS-L) to detect current and lifetime mental disorder (Endicott and Spitzer, 1978). We also used the Severity of Dependence Questionnaire (SODQ) to quantify levels of drug use and dependence (Phillips et al, 1987). Levels of alcohol and drug consumption were also elicited. We added to these, questions to clarify the six-month and twelve-month prevalence as well as the current and lifetime diagnosis. We used the data obtained to generate diagnoses according to the criteria set out in the International Classification of Diseases 10<sup>th</sup> Edition Diagnostic Criteria for Research which are largely interchangeable with the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition, Text Revision. (DSM-IV-TR American Psychiatric Association, Washington 2000) as used by Fazel and Danesh. In order to ensure comparability with the criteria and definitions in Fazel and Danesh's meta-analysis, we have combined the ICD-10-DCR criteria for moderate and severe depression into the single category of major depressive disorder. Concerning the definitions of substance dependence and harmful use, the ICD-10 DCR criteria closely resemble the DSM criteria for substance abuse by including social as well as physical harm<sup>22</sup>. We also obtained demographic, ethnic and personal details using a semi-structured standardised interview. These were piloted for acceptability and practicality. Training in the use of the SADS-L and further interview instruments was followed by joint interviews to ensure inter-rater reliability. We also reviewed the prison medical notes where relevant and discussed psychiatric history with prison medical staff.

Because we relied on the SADS-L, we used DSM-IV-TR diagnostic criteria. These are in general interchangeable with ICD-10-DCR criteria. DSM-IV-TR tends to require a longer duration of illness to meet diagnostic criteria, setting a more rigorous threshold for mental illnesses, though in practice the application of both sets of criteria differs very little.

## Inter-Rater Reliability

We ensured consistency between the ratings of the five researchers by joint interviewing after training in the use of the research instruments. For diagnostic categories, the kappa statistic was 1, indicating complete agreement for all diagnostic categories.

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<sup>22</sup> Curtin, Monks, Kennedy (submitted)

## **Warrants**

We obtained access to the warrant detaining the person interviewed which recorded the charges leading to his or her detention. We also asked each person interviewed to tell us the charges which led to their detention.

### **Sample 1: men on reception at the prison.**

We aimed to interview within 48 hours of reception in prison. Potential interviewees were drawn from committal lists provided by the prison receptions and not pre-selected by the researchers. In each prison we interviewed each prisoner on the committal list consecutively, except where there were too many committals to be seen in one day, in which circumstance interviewees were seen on a 1:3 ratio. Prison officers approached potential interviewees with simple information about the study. The person was aware they could decline at that point, or come to interview, where he would be given more detailed information, and asked for informed written consent before proceeding. If a person declined at either point of contact, he was not pressed or asked a second time. Instead, the next person on the committal list was approached instead.

Those who declined were not approached again. To check for any possible bias arising from those who refused, details were taken of ethnicity, previous psychotic episodes, and psychiatric admissions and deliberate self-harm, however no identifying information was recorded. This was extracted anonymously by prison medical or nursing staff, and not by the researchers.

747 persons were approached to participate by prison officers and 132 persons declined interview (17.7%). 615 agreed to be interviewed, of whom 313 were remand committals, and 302 were sentenced committals. The 615 persons who participated in the study represented approximately 7.1% of annual Irish Prison committals.

### **Sample 2: stratified sample of male remand population**

We aimed to interview 50% of the 446 prisoners on remand, and we sampled accordingly each of the remand prisons in the Republic of Ireland. We obtained lists of all remand inmates within each prison from the Department of Justice. These lists were

sorted according to age and length of remand. Every second person on these lists was approached to participate in the study.

In the larger prisons we sampled by prison wing, obtaining the same sorted lists on the day of commencing the wing survey rather than total prison lists.

The prison officers approached prisoners thus selected and invited them to participate in the study. Those who agreed were given a verbal and written explanation of the study by the interviewer, and asked to sign a consent form. Those who declined were not approached again. However information was accessed in their Inmate Medical Record by prison medical or nursing staff. Details were obtained of ethnicity, previous psychotic episodes, and psychiatric admissions and deliberate self-harm. This information was given as grouped data so that no identifying information was passed to the researchers or recorded.

### **Sample 3: stratified random sample of sentenced men**

We aimed to interview 15% of the 2595 prisoners serving fixed sentences at the time of study and all 126 prisoners serving life sentences. We sampled accordingly from each of the sixteen sentenced prisons in the jurisdiction. We used a sampling frame such that at each prison on the first day of sampling we obtained from the Irish Prisons Service Information Technology Department a list of all sentenced inmates for that prison on that day, sorted by age and sentence length, in order to be representative of the larger prison population for these two variables. Information leaflets were distributed prior to the interviews to prisoners who were initially approached by prison officers. Prison officers approached every seventh inmate selected in the manner described above. Those who declined to participate were not pressed or approached again. Those who agreed were approached by the researchers who obtained informed consent. When individuals did not consent to participation the next individual on the sorted list was instead approached as a substitute.

We approached 535 sentenced prisoners (excluding life-sentenced prisoners) and 340 (63.6%) agreed to be interviewed. We also approached 120 life-sentenced prisoners and 98 (82%) agreed to be interviewed.

We found that our non-life-sentenced group did not differ significantly from the contemporaneous entire population in age (Table 2.1 & Figure 2.1) or sentence length (Table 2.2 & Figure 2.2). There was no significant difference between the sample and the

whole population for the independent variable time already served (Table 3 & Figure 3), indicating that the sampling method was representative and had not been biased by the high refusal rate.

#### **Sample 4: women on committal to prison.**

We aimed to interview subjects within 72 hours of reception into prison. We interviewed in Dochas Prison, the largest dedicated female prison in the country. Potential subjects were drawn from committal lists provided by the prison receptions, and not pre-selected by researchers. All committals were contacted. The prisoners were initially approached by prison officers, who provided simple information about the study. If agreeable, the prisoner was provided with additional information about the study by a researcher, and written consent was sought before proceeding. Prisoners could decline at either point of contact and were not approached a second time.

#### **Sample 5: cross-sectional survey of sentenced and remanded females**

We aimed to interview the total cross-sectional sample of all women in custody in Ireland. The daily average number of females in custody in 2002 was 104. Female prisoners represented only 3.2% of all prisoners in custody in the Republic of Ireland. The majority are detained in The Dochas Centre, the only female prison in Ireland and a much smaller number are detained on a female wing in Limerick Prison, a male prison located outside Dublin.

A list of all prisoners in custody was obtained from each of the two female prisons and all prisoners were approached to participate in study. We visited the Dochas Centre during two separate sampling periods, the first from 6<sup>th</sup> November 2003 to 11<sup>th</sup> November 2003 to interview remand prisoners and the second sampling period was between 4<sup>th</sup> February 2003 and 20<sup>th</sup> February 2003 to interview sentenced prisoners. The women in the small female wing of Limerick prison were interviewed over 2 days (1<sup>st</sup> August 2002 and 30<sup>th</sup> September 2002).

We approached 102 women prisoners, 10 of whom declined to be interviewed, giving us a response rate of 87.3%.

There were 1043 committals of sentenced and remanded women prisoners, representing 10.7% of all persons committed to prison in the year 2002.

Of 208 committals during the two sampling periods (August 2003, April to May 2004), 124 were available, of whom 94 agreed to be interviewed. We found that even when aiming to interview committals within 72 hours of reception in the prison, 40% were not available due to court appearances, visits, activities or release prior to interview. Of those approached, 31.6% declined to give consent for interview. We interviewed 94 women on committal, one of whom was unable to complete an interview.

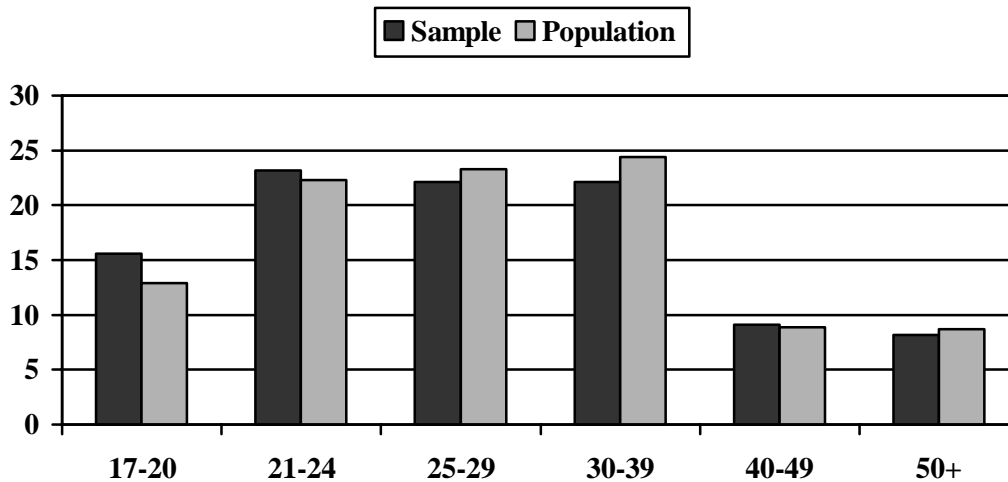
**Table 2.1**

Sample compared to whole population of sentenced male prisoners excluding life-sentenced prisoners:

Age	All sentenced male prisoners excluding life-sentenced n=2320	Study population n=340
17-20	362 (15.6%)	44 (12.9%)
21-24	538 (23.2%)	76 (22.3%)
25-29	513 (22.1%)	79 (23.3%)
30-39	513 (22.1%)	83 (24.4%)
40-49	211 (9.1%)	30 (8.9%)
50+	202 (8.7%)	30 (8.7%)

**Figure 2.1**

Age of sample (n=340) compared to whole population (n=2595) of sentenced male prisoners (excluding life-sentenced prisoners)



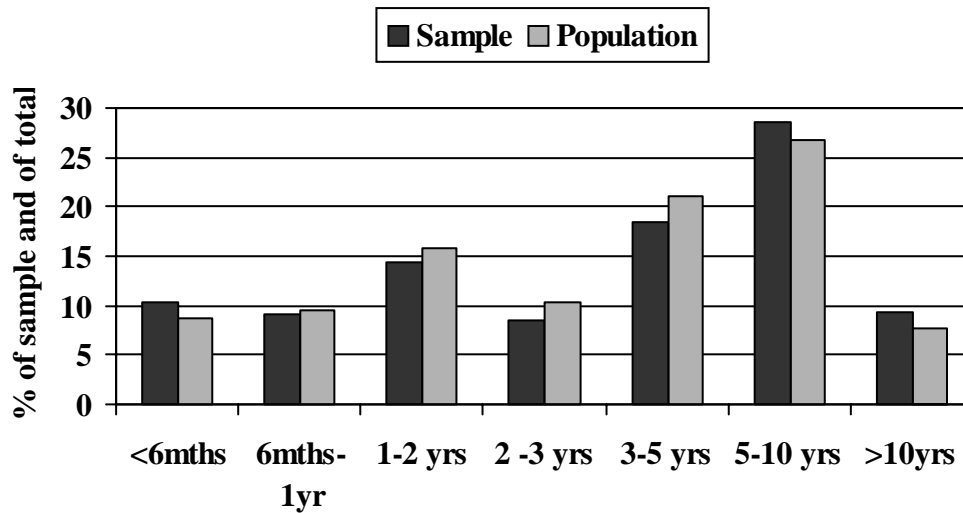
**Table 2.2**

Sample compared to whole population of sentenced male prisoners excluding life-sentenced prisoners

Sentence Length	All sentenced male prisoners excluding life-sentenced (n=2320)	Study population (n=340)
Up to 6 months	10.3%	8.8%
6 months to less than 1 year	9.1%	9.5%
1 year to less than 2 years	14.4%	15.8%
2 years to less than 3 years	8.5%	10.3%
3 years to less than 5 years	18.5%	21%
5 years to less than 10 years	28.5%	26.8%
10 years +	9.4%	7.8%

**Figure 2.2**

Sentence length of sample (n=340) and total male sentenced prisoner population (n=2595).



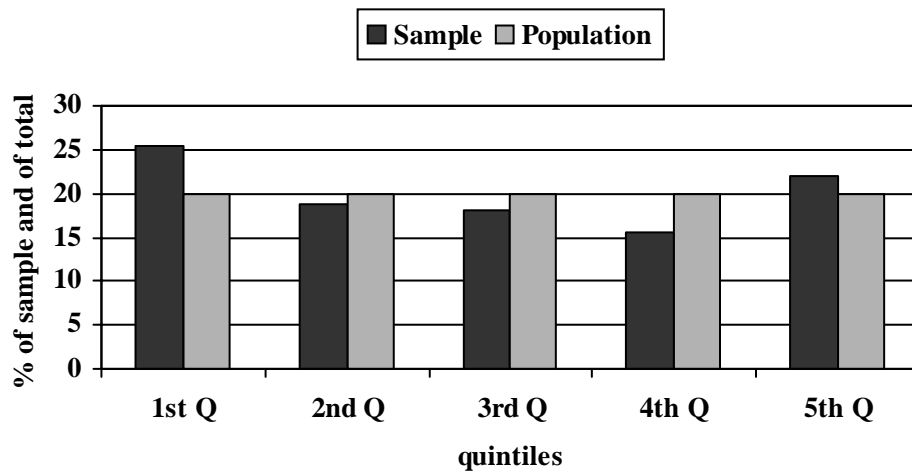
**Table 2.3**

Sample compared to whole population of sentenced male prisoners excluding life-sentenced prisoners

Time in prison	All sentenced male prisoners excluding life-sentenced n=2595	Sample n=340
1 <sup>st</sup> Quintile 0 to 70 days	25.4%	20%
2 <sup>nd</sup> Quintile 71 to 191 days	18.8%	20%
3 <sup>rd</sup> Quintile 192 to 450 days	18.2%	20%
4 <sup>th</sup> Quintile 451 to 926 days	15.5%	20%
5 <sup>th</sup> Quintile >926 days	21.9%	20%

**Figure 2.3**

Time served in prison for sample (n=340) and total male sentenced prisoner population (n=2595).





## Refusals

Refusal rates in the studies ranged from 17.6% to 33.1%. We had ethical permission to obtain aggregated anonymous information from prison medical staff regarding those who refused interview. Details were taken of ethnicity, previous psychotic episodes, and psychiatric admissions and deliberate self-harm on a structured form. No identifying information was disclosed to the researchers or recorded.

### Why did people refuse to participate?

We distributed a questionnaire to 55 prisoners in one prison who had declined to take part in the study. 43 (78%) replied. Of these 72% said they had declined because they were busy with a scheduled activity, 56% also said that the survey would be of no benefit to them, 42% did not want to speak to a psychiatrist, 42% said they would have been willing to take part at a future date.

### Did persons refusing to participate bias our results?

#### *Refusals in the committal Sample*

In the remand committal sample 132 (17.6%) refused to participate. We obtained aggregated anonymous information on 99 persons (77% of decliners).

- 2 persons had positive history of psychosis (2%).
- 2 persons were receiving psychotropic medication (2%).
- 2 persons had a history of psychiatric hospitalisation (2%).
- 6 persons had a history of deliberate self harm (6.1%).
- 18 persons were non-nationals (18%) and 2 persons (2%) were from the travelling community.
- 14 persons were on prescribed maintenance methadone (14.2%) prior to committal.

These findings did not differ significantly from those who agreed to participate in the study, and were not felt to bias our results

The refusal rate in our sentenced committal sample was low (<10%).

#### *Refusals in the cross sectional remand sample*

In the cross sectional study of remanded males 74 persons (31.4% of sample)

declined to be interviewed, and 10.1% were not available to be interviewed by virtue of being at court appearances or on family visits. Among those not interviewed:

- 4.3% had a lifetime diagnosis of psychosis.
- 4.3% had lifetime histories of deliberate self harm.
- 3/43 (6.9%) were non-nationals.

*Refusals in cross sectional sentenced sample.*

In the cross sectional sentenced sample 217 (33.1%) persons declined to be interviewed. 3 persons (3.4%) had a positive history of psychosis. This did not differ from the interviewed sample.

*Conclusions regarding the effect of refusal rate*

We concluded that the high refusal rate in parts of this survey did not introduce a significant bias in the rates of mental illness detected. The high refusal rate appears to have arisen in part from the frequent moves to and from court, to visits etc. amongst committals and remanded prisoners, while the sentenced prisoners were often busy at activities of an educational or recreational nature. The ethical obligation not to press or ask a second time may also have contributed, as this was not a feature of earlier surveys. The two-stage recruitment involving a first contact by prison officers was a possible further factor.

## SAMPLE 1: COMMITTALS

### MEN ON COMMITTAL TO PRISON

#### OVERVIEW

313 remand and 302 sentenced prisoners were screened within forty-eight hours of reception to Cloverhill and Mountjoy prisons respectively. There were no significant differences between the remand and sentenced samples with regard to social and demographic characteristics, except for ethnicity. This difference can be accounted for by 35 prisoners seen in Cloverhill prison who were remanded on deportation orders without criminal charge. Although immigration detainees pass through Mountjoy prison prior to deportation they are usually discharged within in a very short time period. Such individuals were not seen in the sample of sentenced committals.

**Table 3.1**

Comparison between demographic characteristics of sentenced and remand committals

CHARACTERISTIC	Remand committals n=313	Sentenced committals n=302
Mean age	28.7	30.5
Married	33.3% (104)	36.2% (109)
Violent offence	10.2% (40)	12.9% (39)
Ethnicity (White Irish%)	72.5% (227)	89.1% (269)
Six month prevalence of mental illness	17.1% (52)	15.0% (45)
Six month prevalence of substance use disorder	61.8% (193)	60.8% (183)

## Age

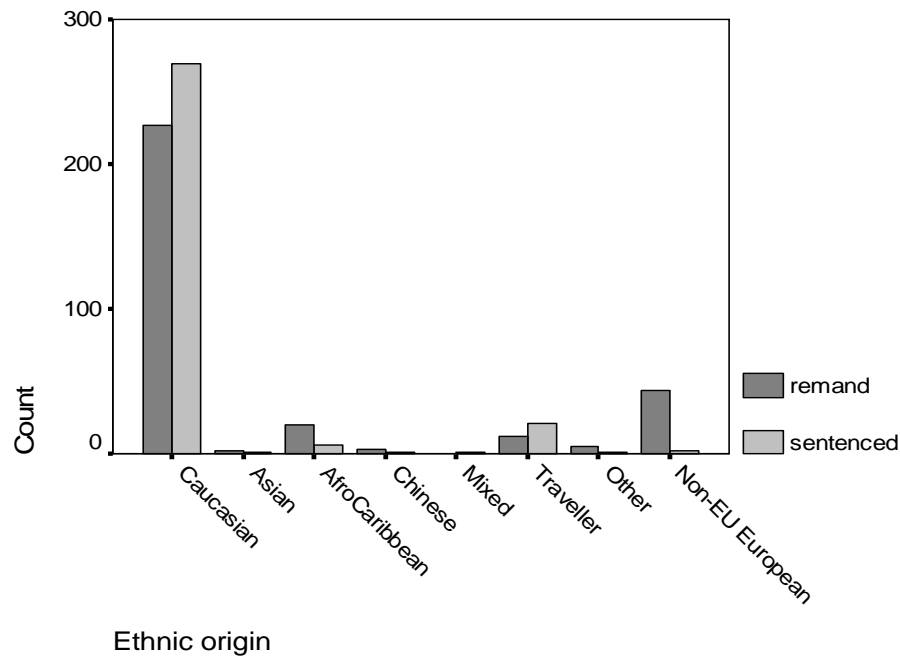
The mean age of the men surveyed was 29.7 years.

## Ethnicity

The majority of those interviewed were Irish 80.7% (496). 27.4% (86) of the remand committals were non-Irish of whom 11.2% (35) were on deportation orders and not charged with a criminal offence. Similarly, 10.9% (33) of the sentenced committals were non-Irish with 0.6% (2) of the sample on deportation orders. Travellers were over-represented among both sentenced and remand committals accounting for 5.4% (33) of the whole sample compared to 0.6% (circa 23,000) in the community.

**Figure 3.1**

Comparison of prisoners by ethnicity



## Forensic history

There were no significant differences between the remand and sentenced samples with respect to number of self-reported previous convictions and remands. One prisoner was

commencing a life sentence. 69 (11.5%:95% CI 9% to 14% ) prisoners were charged with violent crimes, a third of whom had been suffering from mental illness in the preceding six months. 22 (22%) of those with a six month history of mental illness had committed a violent crime compared with 47 (9.2%) of prisoners with no recent history of mental illness. This difference was statistically significant, ( $p < 0.05$ ) and held true when both variables were controlled for substance misuse

10.9 % of those with six month substance misuse histories had committed a violent crime which did not differ from those with no recent substance misuse. 22.5% of prisoners with co-morbid substance misuse and mental illness in the preceding six months had committed violent crimes.

### **Marital status and employment**

213 (34.6 %) committals were married. 338 (55%) were unemployed, 23 (3.7%) were on sickness/disability benefit, 10 (1.6%) were students and 242 (39.3%) reported they had been employed at time of committal.

### **Medical histories**

Nearly two thirds of the sample 393 (63.9%) had no previous medical histories. The number with hepatitis C infection was 66 (10.7 %). Those with Hepatitis B and HIV infections were 8 (1.3 %) and 10 (1.6 %) respectively. 491 (79.8 %) of the sample smoked a mean 18 cigarettes per day.

### **Psychiatric histories**

A quarter of all prisoners screened had a lifetime history of mental illness (see table 3.2) 148 (47%) remand and 100 (33%) sentenced committals had a history of significant contact with community psychiatric services either as out-patients or in-patients. In contrast fewer prisoners had the same level of prior contact with forensic psychiatric services. 89 (28 %) of remand versus 41 (13.5 %) of sentenced prisoners had either attended a prison psychiatric clinic or been an in-patient in the Central Mental Hospital.

## Co-morbidity

The occurrence of mental illness and substance use disorders together was a frequent finding (see figure 3.2)

**Table 3.2**

Rates of mental illness and substance misuse in male committal

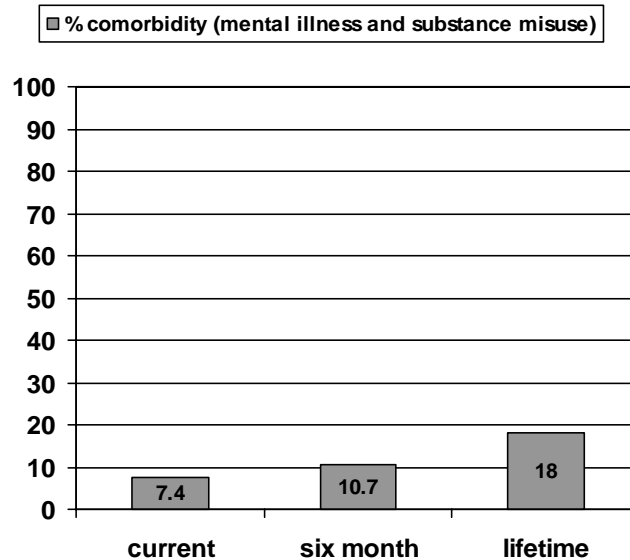
<b>DSM-IV diagnosis</b>	<b>Current (%)</b> [95 % confidence intervals]	<b>Six month (%)</b> [95 % confidence intervals]	<b>Lifetime (%)</b> [95 % confidence intervals]
<b>PSYCHOSIS</b>	<b>13 (2.1)</b> [1.2 – 3.6]	<b>24 (3.9)</b> [2.6 – 5.8]	<b>49 (8.0)</b> [6.1 – 10.4]
<b>MAJOR DEPRESSIVE DISORDER*</b>	<b>28 (4.6)</b> [3.2 – 6.5]	<b>33 (5.4)</b> [3.8 – 7.4]	<b>75 (11.7)</b> [9.9 – 15.1]
<b>ANXIETY DISORDER</b>	<b>31 (5.1)</b> [3.6 – 7.1]	<b>33 (5.4)</b> [3.9 – 7.5]	<b>38 (6.2)</b> [4.6 – 8.4]
<b>SUBSTANCE USE DISORDER</b>	<b>371 (60.6)</b> [56.7 – 64.4]	<b>376 (61.3)</b> [57.4 – 65.1]	<b>425 (69.2)</b> [65.0 – 72.7]
<b>ANY MENTAL ILLNESS**</b>	<b>73 (11.9)</b> [9.6 – 14.8]	<b>97 (16.0)</b> [13.3 – 19.2]	<b>149 (24.4)</b> [21.2 – 28.0]

\*Excludes mild depression and dysthymia

\*\*excludes substance use disorder

**Figure 3.2**

Co-morbidity in male prison committals



## PSYCHOSIS

### Clinical features

Psychotic disorders represent the most severe and disabling psychiatric syndromes. The causes can vary but clinical presentations are usually characterized by unshakeable false beliefs (delusions), false perceptions of reality (hallucinations) and impaired judgement. Hallucinations and delusions are the most striking features and they are commonly manifest as 'hearing voices' or the belief that others are trying to harm or persecute the patient. Psychosis can occur briefly, often due to the use of certain drugs or can have a more protracted course, as in chronic schizophrenia. The main types of psychosis encountered in prisons are schizophrenia, schizoaffective disorder, mood disorders with psychotic features and drug induced psychosis.

### Rates of psychosis

Lifetime frequency by psychosis (table 3.3) is as follows: Schizophrenia 8 (1.3%); psychotic mood disorder 27 (4.4%); drug induced psychosis 10 (1.6%); other psychotic disorders 10 (1.6%). 64.3 % of those with a lifetime history of psychosis had a co-morbid

history of substance and/or alcohol disorders. Rates of psychosis were higher in the remand committal sample than in the sentenced committal sample (figure 3.4) The mean age of psychotic prisoners was 30.

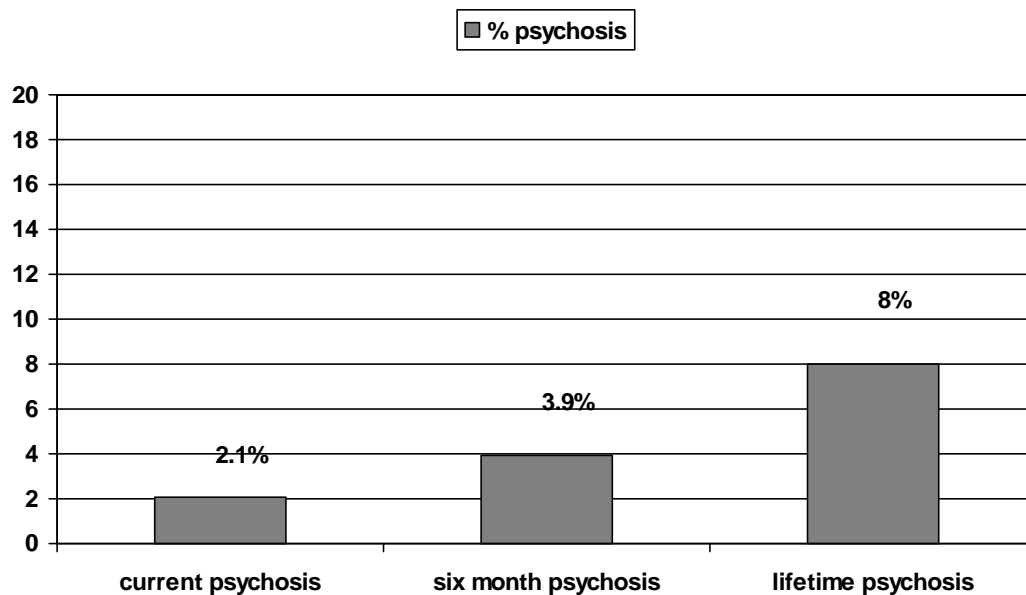
**Table 3.3**

Current, six month and lifetime prevalences of psychotic disorders by diagnosis.

<b>DIAGNOSIS</b>	<b>Current (%)</b> [95 % confidence intervals]	<b>Six month (%)</b> [95 % confidence intervals]	<b>Lifetime (%)</b> [95 % confidence intervals]
<b>Schizophrenia</b>	<b>3 (0.2)</b> [0.2 – 1.4]	<b>5 (0.8)</b> [0.3 – 1.9]	<b>8 (1.3)</b> [0.7 – 2.6]
<b>Psychotic mood disorder</b>	<b>7 (1.1)</b> [0.6 – 2.3]	<b>13 (2.1)</b> [1.2 – 3.6]	<b>27 (4.4)</b> [3.0 – 6.3]
<b>Substance induced psychosis</b>	<b>2 (0.3)</b> [0.1 – 1.2]	<b>4 (0.7)</b> [0.3 – 1.7]	<b>10 (1.6)</b> [0.9 – 3.0]
<b>Other psychotic disorder</b>	<b>1 (0.2)</b> [0.0 – 0.9]	<b>2 (0.4)</b> [0.1 – 1.2]	<b>4 (0.7)</b> [0.3 – 1.7]

**Figure 3.3**

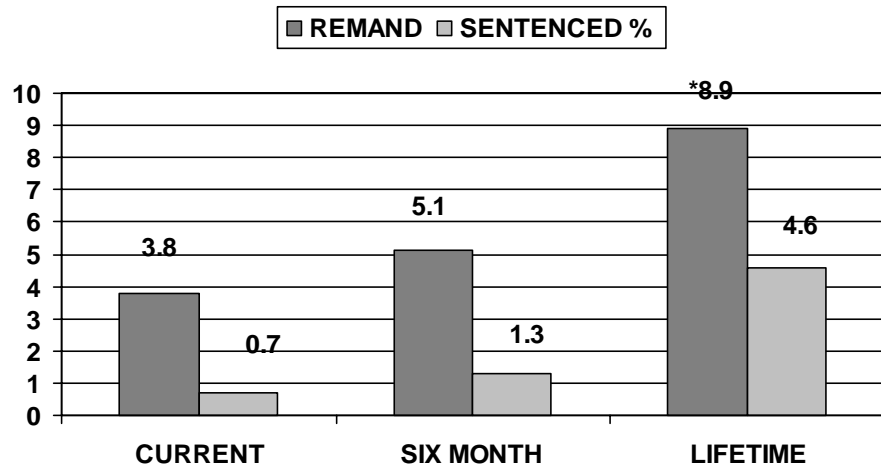
Rates of psychosis in prisoners on committal to prison





**Figure 3.4**

Comparison of psychosis rates (%) between remand and sentenced committals



\*Significant difference in lifetime rates  $p=0.008$

## AFFECTIVE DISORDERS

Affective disorders are disturbances of mood and include depression, dysthymia and mania. Normal fluctuations in mood tend to be transient in nature, usually lasting no longer than a few hours. In contrast mood disorders herald persistent changes in mood which may last weeks and can have profound effects on all facets of an individual's life, affecting work, interpersonal relationships and even normal physiological functions.

Depressive disorder is a mood disturbance that is persistently and markedly low or sad. It lasts for at least two weeks and affects the person's appetite, sleeping patterns, concentration, motivation and energy levels.

Dysthymia is a longstanding, lower grade mood disturbance than depression which has persisted for years. It is distinguished from depression by its long-term presence with a less severe disturbance of functioning.

Mania is an elevated mood persisting for at least a week and is associated with an increase in the quantity and speed of physical and mental activity. It can affect appetite, sleep patterns, concentration, motivation and energy levels in the opposite way to depression. Periods of mania alternating with depressive episodes is bipolar affective disorder or manic depression.

Table 3.5 shows rates of affective disorders by diagnosis in all committals and figure 3.6 shows differences in rates of affective disorders (depressive disorder and dysthymia) between remand and sentenced committals. Throughout this book mania is considered with other psychotic (mood) disorders. The mean age of the sample was 29.7.

**Table 3.5**

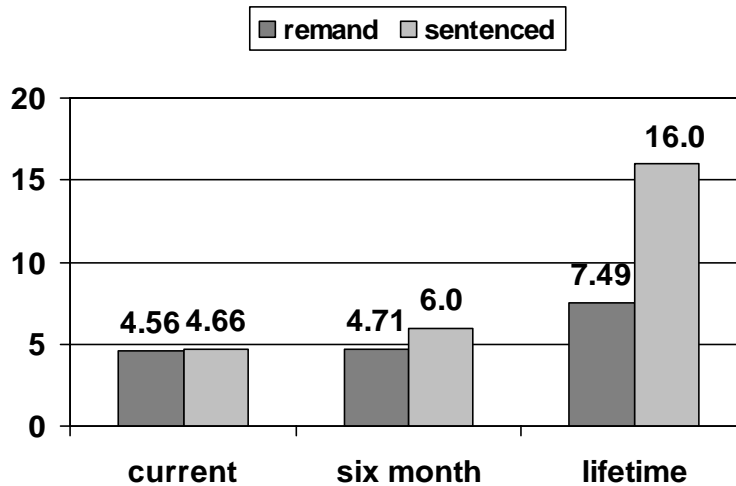
Prevalence (%) of affective disorder (depressive disorder and dysthymia) at reception to prison.

Affective disorder	Current (%) [95 % confidence intervals]	Six month (%) [95 % confidence intervals]	Lifetime (%) [95 % confidence intervals]
Major Depression*	22 (3.6) [2.4 – 5.4]	33 (5.4) [3.8 – 7.4]	69 (11.2) [9.0 – 14.0]
Dysthymia	6 (1.0) [0.4 – 2.1]	6 (1.0) [0.4 – 2.1]	6 (1.0) [0.4 – 2.1]

\*includes moderate and severe depression.

**Figure 3.6**

Prevalence (%) of affective disorder in remanded and sentenced men on committal.



## ANXIETY DISORDERS

Anxiety is a normal phenomenon in everyday life and is a common experience of those entering prison. Anxiety disorders are diagnosed when the degree of anxiety is excessive, persistent or recurrent and affects a person's ability to function in their normal roles.

5.4 % of those screened had experienced an anxiety disorder in the six months prior to committal to prison. The most common disorders were phobic disorders (including simple phobias and social phobia). (table 3.6)

Our research instrument did not generate diagnoses for post traumatic stress disorder (PTSD). We identified PTSD in six prisoners (1%) from clinical interview. Obsessive-compulsive disorder, which is said to be a relatively rare disorder in community samples, appears surprisingly common in this sample.

Table 3.6 shows rates of anxiety disorder by diagnosis for all committals. Figure 3.8 compares rates of anxiety disorders between sentenced and remand committals.

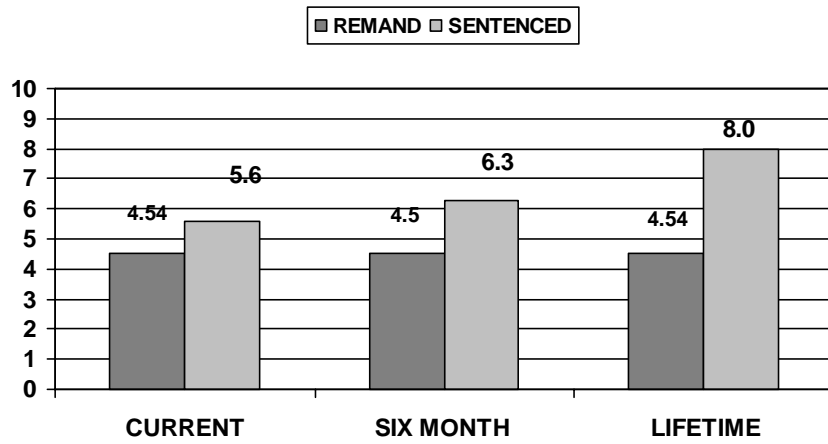
**Table 3.6**

Lifetime prevalence (%) of anxiety disorders by diagnosis

<b>Anxiety disorder</b>	<b>Current (%)</b> [95 % confidence intervals]	<b>Six month (%)</b> [95 % confidence intervals]	<b>Lifetime (%)</b> [95 % confidence intervals]
<b>Panic disorder</b>	<b>3 (0.5)</b> [0.2 – 1.4]	<b>5 (0.8)</b> [0.4 – 1.9]	<b>8 (1.3)</b> [0.7 – 2.6]
<b>Generalized anxiety Disorder</b>	<b>6 (1.0)</b> [0.5 – 2.1]	<b>6 (1.0)</b> [0.5 – 2.1]	<b>7 (1.2)</b> [0.6 – 2.4]
<b>Obsessive compulsive disorder</b>	<b>7 (1.1)</b> [0.6 – 2.4]	<b>7 (1.1)</b> [0.6 – 2.4]	<b>8 (1.3)</b> [0.7 – 2.6]
<b>Phobic disorder</b>	<b>19 (3.1)</b> [2.0 – 4.8]	<b>19 (3.1)</b> [2.0 – 4.8]	<b>21 (3.4)</b> [2.2 – 5.2]
<b>Any anxiety disorder</b>	<b>31 (5.1)</b> [3.6 – 7.1]	<b>33 (5.4)</b> [3.9 – 7.5]	<b>38 (6.2)</b> [4.6 – 8.4]

**Figure 3.8**

Prevalence (%) of anxiety disorders in remand and sentenced committals.



## SUICIDAL IDEATION AND SUICIDAL BEHAVIOUR

Risk factors for suicide are common amongst the prisoner population and this is reflected by the higher rate of suicide in prison compared to the community. Known risk factors include male gender, mental illness, alcohol and substance abuse, history of violence, single marital status, multiple losses, poor social supports and previous suicide attempts.

Suicidal thoughts and impulses are usually distinguished from self-harming behaviour. Self harming behaviour derives from a variety of motives including the genuine desire to take ones own life. Other causes include attempts to seek help for distress or grievance and to relieve internal psychological tension. The various causes of self harm are often hard to distinguish from suicidal intent.

119 individuals (19.4%) had self-harmed at some time. 200 (32.6 %) committal prisoners gave a history of suicidal ideation.

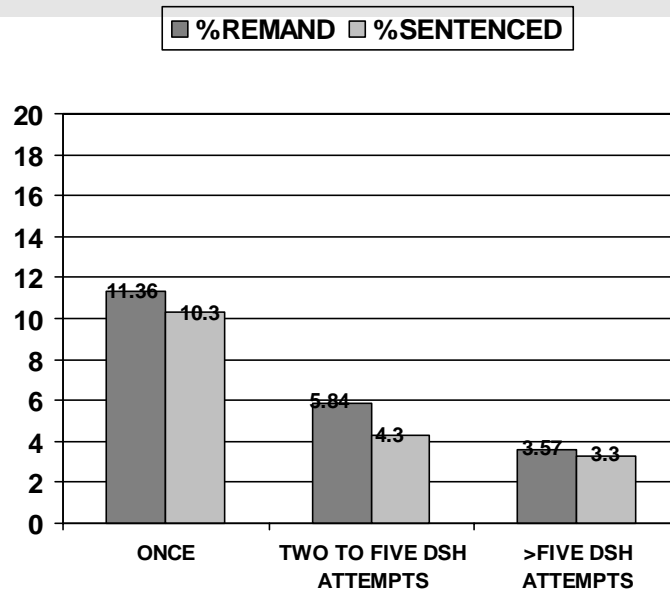
Highest ranking methods

- Self laceration (67, 56% of those who self-harmed)
- Overdose (44, 37% of those who self-harmed)
- attempted hanging (34, 29% of those who self-harmed)

179 (29.4%) committal prisoners screened said they had been exposed to the suicide of a significant person in their lives. Twenty (3.3%) said they had a first degree relative who had died by suicide. Although these figures seem high, particularly the number claiming suicide in a first degree relative, we do not know what the appropriate community comparator would be for men of similar age and background.

**Figure 3.9**

Histories of deliberate self harm (DSH) of prisoners at reception



## SUBSTANCE USE DISORDERS

Substance use disorders are ubiquitous in the prison population and represent the most common diagnostic category in this group.

‘Abuse’ refers to a pattern of substance use that significantly impairs a person’s capacity to function in their normal social and occupational roles and can cause damage to mental and physical health. This often includes mood swings, irritability, sensitivity and aggression rather than sedation, apathy and poor judgement. This includes contact with the criminal justice system because of substance use.

‘Dependence’ refers to a cluster of features which develop with repeated substance use. Tolerance to larger quantities of the substance often leads to increased quantities consumed in order to achieve the equivalent effect. Withdrawal symptoms are common on cessation, together with a subjective craving to carry on using the substance. As access to drugs and alcohol are suddenly limited on entry to prison, withdrawal syndromes are commonly seen in new committals.

Substance use disorders frequently occur with and complicate the course of mental illness in prisoners.

**Table 3.7**

Rates of substance use disorders in male prison committals

<b>DIAGNOSIS</b>	<b>Current (%)</b> [95 % confidence intervals]	<b>Six month (%)</b> [95 % confidence intervals]	<b>Lifetime (%)</b> [95 % confidence intervals]
<b>Alcohol abuse</b>	<b>78 (12.8)</b> [10.4 – 15.7]	<b>79 (13.1)</b> [10.6 – 16.0]	<b>95 (15.6)</b> [12.9 – 18.7]
<b>Alcohol dependence</b>	<b>143 (23.4)</b> [20.2 – 26.9]	<b>148 (24.1)</b> [20.9 – 27.6]	<b>210 (34.4)</b> [30.7 – 38.2]
<b>Alcohol Abuse and Dependence</b>	<b>221 (36.2)</b> [32.2 – 39.8]	<b>227 (37.2)</b> [33.2 – 40.8]	<b>305 (49.6)</b> [45.7 – 53.5]
<b>Drug abuse</b>	<b>142 (23.3)</b> [20.1 – 26.8]	<b>143 (23.8)</b> [20.6 – 27.4]	<b>224 (36.8)</b> [33.0 – 40.7]
<b>Drug dependence</b>	<b>202 (32.8)</b> [29.5 – 37.0]	<b>206 (33.5)</b> [30.1 – 37.6]	<b>216 (35.5)</b> [31.8 – 39.3]
<b>Any substance use disorder</b>	<b>371 (60.6)</b> [56.7 – 64.4]	<b>376 (61.3)</b> [57.4 – 65.1]	<b>425 (69.2)</b> [65.0 – 72.7]

**Table 3.8**

One year prevalence of substance use disorders

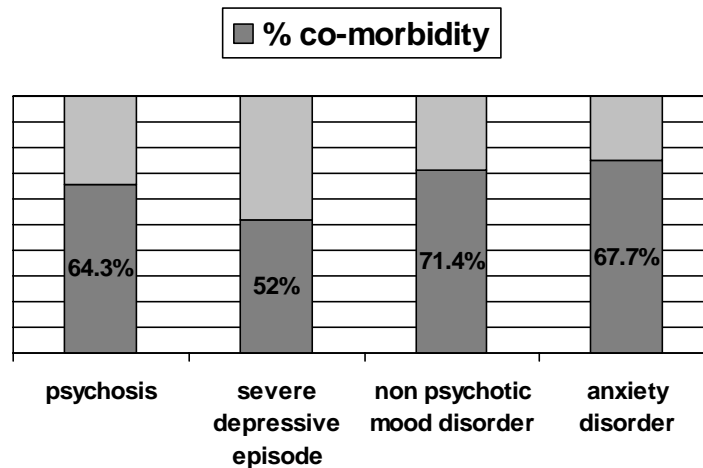
<b>SUBSTANCE</b>	<b>ABUSE %</b>	<b>DEPENDENCE %</b>	<b>Abuse or dependence %</b>
<b>Opiates</b>	2.1	23.9	26
<b>Cannabis</b>	17.9	10.8	28.7
<b>Cocaine</b>	5.2	6.4	11.6
<b>Benzodiazepines</b>	1.8	8.2	10.0
<b>Ecstasy</b>	2.3	0.2	2.5
<b>Amphetamines</b>	0.7	0.3	1.0



<b>Hallucinogens</b>	0.3	0.3	0.6
<b>Alcohol</b>	12.6	24.1	36.7

**Figure 3.10**

Lifetime prevalence of co-morbid substance use disorders and mental illness



## PERSONALITY DISORDER

Personality disorders are characterized by deeply ingrained, maladaptive patterns of behaviour usually present from late adolescence and early adulthood. A personality disorder affects an individual's emotional, behavioral and social functioning. A personality disorder should not be accounted for by a co-morbid mental illness or substance abuse disorder.

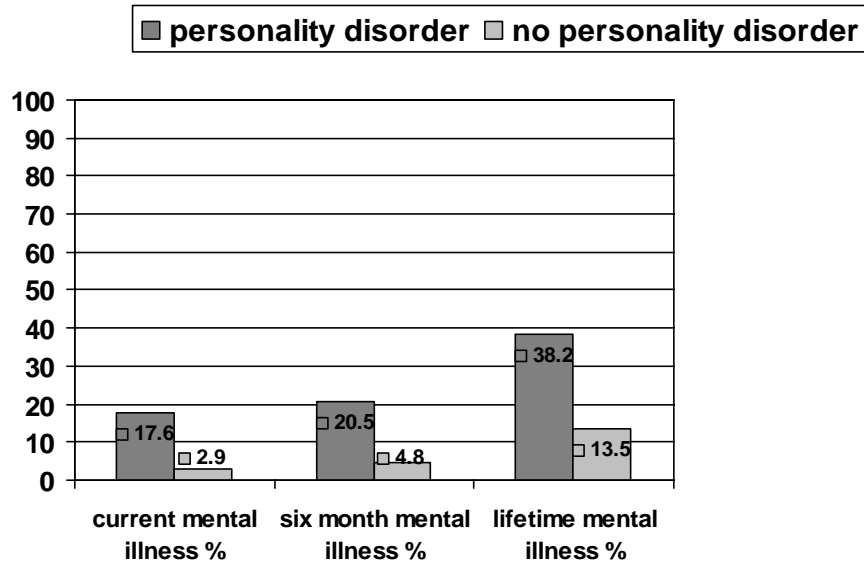
The problems inherent in assessing personality disorder in the prison population were mentioned in the introduction. There is no doubt that personality problems are very common in prison inmates. Indeed, by definition there is great overlap between the diagnostic category 'antisocial personality disorder' and criminal behaviour in general.

Our survey did not focus on this topic which could be the subject of a research project in its own right. However we did use a screening instrument for personality disorder, the schedule for assessment of personality-abbreviated scale -SAPAS, (Moran et al, 2003) on a sub-sample of sentenced committals (n=137).

- 24.8% (34 of 137) were found to have some personality disorder.
- There was no significant difference in rates of personality disorder between prisoners from different ethnic backgrounds.
- Those who screened positive for personality disorder reported having been victims of bullying at school more frequently than those who screened negative: 23.5% (8 of 34) vs 8.7% (9 of 103) [p=0.034]
- Those with personality disorder were more frequently in contact with forensic psychiatric services 23.5%(CI 9.7-37.3) vs 7.8% (CI 2.5-13.1). [p=0.039]
- There were no differences in rates of current and past alcohol or drug abuse and dependence whether personality disordered or not.
- Significant differences were found when comparing rates of mental illness. Those with a positive SAPAS were more likely to have a lifetime diagnosis of a mental illness. 41.1% (CI 24.7-57.5) with a positive SAPAS score and 13.6% (CI 7.1-20.1) with a negative SAPAS score also had a lifetime history of mental illness ( p=0.003) table3.
- Overall, of the 34 who screened positive for personality disorder, only 10 (29% of those with personality disorder, or 7% of the total) did not have a co-morbid mental illness or substance abuse disorder or both, within the previous six months, while only 7 (20.5% of those with personality disorder, or 5.1% of the total sample) did not have a lifetime substance abuse disorder. This suggests that personality disorder is very rare in the absence of some other mental illness or substance abuse problem, since 80% of those with personality disorder have an earlier history of substance abuse problems, and 71% of those with personality disorder have a current mental illness, substance abuse disorder, or both. 'Pure' personality disorder occurred in only 7% of the sample.

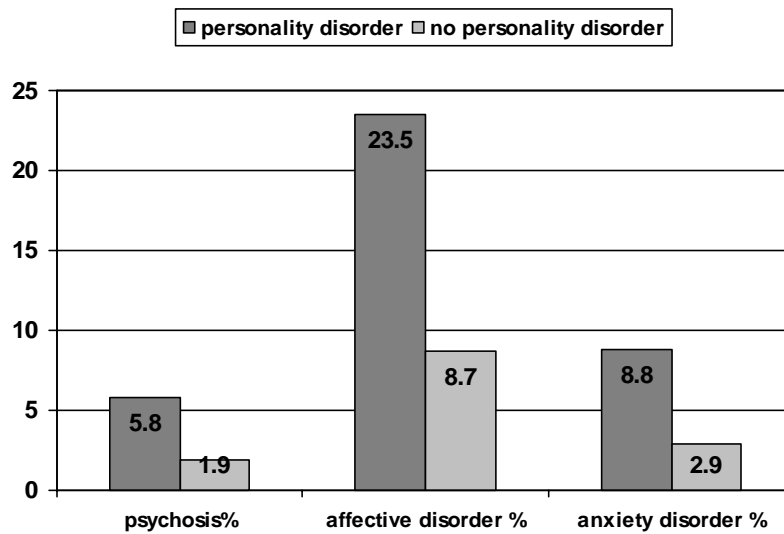
**Figure 3.11**

prevalence of mental illness (%) in sentenced committal prisoners with personality disorder.



**Figure 3.12**

Lifetime prevalence of mental illness by diagnosis



## OFFENCE CATEGORIES

**Table 3.9**

Offence categories in those with mental illness in the six months prior to committal

Offence category	Total male committal sample (n=615)	Mental illness in six months prior to committal		Psychosis in six months prior to committal	
		yes	no	yes	No
Murder	0.2 (1)	1	0	0	1
Manslaughter	0.2 (1)	0	1	0	1
Sexual	2.6 (16)	4	12	0	16
Other offences against person	14.6 (90)	20	65	2	88
Property	19.5 (120)	17	101	3	117
Other	62.9 (387)	55	329	14	373

## SAMPLE 2: REMANDED MEN

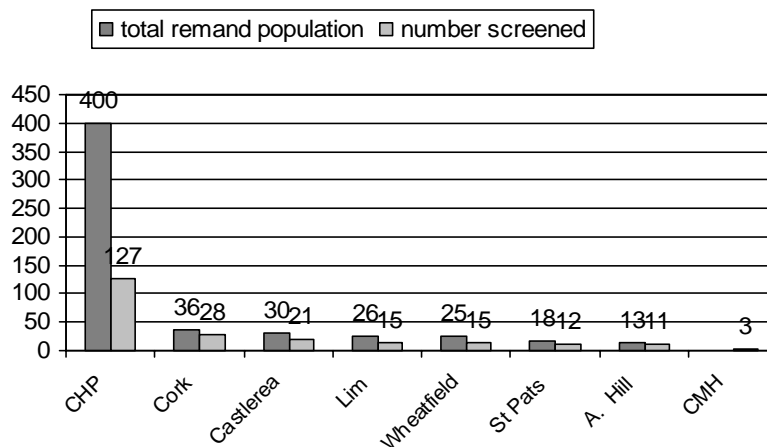
### A CROSS-SECTIONAL SURVEY OF MEN REMANDED INTO CUSTODY

#### OVERVIEW

We interviewed 232 (42.6%) of the 544 prisoners who were on remand at the time of the study. Around two thirds of the total remand population were detained in Cloverhill Prison in west Dublin where 127 out of 400 (32%) prisoners were interviewed. Because the numbers of remand prisoners in other centres were small, we approached all remanded prisoners in those prisons. Of the 144 men remanded in peripheral prisons 105 (72.9%) were seen.

**Figure 4.1**

Number of remand prisoners sampled in each remand centre.



#### Age

The mean age of the sample was 29.6 years.

## **Ethnicity**

Seventy four percent (74%) of the sample had been born in Ireland and 86% were Caucasian.

## **Marital status**

141 (60.7%) of 232 prisoners were single, 68 (29.4%) were married or cohabiting, 23 (0.97%) were separated or divorced and 1 (0.4%) was widowed. 135 (58%) men had children and 11 (8.1% of those who had children) reported that their children had been in care or involved with child protection issues.

## **Housing**

Overall, 40.9% had been homeless at some time and only 80.1% had a place to stay when they were released. 75.5% were living with their family or in their own home at the time of arrest. 8.5% had been living in unsettled accommodation in the month prior to arrest and 5.5% had been homeless and roofless in the month prior to arrest. 7.3% had been living in settled hostel accommodation and 2.6% were living in either official or unofficial halting sites or group housing for Travellers.

## **Educational attainment and Employment**

We found the prevalence of illiteracy to be 10.9%. 18.6% of remanded prisoners had been to a special school (including schools for those with behavioural problems) or had remedial classes within a mainstream school. Rates of unemployment were high. At the time of arrest 63.9% were unemployed.

**Table 4.1**

Summary of the demographic characteristics of the cross sectional sample of remand prisoners.

	<b>Cloverhill Prison N=127</b>	<b>Other Remand Centres N=116</b>	<b>Weighted Means</b>
<b>Mean Age (years)</b>	29.2 (S.D. 8.8)	30.6 (S.D. 11.2)	29.6
<b>Ethnic Group</b>			
White Irish / EU (excl Traveller)	104 (81.9%)	91 (86.7%)	<b>83.1%</b>
White Non EU	5 (3.9%)	0	<b>2.9%</b>
Black	9 (7.1%)	2 (1.9%)	<b>5.7%</b>
Asian (Chinese)	3 (2.4%)	0	<b>1.8%</b>
Irish Traveller	2 (1.6%)	12 (11.4%)	<b>4.2%</b>
Other	4 (3.1%)	0	<b>2.3%</b>
<b>Marital Status</b>			
Single	75 (59.1%)	66 (62.9%)	<b>60.1%</b>
Married/cohabiting	39 (30.7%)	27 (25.7%)	<b>29.4%</b>
Separated/divorced	12 (9.4%)	11 (10.5%)	<b>9.7%</b>
Widowed	0	1 (1.0%)	<b>0.2%</b>
<b>Occupation at time of arrest</b>			
Unemployed	86 (67.7%)	56 (53.3%)	<b>63.9%</b>
Full/Part time employment	35 (27.6%)	46 (43.2%)	<b>31.9%</b>
Disability/invalidity pay	4 (3.1%)	2 (1.9%)	<b>2.8%</b>
Student/Retired	1 (0.8%)	1 (1.0%)	<b>0.8%</b>

### Forensic/institutional history

17.8% of those screened had been in care or a juvenile detention centre and 40% had been in contact with the juvenile court system. The mean age of first contact with the juvenile courts was 13.7 years. The mean number of previous sentences served was 4.3 and the mean number of periods on remand was 5.4.

### Medical histories

50.7 % had no previous medical histories. Blood borne viruses were frequently self-reported. Rates of hepatitis C were 14.9%, hepatitis B 1.2%, and HIV 1.2%

85.8% were smokers consuming an average 18 cigarettes per day.

## Psychiatric histories

When contact for court reports only was excluded, 14.6% men on remand had been in contact with child psychiatric services at some time, 29.8% of the sample had been in contact with the adult community psychiatric services and 34.2% had attended the forensic psychiatric services in the past. 15.9% of the sample were attending a drug clinic prior to committal and 17.2% had contact with the drug treatment services at some time in the past.

36.1% had been receiving medication on committal: 13.2% were receiving benzodiazepines, 7.2% antidepressant medication, and 6.0% antipsychotic medication.

52.8% needed referral to drug treatment services in prison, 18.4% were on methadone maintenance prior to committal.

**Table 4.2**

Rates of mental illness and substance misuse in the cross sectional remand sample.

DSM-IV diagnosis	Current (%) [95 % confidence intervals]			Six month (%) [95 % confidence intervals]			Lifetime (%) [95 % confidence intervals]		
	Cloverhill	Other Remand centres	Weighted means	Cloverhill	Other Remand centres	Weighted means	Cloverhill	Other Remand centres	Weighted means
PSYCHOSIS	6 (4.7) [2.2 – 9.9]	4 (3.8) [1.5 – 9.4]	4.5 %	11 (8.6) [4.9 – 14.8]	5 (4.8) [2.1 – 10.7]	7.6 %	17 (13.4) [8.5 – 20.4]	10 (9.5) [5.3 – 16.6]	12.4 %
AFFECTIVE DISORDER*	9 (7.1) [3.8 – 12.9]	16 (15.2) [9.6 – 23.3]	9.1%	15 (11.8) [7.3 – 18.6]	16 (15.2) [9.6 – 23.3]	12.6 %	23 (18.1) [12.4 – 25.7]	22 (21.0) [14.3 – 29.7]	18.7 %
MAJOR DEPRESSIVE DISORDER	7 (5.5) [2.7-10.9]	10 (9.5) [5.3-16.6]	6.6%	13 (10.2) [6.1-16.7]	10 (9.5) [5.3-16.6]	10.0%	21 (16.5) [11.1-24.0]	16 (15.2) [9.6-23.3]	16.2%
ANXIETY DISORDER	7 (5.5) [2.7 – 10.9]	11 (10.5) [6.0 – 17.8]	6.8 %	7 (5.5) [2.7 – 10.9]	11 (10.5) [6.0 – 17.8]	6.8 %	9 (7.1) [3.8 – 12.9]	16 (15.2) [9.6 – 23.3]	9.2 %
SUBSTANCE USE DISORDER	82 (64.6) [55.9 – 72.3]	72 (68.6) [59.2 – 76.7]	65.6 %	92 (72.4) [64.1 – 79.5]	75 (71.4) [62.2 – 79.2]	69.5 %	92 (72.4) [64.1 – 79.5]	87 (82.9) [74.5 – 88.9]	77.3%



<b>ANY MENTAL ILLNESS</b>	<b>22</b> (17.3) [11.7 – 24.8]	<b>25</b> (23.8) [16.7 – 32.8]	<b>19.0%</b>	<b>26</b> (20.5) [14.4 – 28.3]	<b>25</b> (23.8) [16.7 – 32.8]	<b>21.4 %</b>	<b>42</b> (33.1) [25.5 – 41.6]	<b>38</b> (36.2) [27.6 – 45.7]	<b>33.9 %</b>
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\*includes mild, moderate and severe depressive disorder and dysthymia, excludes bi-polar

## PSYCHOSIS

17 prisoners in Cloverhill Prison and 10 prisoners in the other remand centres had a past episode of psychosis, giving a lifetime prevalence of any psychosis of 12.4% for the entire sample. Table 4.2 summarizes psychosis in prisoners on remand.

**Table 4.2**

Current, six month and lifetime prevalences (%) of psychotic disorders by diagnosis in the cross-sectional remand sample.

<b>DIAGNOSIS</b>	<b>Current</b> Weighted mean % [95% confidence intervals]	<b>Six month</b> Weighted mean % [95% confidence intervals]	<b>Lifetime</b> Weighted mean % [95% confidence intervals]
<b>Schizophrenia</b>	1.8 [0.7 – 4.3]	2.6 [1.2 – 5.5]	2.6 [1.5- 4.3]
<b>Psychotic mood disorder</b>	2.3 [0.9 – 4.9]	2.3 [0.9 – 4.9]	5.2 [3.6 – 7.3]
<b>Substance induced psychosis</b>	0	1.4 [0.4 – 3.7]	2.5 [1.5 – 4.3]
<b>Other psychotic disorder</b>	1.3 [0.4 – 3.7]	1.3 [0.4 – 3.7]	2.0 [1.1 – 3.6]
<b>Any Psychosis Weighted mean</b>	<b>5.4 %</b>	<b>7.6%</b>	<b>12.4 %</b>

## AFFECTIVE DISORDERS

depressive disorders were common in the remand population. 20 prisoners had a current mood disorder and 23 in the six months prior to interview. Overall 37 had a lifetime history of affective disorders. These rates were similar to those found in the cross sectional sample of sentenced prisoners (chapter 5) but substantially higher than men on committal to prison (chapter 3). Those with bipolar disorder are included in psychotic mood disorders.

**Table 4.3**

Affective disorders by diagnosis in the cross sectional remand sample.

<b>AFFECTIVE DISORDER*</b>	<b>Current</b> Weighted mean % [95% confidence intervals]	<b>Six month</b> Weighted mean % [95% confidence intervals]	<b>Lifetime</b> Weighted mean % [95% confidence intervals]
Major Depressive Disorder (unipolar)	6.6 [4.8 – 9.0]	10.1 [7.9 – 12.9]	16.2 [13.3 – 19.5]
Dysthymia (and mild depressive disorder)	2.5 [1.5 – 4.3]	2.5 [1.5 – 4.3]	2.5 [1.5 – 4.3]
Any affective disorder Weighted mean	<b>9.1 %</b>	<b>12.6 %</b>	<b>18.7 %</b>

\* Includes mild, moderate and severe depression without psychotic symptoms, and dysthymia

## ANXIETY DISORDERS

### Age

The mean age of those with a lifetime history of anxiety disorder was 30.8 years.

**Table 4.4**

Prevalence of anxiety disorders in the cross sectional remand sample.

<b>ANXIETY DISORDER</b>	<b>Current</b> Weighted mean % [95% confidence intervals]	<b>Six month</b> Weighted mean % [95% confidence intervals]	<b>Lifetime</b> Weighted mean % [95% confidence intervals]
<b>Panic disorder</b>	3.0 [1.8 – 4.7]	3.0 [1.8 – 4.7]	3.8 [2.5 – 5.8]
<b>Generalized anxiety Disorder</b>	1.0 [0.4 – 2.1]	1.0 [0.4 – 2.1]	1.0 [0.4 – 2.1]
<b>Obsessive compulsive disorder</b>	0.8 [0.3 – 1.9]	0.8 [0.3 – 1.9]	0.8 [0.3 – 1.9]
<b>Phobic disorder</b>	1.7 [0.9 – 3.1]	1.7 [0.9 – 3.1]	2.9 [0.9 – 3.1]
<b>Post traumatic stress disorder</b>	0	0	1.4 [0.7 – 2.9]

Any Anxiety disorder Weighted mean	6.8 %	6.8 %	9.2%
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## SUICIDAL IDEATION AND SUICIDAL BEHAVIOUR

41.0 % of those interviewed reported suicidal thoughts in the past, 9.2% in the last year, and 4.5% explicitly in the last week.

The most frequent methods used were:

Overdose 14.9 %

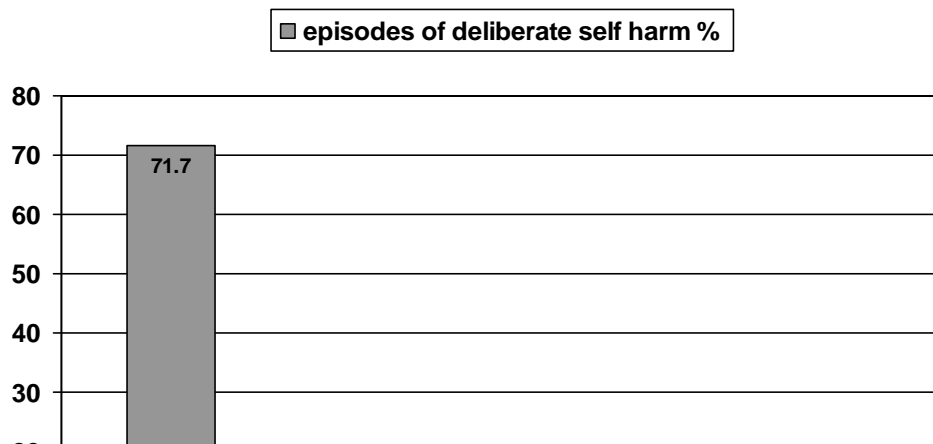
Self laceration 13.2 %

Attempted hanging 9.5 %

38.4 % said they had contact with a suicide in the past, 2.5 % in a first degree relative and 26.4% in a close friend.

### Figure 4.2

Deliberate self harm in remand prisoners



## SUBSTANCE USE DISORDERS

Rates of substance misuse were high in our sample. 75.2% of our sample had a lifetime history of alcohol or drug problems. 71.5% had taken illicit drugs at some time in their lives and the mean age when they first used drugs was 16.1 years. 63% had a lifetime history of abuse of or dependence on illicit drugs. A similar proportion of the sample (61.7%) identified themselves as having a lifetime history of alcohol abuse or dependence.

Rates of substance use morbidity were high. The six month prevalence of harmful alcohol use was 7.7%, and for dependence 22.1%. Similarly the six month prevalence of harmful drug use was 19.1% and dependence was 28.5 %, giving an indication of the numbers of people misusing intoxicants around the time of committal.

**Table 4.5**

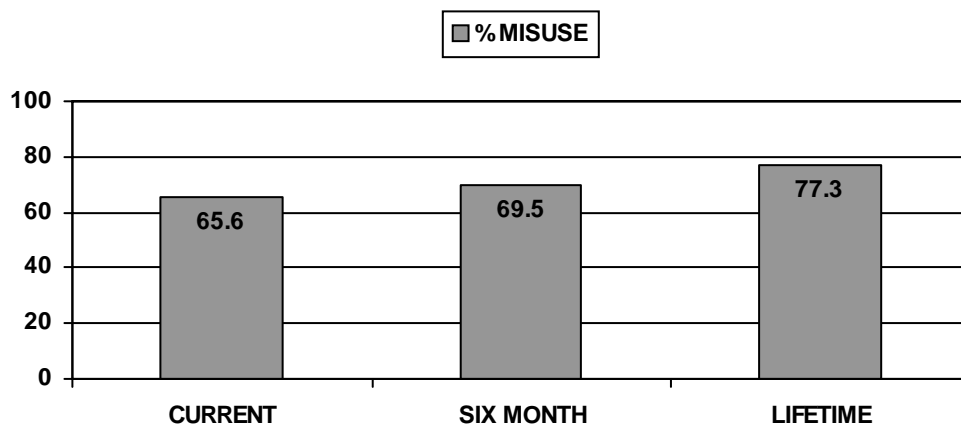
Prevalence of substance misuse in the cross-sectional remand sample in the 12 months prior to interview

<b>SUBSTANCE</b>	<b>ABUSE (%)</b>	<b>DEPENDENCE (%)</b>	<b>Abuse or dependence</b>
<b>Opiates</b>	1.3	25.2	<b>26.5</b>
<b>Cannabis</b>	17.9	51.7	<b>69.6</b>
<b>Benzodiazepines</b>	8.1	12.8	<b>20.9</b>
<b>Cocaine</b>	5.6	9.4	<b>15.0</b>
<b>Ecstasy</b>	7.2	1.8	<b>9.0</b>

<b>Hallucinogens</b>	0.9	0.4	<b>1.3</b>
<b>Amphetamines</b>	3.0	0.9	<b>3.9</b>
<b>Alcohol</b>	12.0	30.6	<b>42.6</b>

**Figure 4.3**

Combined % substance misuse



## SAMPLE 3: SENTENCED MEN

### A STRATIFIED RANDOM SURVEY OF SENTENCED MEN.

#### OVERVIEW

We interviewed 98 men serving life sentences and 340 men serving fixed sentences. The average daily sentenced prison population at the time of our study was 2320 (serving fixed sentences) with an extra 126 serving life sentences.

#### Demographics of the Sample

We found that fixed and life-sentenced prisoners differed significantly (Table 5.1). Lifers tended to have been in prison longer, to be older and to have fewer previous convictions. 63% of lifers had never been in custody prior to their index offence compared with 37% of non-lifers.

**Table 5.1**

Comparison between life sentenced and fixed sentenced prisoners for age and contact with prison.

	Statistic	Mean age (years)	Time served (years)	Number of prison sentences served	Never in prison before
<b>Fixed sentences N=340</b>	Mean [95% CI]	30.2 [25.9 – 31.4]	2.2 [1.3 – 3.0]	3.2 [2.6 – 3.8]	37 % [32 – 42]
	Median	27	0.9	1.0	
<b>Life sentences N=98</b>	Mean 95% CI	38.2 [35.9 -40.4]	9.4 [7.9 – 10.8]	1.9 [0.7 – 3.2]	63 % [53 – 72]
	Median	36	7	0	
		F=36.8, p<0.001	F=65.0, P<0.001	F=4.17, P=0.042	X

## Ethnicity

The majority of prisoners screened were Irish, with 301 (88.5%) of the fixed-sentence prisoners and 79 (80.6%) life sentence prisoners claiming Irish nationality. 299 (87.9%) of the fixed sentence and 91 (92.9%) of the life sentenced prisoners were Caucasian (table 5.2).

**Table 5.2**

Ethnic origin of fixed sentence (n=340) and life-sentenced (n=98) prisoners in sample.

<b>Ethnic origin</b>	<b>Fixed sentence (%)</b>	<b>Life sentence (%)</b>	<b>Weighted mean</b>
<b>White</b>	299 (87.9)	91 (92.9)	88.2%
<b>Asian / not Chinese</b>	1 (0.3)	0	0.3%
<b>Black</b>	1 (0.3)	1 (1)	0.35%
<b>Asian / Chinese</b>	1 (0.3)	0	0.3%
<b>Traveller</b>	37 (10.9)	6 (6.1)	10.7%
<b>Other</b>	1 (0.3)	0	0.3%
<b>Total</b>	340 (100)	98 (100)	

## Educational attainment and employment

10.8% of sentenced prisoners were illiterate. 18.7% had been to a special school (including schools for those with behavioural problems) or had remedial classes within a mainstream school. 58% reported truancy from school in their childhood and 40.5% said their attendance at school was poor.

38% had academic qualifications which included Group Certificate 9.2%, Junior Certificate 17%, Leaving Certificate 7.8%, degrees or Diplomas 2.3% and no qualification 60.1%.



At the time of arrest, 50% of sentenced prisoners were unemployed, 45.9% were in full time employment, 2.1% were on sickness/invalidity benefit and 1.4% were students.

## **Family and social background**

Problems in childhood were reported frequently. 19.3% had been taken into care or sent to a juvenile detention centre before the age of sixteen. 45.7% had been in contact with the juvenile courts with a mean age of first contact of 13.4 years.

At the time of interview, 61.1% were single, 29.1% were married or cohabiting, 7.8% were separated or divorced and 1.4% were widowed. Of prisoners who had children, 2.1% had children who had been taken into care or had been involved with child protection issues.

## **Psychiatric histories**

17.4% had previous contact with child psychiatric services and 23.4% had contact with community adult psychiatric services (not including contact only for court reports or addictions services). 42% had significant past contact with the forensic psychiatric service whilst in prison reflecting the high rates of mental illness occurring during time spent in custody. 38.9% had attended prison psychiatric clinics. 5.5% had been in-patients in the only forensic hospital the Central Mental Hospital less than five times and 0.4% more than five times.

5.5% were attending a drug clinic prior to committal to prison, 3.9% were on a methadone maintenance programme prior to committal and 8.3% had been involved with drugs services in the community at some stage.

## **Medical histories**

56.6% of the sample had no previous medical problems. The number with hepatitis B, hepatitis C and HIV were 1.7%, 12.5% and 0.2% respectively.

76.5% were smokers, averaging 15 cigarettes per day.

## **Social Supports and Housing**

Overall, 27.4% said they had been homeless at some time. 91.1% were living with their family or in their own home at the time of arrest. 4.1% had been living in unsettled

accommodation in the month prior to arrest and 1.6% had been homeless and roofless in the month prior to arrest. 0.7% had been living in settled hostel accommodation and 2% were living in either official or unofficial halting sites or group housing for travellers. It is worth noting that 78.6% of those who identified themselves as travellers were in settled housing.

## Mental illness

In total, 34.9% (49 lifers, 116 non-lifers) were found to have a psychiatric diagnosis (excludes drug or alcohol problems and personality disorder). Lifetime prevalence of mental illness was significantly higher amongst those serving a life sentence. 116 (34.1%) of 340 non life sentenced prisoners and 49 (50.0%) of 98 life-sentenced prisoners were given a psychiatric diagnosis (Chi-squared=8.173,  $p=0.004$ ). Table 5.3 summarises the rates of mental illness for the entire sentenced sample (n=438)

**Table 5.3**

Rates of mental illness and substance misuse in the sentenced population

DSM-IV diagnosis	Current (%) [95 % confidence intervals]			Six month (%) [95 % confidence intervals]			Lifetime (%) [95 % confidence intervals]		
	Life Sentence	Fixed sentence	Weighted mean	Life sentence	Fixed Sentence	Weighted mean	Life sentence	Fixed sentence	Weighted mean
PSYCHOSIS	5 (5.1) [2.2 – 11.4]	2 (0.6) [0.2 – 2.1]	0.8 %	7 (7.1) [3.5 – 14.0]	8 (2.4) [1.2-4.6]	2.7 %	8 (8.2) [4.2 – 15.3]	12 (3.5) [2.0 – 6.1]	3.8%
AFFECTIVE** DISORDER	7 (7.1) [3.5 – 14.0]	20 (5.9) [3.8 – 8.9]	6.0 %	9 (9.2) [4.9 – 16.5]	29 (8.5) [6.0 – 12.0]	8.5 %	32 (32.7) [24.2 – 42.4]	74 (21.8) [17.7 – 26.5]	22.3 %
Major Depressive disorder	3 (3.1) [1.1 – 8.7]	11 (3.3) [1.8 – 5.8]	3.2 %	5 (5.1) [2.2 – 11.4]	17 (5.0) [3.1-7.9]	5.0 %	25 (25.5) [17.9 – 35.0]	55 (16.2) [12.6 – 20.5]	16.6%
ANXIETY DISORDER	14 (14.3) [8.7 – 22.6]	47 (13.8) [10.6 – 17.9]	13.8 %	14 (14.3) [8.7 – 22.6]	47 (13.8) [10.6 – 17.9]	13.8 %	18 (18.4) [35.4 – 54.8]	59 (17.4) [26.8 – 36.6]	17.4 %
SUBSTANCE USE DISORDER	64 (65.3) [55.5 – 74.0]	252 (74.1) [69.2 – 78.5]	73.7 %	70 (71.4) [61.8- 79.4]	272 (80.0) [75.4 – 83.9]	79.6 %	72 (73.5) [64.0 – 81.2]	294 (86.5) [82.4 – 89.7]	85.8 %
ANY MENTAL ILLNESS *	23 (23.5) [16.2 – 32.8]	77 (22.6) [18.5 – 27.4]	22.6 %	25 (25.5) [17.9- 35.0]	79 (23.3) [19.1 – 28.1]	26.7 %	49 (50.0) [40.3 – 59.7]	116 (34.1) [29.3 – 39.3]	34.9 %

\* excludes substance use disorders

\*\* Includes mild, moderate and severe depression without psychotic symptoms and dysthymia.

## PSYCHOSIS

As with the other prison samples (chapter 3 and 4) psychosis was a common finding in the sentenced population. 20 of those interviewed (12 non-lifers and 8 lifers) had a lifetime history of psychosis. (table 5.4).

The prevalence of psychosis was significantly higher in life sentenced inmates than those not serving life sentences.

Of the twenty prisoners interviewed who had lifetime histories of psychosis:

- 9 had a psychotic mood disorder
- 7 had schizophrenia
- 2 had delusional disorder
- 2 had a drug psychosis

6 were psychotic at the time of interview and 12 in the preceding six months.

**Table 5.4**

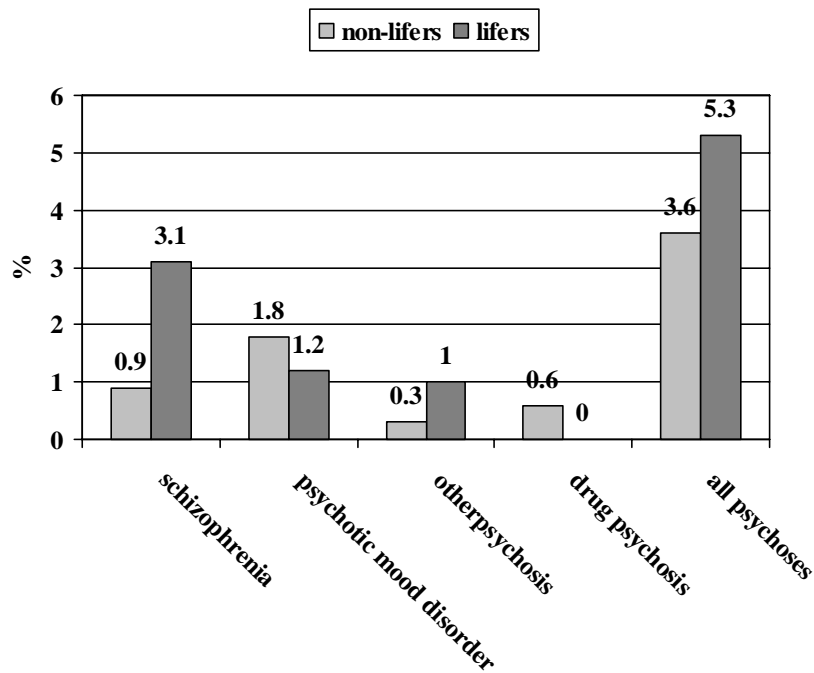
Prevalence of psychosis by diagnosis in sentenced prisoners

DIAGNOSIS	Current			Six month			Lifetime		
	Life sentence	Fixed sentence	Weighted mean	Life sentence	Fixed sentence	Weighted mean	Life sentence	Fixed sentence	Weighted mean
Schizophrenia	3 (3.1) [1.0 – 8.6]	1 (0.3) [0.1 – 1.6]	0.4%	3 (3.1) [1.0 – 8.6]	3 (0.9) [0.3-2.6]	1.0 %	3 (3.1) [1.0 – 8.6]	3 (0.9) [0.3 – 2.6]	1.0 %
Psychotic mood disorder	0	0	0	3 (3.1) [1.0 – 8.6]	4 (1.2) [0.5 – 3.0]	1.4 %	4 (1.2) [0.5 – 3.0]	6 (1.8) [0.8 – 3.8]	2.6 %
Substance induced psychosis	0	0	0	0	0	0	0	2 (0.6) [0.5 – 3.0]	0.6 %

<b>Other psychotic disorders</b>	<b>1</b> (1.0) [0.2 – 5.6]	<b>1</b> (0.3) [0.1 – 1.6]	<b>0.3%</b>	<b>1</b> (1.0) [0.2 – 5.6]	<b>1</b> (0.3) [0.1 – 1.6]	<b>0.3 %</b>	<b>1</b> (1) [0.2 – 5.6]	<b>1</b> (0.3) [0.1 – 1.6]	<b>0.3 %</b>
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**Figure 5.1**

Prevalence of psychosis (%), by diagnosis, in life and non life sentenced prisoners



## AFFECTIVE DISORDERS

Both life and fixed sentenced individuals had high rates of affective illness (Table 5.5). The lifetime prevalence for a major depressive episode was 17.9% [95% CI 14.2-22.4%] in fixed sentence prisoners and 27.6% [95% CI 19.7-37.1%] in life-sentenced prisoners. The 6-month

prevalence of major depression was 5.6% [95% CI 3.6-8.8%] for fixed sentenced and 4.1% [95% CI 1.6-10.0%] for life-sentenced prisoners.

**Table 5.5**

Prevalence of affective disorders in life and non life sentenced prisoners.

	Current (%) [95 % confidence intervals]	Six month (%) [95 % confidence intervals]	Lifetime (%) [95 % confidence intervals]
Fixed sentence	<b>20</b> (5.9) [3.8 – 8.9]	<b>29</b> (8.5) [6.0 – 12.0]	<b>74</b> (21.8) [17.7 – 26.5]
Life sentence	<b>7</b> (7.1) [3.5 – 14.0]	<b>9</b> (9.2) [4.9 – 16.5]	<b>32</b> (32.7) [24.2 – 42.4]
Weighted means	<b>6.0 %</b>	<b>8.5 %</b>	<b>22.3 %</b>

**Table 5.6**

Prevalence (%) of affective disorder, by diagnosis, in sentenced prisoners.

DIAGNOSIS	Current			Six month			Lifetime		
	Life sentence	Fixed sentence	Weighted mean	Life sentence	Fixed sentence	Weighted mean	Life sentence	Fixed sentence	Weighted mean
<b>Major Depressive disorder</b>	<b>3</b> (3.1) [1.1 – 8.7]	<b>11</b> (3.3) [1.8 – 5.8]	<b>3.2 %</b>	<b>5</b> (5.1) [2.2 – 11.4]	<b>17</b> (5.0) [3.1-7.9]	<b>5.0 %</b>	<b>25</b> (25.5) [17.9 – 35.0]	<b>55</b> (16.2) [12.6 – 20.5]	<b>16.6 %</b>
<b>dysthymia</b>	<b>4</b> (4.1) [1.6 – 10.0]	<b>13</b> (3.8) [2.2 – 6.4]	<b>3.8 %</b>	<b>5</b> (5.1) [2.2-11.4]	<b>16</b> (4.7) [2.9 – 7.5]	<b>4.7 %</b>	<b>5</b> (5.1) [2.2 – 11.4]	<b>17</b> (5.0) [3.1 – 7.9]	<b>5.0 %</b>



## ANXIETY DISORDERS

**Table 5.7**

Prevalence of anxiety disorders in life and fixed sentenced prisoners.

	<b>Current (%)</b> [95 % confidence intervals]	<b>Six month (%)</b> [95 % confidence intervals]	<b>Lifetime (%)</b> [95 % confidence intervals]
<b>fixed sentence</b> <b>N=340</b>	<b>47 (13.8)</b> [10.6 – 17.9]	<b>47 (13.8)</b> [10.6 – 17.9]	<b>59 (17.4)</b> [15.9 – 18.9]
<b>Life sentence</b> <b>N=98</b>	<b>14 (14.3)</b> [8.7 – 22.6]	<b>14 (14.3)</b> [8.7 – 22.6]	<b>18 (18.4)</b> [35.4 – 54.8]
<b>Weighted mean</b>	<b>13.8 %</b>	<b>13.8 %</b>	<b>17.4 %</b>

**Table 5.8**

Prevalence of anxiety disorders, by diagnosis, in sentenced prisoners.

ANXIETY DISORDER	Current (%) [95 % confidence intervals]			Six month (%) [95 % confidence intervals]			Lifetime (%) [95 % confidence intervals]		
	Life sentence	Fixed sentence	Weighted mean	Life sentence	Fixed sentence	Weighted mean	Life sentence	Fixed sentence	Weighted mean
Panic disorder	3 (3.1) [1.0 – 8.6]	11 (3.2) [1.8 – 5.7]	3.2 %	3 (3.1) [1.0 – 8.6]	15 (4.4) [2.7 – 7.2]	4.3 %	5 (5.1) [2.2 – 11.4]	18 (5.3) [3.4 – 8.2]	5.3 %
Generalized anxiety Disorder	4 (4.1) [1.6 – 10.0]	14 (4.1) [2.5 – 6.8]	4.1 %	4 (4.1) [1.6 – 10.0]	15 (4.4) [2.7 – 7.2]	4.4 %	4 (4.1) [1.6 – 10.0]	15 (4.4) [2.7 – 7.2]	4.4 %
Obsessive compulsive disorder	2 (2.0) [0.6 – 7.1]	6 (1.8) [0.8 – 3.8]	1.8 %	2 (2.0) [0.6 – 7.1]	6 (1.8) [0.8 – 3.8]	1.8 %	2 (2.0) [0.6 – 7.1]	6 (1.8) [0.8 – 3.8]	1.8 %
Phobic disorder	5 (5.1) [2.2 – 11.4]	23 (6.8) [4.5 – 9.9]	6.7 %	5 (5.1) [2.2 – 11.4]	23 (6.8) [4.5 – 9.9]	6.7 %	7 (7.1) [3.5 – 14.0]	25 (7.4) [5.0 – 10.6]	7.4 %
Any anxiety disorder	14 (14.3) [8.7 – 22.6]	47 (13.8) [10.6 – 17.9]	13.8 %	14 (14.3) [8.7 – 22.6]	47 (13.8) [10.6 – 17.9]	13.8 %	18 (18.4) [35.4 – 54.8]	59 (17.4) [15.9 – 18.9]	17.4 %

## SUICIDAL IDEATION AND SUICIDAL BEHAVIOUR

### Deliberate Self Harm

25.3% (weighted mean) had a lifetime history of deliberate self-harm. The six-month prevalence of deliberate self-harm was 1.8%(95% CI 0.8-3.8) for fixed sentenced and 2.1%(95% CI 0.6-7.2) for life sentenced prisoners (weighted mean 1.8%). 50.0% had reported some exposure to a completed suicide at some time and 4.9% said they had a first degree relative who had committed suicide. and 142 (32.5%) said they had a close friend who had committed suicide.



The lifetime prevalence of deliberate self-harm was significantly higher in life-sentenced prisoners 41.8%(95% CI 32.6-51.7%) compared to 24.4%(95% CI 20.1-29.2%) in fixed sentenced prisoners ( $X^2 = 11.381$ ,  $p=0.001$ ).

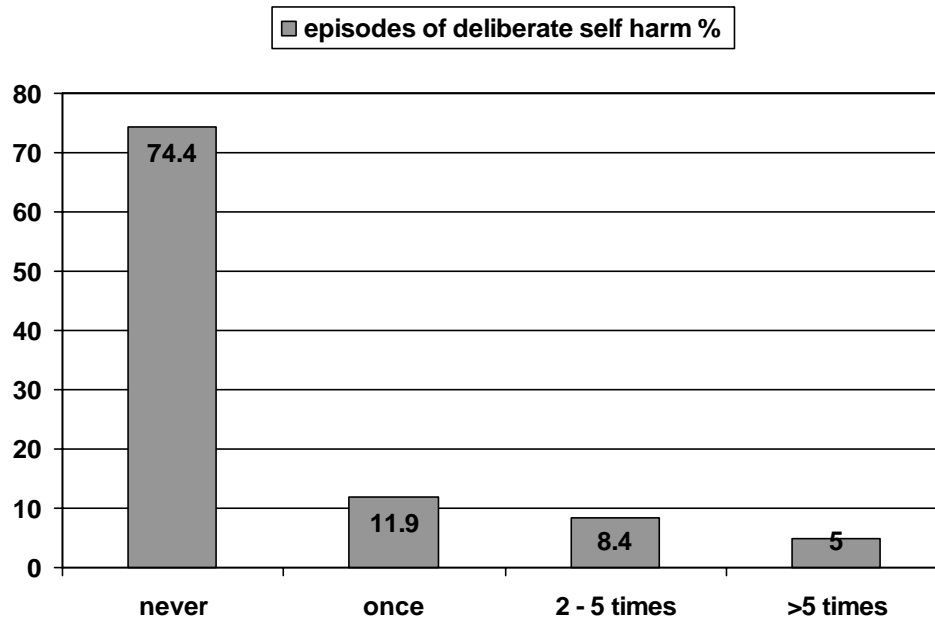
**Table 5.9**

Prevalence of deliberate self-harm in non life-sentenced ( $n=340$ ) and life-sentenced ( $n=98$ ) prisoners.

	Six month prevalence of deliberate self harm (%) [95 % confidence intervals]	Lifetime prevalence of Deliberate self harm (%) [95 % confidence intervals]
<b>Fixed sentence</b> N=340	<b>6 (1.8)</b> [0.8 – 3.8]	<b>83 (24.4)</b> [20.1 – 29.2]
<b>Life sentenced</b> N=98	<b>2 (2.1)</b> [0.6 – 7.0]	<b>41 (41.1)</b> [32.6-51.7]
<b>Weighted means</b>	<b>1.8 %</b>	<b>25.3 %</b>

**Figure 5.2**

Lifetime prevalence of self harm in sentenced prisoners



## ORGANIC BRAIN DISORDERS

We found that prisoners reported high rates of neurological problems, including head injury with loss of consciousness, epilepsy and a variety of other disorders including cerebrovascular accident, Korsakoff's syndrome and childhood meningitis.

**Table 5.10**

Prevalence of self-reported organic brain disorders in non life-sentenced (n=340) and life-sentenced (n=98) prisoners.

	Lifetime Prevalence Head injury with loss of consciousness N (%) [95% CI]	Lifetime prevalence Epilepsy N (%) [95% CI]	Lifetime prevalence other neurological disability N (%) [95% CI]	Lifetime prevalence any neurological disability(%) [95 % confidence intervals]
Fixed sentence N=340	25 (7.4) [5.0-10.6]	4 (1.2) [0.5-3.0]	5 (1.5) [0.3-2.6]	34 (10.0) [7.2-13.6]
Life sentenced N=98	3 (3.1) [1.0-8.6]	3 (3.1) [1.0-8.6]	3 (3.1) [0.03-2.6]	9 (9.2) [4.9-14.5]
Weighted means	7.2% [6.2-8.3]	1.3% [0.9-1.8]	1.6% [1.2-2.2]	9.9% [8.8-11.2]

## SUBSTANCE USE DISORDERS

Rates of substance misuse were high in life and fixed sentenced prisoners (Table 5.10). 83.1% of fixed sentence prisoners had a lifetime history of alcohol or drug problems and 72.9% had a problem with either alcohol or drugs at the time of imprisonment. Alcohol and drug problems were diagnosed using the categories of harmful use and dependence syndrome from ICD-10 Research Diagnostic Criteria (ICD-10 F10.1-F19.2).

78.1 % of sentenced prisoners had experimented with illegal drugs at some time in their lives. The mean age when they first used drugs was 16.8 years (standard deviation 5.8). 16.6% of sentenced prisoners had a history of intravenous drug use, of whom 64.4% had used shared needles.

58.9% of sentenced prisoners identified themselves as having a lifetime history of alcohol abuse or dependency (ICD10- F10.1-2). The mean age that drinking had become heavy was 20.6 (SD 8.8).

41% of sentenced prisoners reported drinking alcohol in the month prior to committal, their mean alcohol consumption in units per week was 107.1(mode 210, median 60).

## **Comorbidity**

Rates of co-morbidity were very high. Only two of the 20 with a lifetime diagnosis of a psychotic illness did not have a history of either drugs or alcohol abuse or dependency, but this did not differ significantly from the non-psychotic prisoners (Fishers Exact Test 2 sided = 0.394).

14 (70.0%) of the 20 psychotic prisoners had a lifetime history of deliberate self-harm compared to only 110 (26.3%) out of 418 of non psychotic prisoners sentenced prisoners ( $X^2$  17.9,  $p < 0.001$ ) (Table 5.11)

**Table 5.11**

Prevalence of substance misuse in sentenced prisoners.

	<b>Current (%)</b> [95 % confidence intervals]			<b>Lifetime (%)</b> [95 % confidence intervals]		
	<b>Fixed sentence</b>	<b>Life sentence</b>	<b>Weighted Means</b>	<b>Fixed sentence</b>	<b>Life sentence</b>	<b>Weighted means</b>
<b>Alcohol problem</b>	<b>153 (45.0)</b> [39.8-50.3]	<b>47 (48.0)</b> [38.3-57.7]	<b>45.1 %</b>	<b>217 (63.8)</b> [58.6-68.8]	<b>53 (54.6)</b> [44.7-64.2]	<b>63.2 %</b>
<b>Drug problem</b>	<b>206 (60.9)</b> [55.7-66.0]	<b>29 (29.6)</b> [21.5-39.3]	<b>58.8 %</b>	<b>232 (68.6)</b> [63.5-73.4]	<b>38 (38.8)</b> [29.7-48.7]	<b>66.5 %</b>
<b>Any substance use disorder</b>	<b>250 (74.0)</b> [69.0 – 78.4]	<b>63 (64.3)</b> [54.4 – 73.1]	<b>72.9 %</b>	<b>286 (84.6)</b> [80.4 – 88.1]	<b>68 (70.1)</b> [60.4 – 78.1]	<b>83.1 %</b>

**Table 5.12**

Co-morbidity of psychosis and substance use disorders in sentenced prisoners

	<b>No psychosis (%)</b> [95 % confidence intervals]	<b>Life-time psychosis (%)</b> [95 % confidence intervals]
<b>No substance use disorder</b>	<b>79 (19.0)</b> [15.5 – 23.1]	<b>2 (10.0)</b> [2.8 – 30.1]
<b>Lifetime substance use disorder</b>	<b>336 (81.0)</b> [76.9 – 84.5]	<b>18 (90.0)</b> [69.9 – 97.2]

## **WOMEN PRISONERS: SAMPLES 4 AND 5, COMMITTAL AND CROSS-SECTIONAL**

### **OVERVIEW**

In 2002, women represented 10.7% (1043) of all persons committed to prison. The daily average number of female prisoners in that year was 104. For the cross-sectional study we interviewed a total of 92 female prisoners, of whom 24 were on remand and 68 were sentenced.

In our survey of female committals 57 (60.6%) remand and 37 (39.4%) sentenced prisoners were interviewed within 72 hours of reception to the Dochas Centre female prison. This represented 9% of total women committed to prison in that year.

**Table 6.1**

Comparison between demographic characteristics of female committal and cross-sectional samples

<b>CHARACTERISTIC</b>	<b>Female Committals N = 94</b>	<b>Female Cross-sectional N = 92</b>
<b>Mean age (years)</b>	<b>27.4</b>	<b>31.5</b>
<b>Married (%) [95% CI]</b>	<b>28 (30.1)</b>	<b>19 (20.7)</b>
<b>Violent offence (%) [95% CI]</b>	<b>14/60 (23.3) [14.4-35.4]</b>	<b>22/84 (26.2) [18.0-36.5]</b>
<b>Ethnicity (Irish origin%)</b>	<b>74 (78.7) [69.4-85.8]</b>	<b>79 (85.9) [77.3-91.6]</b>
<b>Six month prevalence of mental illness</b>	<b>24 (25.8 ) [18.0-35.5]</b>	<b>36 (39.1) [29.8-49.3]</b>
<b>Six month prevalence of substance use disorder</b>	<b>61 (65.6) [55.5-74.5]</b>	<b>60 (65.2) [55.1-74.2]</b>

**Age**

The mean age of women in the female committals sample was 27.4 years. The mean age of women in the cross-sectional female sample was 31.5 years.

**Marital status and employment**

In the female committal sample 30.1% (28) of those interviewed were married or cohabiting. Only 23.7% (22) reported that they had been employed at the time of committal, while 67.8% (63) were unemployed or on disability benefit. 3.2% (3) were students. In the cross-sectional sample, at the time of interview, 62% (57) were single, 20.7% (19) were married or cohabiting, 13% (12) were separated or divorced and 13% (12) were widowed.

## Educational attainment and employment

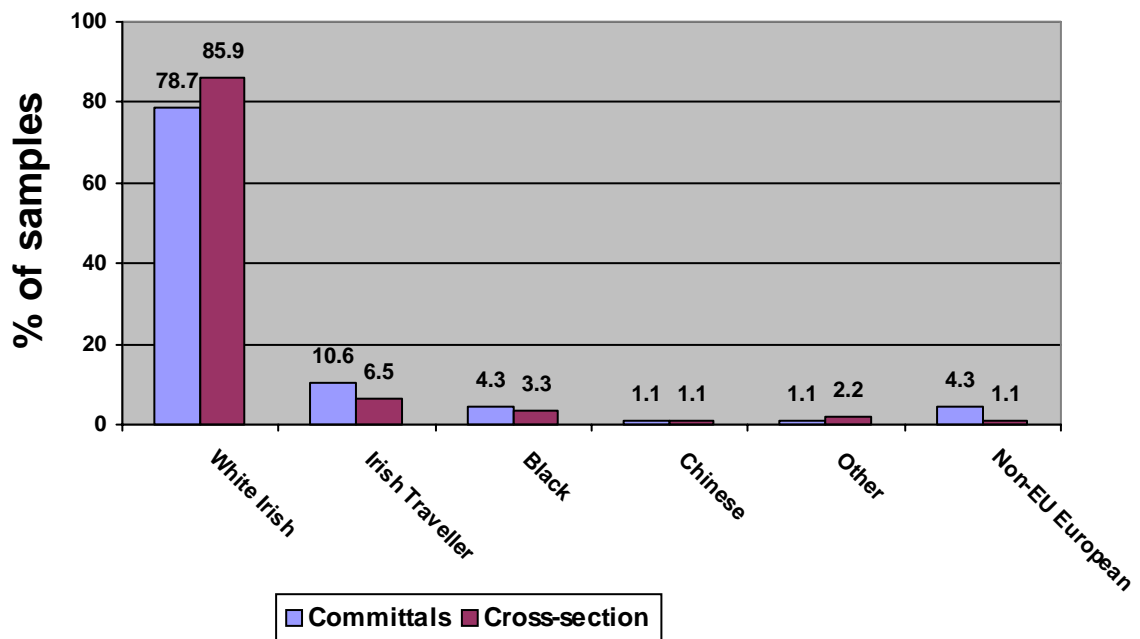
Of the female committal sample 10.6% (10) described themselves as illiterate, compared with only 1.1% (1) of the cross-sectional sample. 13.8% (13) of committals interviewed, and 12% (11) of the cross-sectional sample attended special school or remedial classes in mainstream school. 48.9% (46) of the committal sample, and 46.7% (43) of the cross-sectional sample left school without formal examinations. Only 8.5% (8) of the committals and 7.6% (7) of the cross-sectional subjects completed the Leaving Certificate examination. 46 (48.9%) of the committals and 35.9% (33) of the cross-sectional sample reported a history of truanting from school.

## Ethnicity

The majority of women interviewed were Irish. 10.7% of committals and 7.6% of the cross-sectional sample were non-Irish (figure 6.1). The larger number of non-nationals in the committal sample is accounted for by those on deportation orders and not charged with a criminal offence. Travellers were over-represented, and accounted for 10.6% (10) of our committal sample and 6.5% (6) of our cross-sectional sample, compared with 0.6% (circa 23,000) of the community.

**Figure 6.1**

Ethnicity of female committal and cross-sectional sample



### **Forensic history**

A record of charges was obtained for 84 of the 92 women interviewed for the cross-sectional survey. 26.2% (22) of these had committed a violent offence. Of those prisoners charged with violent offences 45.5% (10) had a mental illness in the preceding 6-months. 27.8% (10) of those who had a mental illness in the last six months were charged with a violent offence compared with 21.4% (12) of those without a recent history of mental illness. 26.7% (16) of those with a substance misuse problem within the last six months were charged with a violent offence compared with 18.8% (6) of those without a six-month history of substance misuse problems.

For the female committal sample a reliable record of charges could be obtained for only 60 of those interviewed. 23.3% (14) of these women had committed a violent offence. Of those prisoners charged with violent offences 28.6% (4) were suffering with a mental illness in the preceding six months. Data regarding charges was available for 16 of the 24 women with a history of mental illness in the preceding 6 months. 25% (4) of those women had committed a violent offence. Of the 69 women in the committal sample without a six-month history of mental illness offence data was available for 44. 22.7% of these women (10) committed a violent offence. Data regarding charges was available for 42 (69%) of the 61 women with a six-month history of substance misuse. 19% (8) of those with a 6-month substance misuse history committed a violent offence compared with 33% (6) of those without a substance problem in the last six months

### **Medical histories**

The self-reported prevalence of blood-borne diseases was high in both groups (Table 6.2). 35.5% (33) of female committals interviewed reported a history of intravenous drug use, and of these 69.7% (23) had shared needles. 40.7% (37) of the cross-sectional sample reported a history of intravenous drugs use. 51.4% (23) of these had shared needles.



**Table 6.2**

Prevalence of infectious disease in female prisoners

	<b>Female Committals (%)</b> [95 % confidence intervals] <b>N=94</b>	<b>Female Cross-Sectional (%)</b> [95 % confidence intervals] <b>N=92</b>
<b>Hepatitis B</b>	<b>4 (4.3)</b> [1.7-10.5]	<b>2 (2.2)</b> [0.6-7.6]
<b>Hepatitis C</b>	<b>27 (29.0)</b> [21.0-39.3]	<b>31 (34.1)</b> [24.9-43.8]
<b>HIV</b>	<b>6 (6.5)</b> [3.0-13.4]	<b>7 (7.6)</b> [3.7-14.9]

**Psychiatric histories**

42.6% (40) of female committals compared with 59.8% (55) of the cross-sectional sample interviewed had a lifetime history of mental illness (excluding substance problems and personality disorder). 24.5% (23) of female committals and 39.6% (36) of the cross-sectional subjects reported a history of contact with community psychiatric services either as outpatients or inpatients. 57.8% (53) of women interviewed in the cross-sectional sample had contact with Forensic psychiatric services (excluding reports) compared with 9.7% (9) of female committals.

35.5% (33) of female committals, and 29.3% (27) of the cross-sectional sample reported they were prescribed methadone in the community prior to committal.

**Table 6.3**

Six-month prevalence of mental illness and substance misuse in female committals and cross-sectional sample

<b>DSM-IV Diagnosis</b>	<b>Female committals (%)</b> [95 % confidence intervals] <b>N=93</b>	<b>Female cross-sectional (%)</b> [95 % confidence intervals] <b>N=92</b>
<b>Psychosis*</b>	5 (5.4) [2.3-12.0]	5 (5.4) [2.3-12.1]
<b>Major Depressive Disorder**</b>	8 (8.5) [4.4-15.9]	15 (16.3) [10.1-25.2]
<b>Anxiety Disorder</b>	8 (8.6) [4.4-16.1]	14 (15.2) [9.3-23.9]
<b>Substance Use Disorder</b>	61 (65.6) [63.1-81.8]	61 (65.2) [56.2-75.1]
<b>Any Mental Illness</b>	38 (40.9) [31.4-51.0]	55 (59.8) [49.6-69.2]

\*Includes schizophrenia, drug-induced psychosis, depressive disorder with psychotic symptoms, bipolar affective disorder

\*\*Includes moderate and severe depression without psychotic symptoms.

## PSYCHOSIS

Table 6.3 shows the prevalence of psychotic illness in the two groups (includes schizophrenia, bipolar affective disorder, drug-induced psychosis and affective psychosis). Of those with a lifetime history of psychosis, 80% (8) of female committals and 43% (3) cross-sectional subjects had a co-morbid history of substance and/or alcohol disorders.

**Table 6.3**

Prevalence of psychotic illness in female committal and cross-sectional samples

<b>Psychosis</b>	<b>Female Committal (%)</b> [95 % confidence intervals] <b>N=93</b>	<b>Female Cross-Sectional (%)</b> [95 % confidence intervals] <b>N=92</b>
<b>Current</b>	5 (5.4) [2.3-12.0]	3 (3.3) [1.1-9.2]
<b>Six Month</b>	5 (5.4) [2.3-12.0]	5 (5.4) [2.3-12.1]
<b>Lifetime</b>	10 (10.8) [5.9-18.7]	7 (7.7) [3.7-14.9]

## AFFECTIVE DISORDERS

Table 6.4 shows the prevalence of affective disorders by diagnosis in female committals interviewed. The higher prevalence of affective disorders in the cross-sectional sample is of interest. It suggests either that imprisonment causes affective disorders in a proportion of individuals or that those vulnerable to affective disorders are at greater risk of prolonged imprisonment. Although substance use disorders were of equal prevalence in each group, the effects of withdrawal may cause a period of affective instability or affective disorder and this may account for the higher prevalence of affective disorder symptoms in the cross-sectional sample. This requires further research.

**Table 6.4**

Affective disorders in female committal and cross-sectional samples.

<b>Affective disorders*</b>	<b>Female Committal (%)</b> [95 % confidence intervals] <b>N=93</b>	<b>Female Cross-Sectional(%)</b> [95 % confidence intervals] <b>N=92</b>
<b>Current</b>	10 (10.8) [5.9-18.7]	15 (16.3) [10.1-25.2]
<b>Six Month</b>	13 (14.0) [8.4-22.5]	19 (20.7) [3.6-30.0]
<b>Lifetime</b>	22 (23.7) [6.2-33.2]	39 (42.4) [32.8-52.6]
<b>Major Depressive Disorders**</b>		

<b>Current</b>	4(4.3) [1.7-10.4]	11(12.0) [6.8-20.2]
<b>Six Month</b>	8(8.5) [4.4-15.9]	15(16.3) [10.1-25.2]
<b>Lifetime</b>	15(16.0) [9.9-24.7]	34(37) [27.8-47.2]

\*Includes mild, moderate and severe depression without psychotic symptoms, and dysthymia

\*\* Includes only moderate and severe depression without psychotic symptoms.

## ANXIETY DISORDERS

8.6% (8) of the female committals compared with 15.2% (14) of the cross-sectional sample had an anxiety disorder in the six months prior to committal. The most common disorders were panic disorder and phobic disorder. Table 6.5 illustrates the differing prevalence of anxiety disorder in the two samples. Withdrawal from street drugs is the most likely explanation for the large differences between committal and cross-sectional samples, though the higher reported lifetime prevalence is difficult to reconcile with this.

**Table 6.5**

Prevalence of anxiety disorder in female prisoners

<b>Anxiety disorder</b>	<b>Female Committal (%)</b> [95 % confidence intervals]	<b>Female Cross-Sectional (%)</b> [95 % confidence intervals]
<b>Current</b>	<b>6 (6.5)</b> [3.0-13.4]	<b>14 (15.2)</b> [9.3-23.9]
<b>Six Month</b>	<b>8 (8.6)</b> [4.4-16.1]	<b>14 (15.2)</b> [9.3-23.9]
<b>Lifetime</b>	<b>10 (10.8)</b> [6.0-18.9]	<b>18 (19.6)</b> [12.7-28.8]

## SUICIDAL IDEATION AND SUICIDAL BEHAVIOUR

38.7% (36) of female committals had self-harmed at some time, 25% (9) of these in the last six months. 27.9% (26) of female committals interviewed were recurrent self-harmers, and 11.8% (11) reported more than five episodes of self-harm. The most frequent methods of self-harm reported were

- Overdose 23.7% (22)
- Self laceration 22.8% (21)
- Attempted hanging 11.8% (11)

Within the cross-sectional sample 41.1% (37) reported a history of self-harm. 27% (10) of these reported an episode in the last six months. 26.1% (24) of these women were recurrent self-harmers, and 8.9% (8) reported more than five episodes of self-harm.

31.2% (29) of female committals interviewed, and 40.4% (36) of the cross-sectional sample reported the suicide of a significant person in their lives. 6.5% (6) of the female committals sample and 7.9% (7) of the female cross-sectional sample had experienced the suicide of a first-degree relative.

## SUBSTANCE USE DISORDERS

The definitions of the terms ‘substance abuse’ and ‘dependence’ have been described in Chapter 3. Table 6.6 shows the prevalence of any substance problems, abuse and dependence, in both samples. 48.4 (45) of the female committals reported a current drug dependence problem, while 24.7 (23) reported a current alcohol dependence problem. Within the cross-sectional sample 18.5% (17) of women reported an alcohol dependence problem within the six months prior to their committal to prison, and 46.7% (43) reported a drug dependence problem in the six months prior to committal.

**Table 6.6**

<b>Any substance problem</b>	<b>Female Committal (%)</b> [95 % confidence intervals]	<b>Female Cross-Sectional (%)</b> [95 % confidence intervals]
<b>Current</b>	<b>61 (65.6)</b> [55.5-74.5]	<b>Not known</b>
<b>Six Month</b>	<b>61 (65.6)</b> [55.5-74.5]	<b>60 (65.2)</b> [55.1-74.2]
<b>Lifetime</b>	<b>65 (69.9)</b> [59.9-78.3]	<b>64 (71.1)</b> [59.5-78.0]

## PERSONALITY DISORDER

Seventy-two of the female committals interviewed were screened for personality disorder using the Schedule for Assessment of Personality – Abbreviated Scale (SAPAS)<sup>23</sup>, (Moran et al, 2003). 51.4% (37, 95% CI 30.4-49.9) of those screened were found to have a personality disorder. Table 6.7 compares those with and without a personality disorder. Only 3 (4.2%) screened positive for personality disorder who did not have a mental illness or substance dependence or harmful use.

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<sup>23</sup> Moran P, Leese M, Lee T, Walters P, Thornicroft G, Mann A. 2003. Standardised Assessment of Personality Abbreviated Scale (SAPAS): preliminary validation of a brief screen for personality disorder. *British Journal of Psychiatry* 183(3):228-232.

**Table 6.7**

Comparison of female committals with and without personality disorder

	<b>Personality Disorder (%)</b> [95 % confidence intervals] <b>N=37</b>	<b>No Personality Disorder (%)</b> [95 % confidence intervals] <b>N=35</b>
<b>Previous time in prison</b>	<b>27 (73)*</b> [57.0-84.6]	<b>14 (40)</b> [25.6-56.4]
<b>Receiving prescribed medication before prison</b>	<b>27 (73)</b> [57.0-84.6]	<b>15 (42.9)</b> [28.0-59.1]
<b>Receiving prescribed benzodiazepines before prison</b>	<b>21(56.8)*</b> [40.9-71.3]	<b>4 (11.4)</b> [4.5-26.0]
<b>Receiving prescribed antidepressants before prison</b>	<b>14 (37.8)</b> [24.1-53.9]	<b>6 (17.1)</b> [8.1-32.7]
<b>Receiving a prescribed antipsychotic before prison</b>	<b>7 (18.9)</b> [9.5-34.2]	<b>0 (0)</b> [0.0-9.9]
<b>Contact with child psychiatry services</b>	<b>14 (37.8)</b> [24.1-53.9]	<b>4 (11.4)</b> [4.5-26.0]
<b>Contact with community psychiatry services</b>	<b>18 (51.4)*</b> [33.4-64.1]	<b>6 (17.1)</b> [8.1-32.7]
<b>Contact with prison psychiatry services</b>	<b>7 (18.9)</b> [9.5-34.2]	<b>0 (0)</b> [0.0-9.9]
<b>Ever tried to kill/harm self</b>	<b>22 (59.5)*</b> [43.5-73.7]	<b>7 (20)</b> [10.0-35.9]
<b>Ever had suicidal thoughts</b>	<b>29 (78.4)*</b> [62.8-88.6]	<b>15 (42.9)</b> [28.0-59.1]
<b>Current mental illness</b>	<b>17 (45.9)*</b> [31.0-61.6]	<b>0 (0)</b> [0.0-9.9]
<b>Mental illness in the last six months</b>	<b>19 (51.4)*</b> [35.9-66.6]	<b>0 (0)</b> [0.0-9.9]
<b>Past mental illness</b>	<b>23 (62.2)*</b> [46.1-75.9]	<b>7 (20.0)</b> [10.0-35.9]
<b>Current substance problem</b>	<b>29 (78.4)</b> [62.8-88.6]	<b>18 (51.4)</b> [35.6-67.0]
<b>Lifetime substance problem</b>	<b>31 (83.8)</b> [68.9-92.3]	<b>19 (54.3)</b> [38.2-69.5]
<b>Current non-psychotic mood disorder</b>	<b>11 (29.7)*</b> [17.5-45.8]	<b>0 (0)</b> [0.0-9.9]

## GEOGRAPHIC ORIGINS OF THOSE COMMITTED TO PRISON

### WHERE DO PRISONERS COME FROM?

There is a growing body of evidence that prisoners are not drawn randomly from across the country. The paradigm for such research lies in the psychiatric epidemiology of the Chicago school of the 1930s<sup>24</sup>. This prompted research on the ecological correlates of both mental disorder and crime in local communities<sup>25, 26, 27</sup>. In modern times, an exponential relationship has been shown between rates of violent crime, homicide and suicide and measures of deprivation and population density<sup>28</sup>. A similar relationship has been demonstrated for rates of indictable crime in Dublin<sup>29</sup>. There is evidence not only that crime, particularly violent crime is more common in inner cities, in deprived areas, but also that the most severe forms of mental illness are more common in cities<sup>30</sup>, in deprived areas<sup>31</sup>. The reasons for this are complex, since those with severe mental illness tend to drift into inner cities, while those born in cities are also more likely to develop schizophrenia than those born in rural areas<sup>32</sup>. This may in part be due to the ready availability of street drugs in cities, since there is mounting evidence that early use of cannabis is associated with later development of schizophrenia<sup>33, 34</sup>.

<sup>24</sup> Faris REL, Dunham HW. 1939. *Mental Disorders in Urban Areas: An Ecological Study of Schizophrenia and Other Psychoses*. New York: Hafner.

<sup>25</sup> Shepherd M 1984. Urban factors in mental disorders: an epidemiological approach. *British Medical Bulletin* **40**: 401-404.

<sup>26</sup> Rutter M. 1981. The city and the child. *American Journal of Orthopsychiatry* **51**: 610-625.

<sup>27</sup> Dalton T (chair) 1992. *Urban Crime and Disorder*; report of the interdepartmental group. Dublin, The Stationary Office.

<sup>28</sup> Kennedy HG, Iveson RY, Hill O. 1999. Violence, homicide and suicide: strong correlation and wide variation across districts. *British Journal of Psychiatry* **175**: 462-466.

<sup>29</sup> Bacik I, Kelly A, O'Connell M, Sinclair H. (2000) *Crime and Poverty in Dublin: an analysis of the association between community deprivation, District Court appearance and sentence severity*. Dublin: Round Hall Press.

<sup>30</sup> Lewis G, David A, Andreasson S, Allebeck P. 1992. Schizophrenia and city life. *Lancet* **340**: 137-140.

<sup>31</sup> Glover GR, Leese M, McCrone P. 1999. More severe mental illness is more concentrated in deprived areas. *British Journal of Psychiatry* **175**: 544-548.

<sup>32</sup> Lewis et al op cit

<sup>33</sup> Smit F, Boilier L, Cuijpers P. 2004. Cannabis use and the risk of later schizophrenia: a review. *Addiction* **99**(4):512-513.

<sup>34</sup> Arseneault L, Cannon M, Witton J, Murray RM. 2004. Causal association between cannabis and psychosis: examination of the evidence. *British Journal of Psychiatry* **184**:110-117.



Because the association of mental illness with deprivation is a politically controversial one, much effort has been devoted to the measurement of deprivation<sup>35</sup>. Many such systems of measurement conflate economic deprivation and social disintegration, but the most rigorous separate these two constructs and measure only economic deprivation<sup>36</sup>. The measure of deprivation used here, developed by the Small Areas Health Research Unit at TCD, based on the Irish census for 2002, follows the model of Carstairs, concentrating on census indices of economic disadvantage for the Irish population. The relationship between morbidity and population characteristics can be used to target appropriate levels of mental health and other health services according to local need<sup>37</sup>. This study employs modern statistical techniques for the analysis of geographically distributed data where numbers vary from large to small<sup>38</sup>, a problem which would otherwise make valid analysis difficult for Ireland, where there are both urban settlements and large rural areas of low population density<sup>39</sup>. These methods have not previously been applied to imprisonment rates.

## Data

The data used were records of all committals to the Irish prisons for 2003. This included information on 10,660 individuals. Of these, 2,045 had given addresses either outside the country or without any street or town details, making them entirely uncodable. An initial attempt to code this data to Electoral Division (ED) was unsuccessful because many EDs had very small numbers of prisoners or indeed none at all. Coding to ED also increased the numbers of addresses that could not be attributed to a single area, particularly in towns and cities. As such, it was decided to code to Urban and Rural Districts, of which there are 217 nationally. A number of districts had to be merged to overcome problems with town boundaries encompassing parts of neighbouring districts, which left 208 districts.

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<sup>35</sup> Glover, GR, Robin E, Emami J, Arabscheibani GR. 1997. A needs index for mental health care. *Social Psychiatry and Psychiatric Epidemiology* 1997;

Jarman B 1984. Underprivileged areas: validation and distribution of scores. *British Medical Journal* **289**: 1587-1592.

Jarman B, Hirsch S, White P, Driscoll R. 1992. Predicting psychiatric admission rates *British Medical Journal* **304**: 1146-1151.

<sup>36</sup> Carstairs V (1995). Deprivation indices: their interpretation and use in relation to health. *Journal of Epidemiology and Community Health*. **49 (Supp. 2)**: 83-88.

<sup>37</sup> Thornicroft G, Goldberg D. 1998. London's mental health services. In: D Goldberg & G Thornicroft (eds.) *Mental Health in our Future Cities. Maudsley Monographs 42*. Hove: Psychology Press.

<sup>38</sup> Clayton D, Bernadinelli L (1992). Bayesian Methods for Mapping Disease Risk. In: *Geographical and Environmental Epidemiology: Methods for Small-Area Studies*. (ed. P. Elliott, J. Cuzick, D.English, R.Stern) pp205-220. World Health Organisation & Oxford University Press: Oxford.

<sup>39</sup> Kelly A. (1999) Case studies in Bayesian disease mapping for health and health service research in Ireland. In: *Disease Mapping and Risk Assessment for Public Health*. (ed. A Lee) pp 349-363. John Wiley and Sons: London.

A total of 8,615 prisoner records had usable address information, of which 8,369 were successfully coded to districts. The remainder could not be coded either because the address could not be found in a database or because it could not be pinpointed to a single district. The success rate ranged from 85% in Cavan to 100% in Leitrim and Offaly. The data were analysed at both county and district level.

## **Method**

Once the records had been coded to district level, age-sex rates were generated using Census 2002 figures and applied to determine expected numbers for each district. Bayesian adjustment was applied to calculate the Standardised Imprisonment Ratios (SPRs). The Bayesian Standardised Imprisonment Ratio allocates an assumed value of 100 for each area (adjusted for the age and sex distribution of the local population compared to national averages) then adjusts this according to whether the adjusted imprisonment rate is above or below the expected number based on the national average. An SPR of 200 would have twice the expected imprisonment rate, an SPR of 50 indicates half the expected imprisonment rate. The upper and lower limits of the confidence intervals are a guide to whether the SPR could have arisen by chance. If the lower confidence interval is greater than 100, the SPR ratio is high and is unlikely to have arisen by chance; if the upper confidence interval is less than 100, the SPR is low and is unlikely to have arisen by chance.

## **Results**

We first analysed the county level figures to get an indication of the distribution of prisoners. Three counties have significantly high numbers of prisoners: Dublin, Limerick and Longford.

The following pages give the tabulated results. Appendix A gives the results for the 208 urban and rural districts of Ireland.

County	Observed number imprisoned	Expected number imprisoned	Lower Confidence Interval	Bayesian Standardised Prison Ratio	Upper Confidence Interval
Carlow	56	101	44	58	71
Cavan	62	109	46	59	73
Clare	140	204	59	70	81
Cork	856	945	85	90	96
Donegal	77	261	25	31	39
Dublin	3909	2622	144	149	154
Galway	323	450	64	72	80
Kerry	187	258	63	72	83
Kildare	222	368	53	61	69
Kilkenny	83	159	44	54	65
Laois	90	122	61	73	89
Leitrim	26	47	41	59	79
Limerick	518	390	120	132	142
Longford	80	59	100	126	156
Louth	237	215	95	108	122
Mayo	161	215	64	75	85
Meath	156	284	48	56	65
Monaghan	80	108	60	73	89
Offaly	108	128	70	83	99
Roscommon	53	99	43	56	70
Sligo	58	112	41	54	67
Tipperary	219	275	70	79	90
Waterford	202	210	82	95	108
Westmeath	142	148	78	94	109
Wexford	125	229	47	56	66
Wicklow	182	233	67	77	89

Table 7.1 The three counties with significantly high SPRs are shaded. With the exceptions of Louth, Waterford and Westmeath, all other counties have significantly low SPRs.

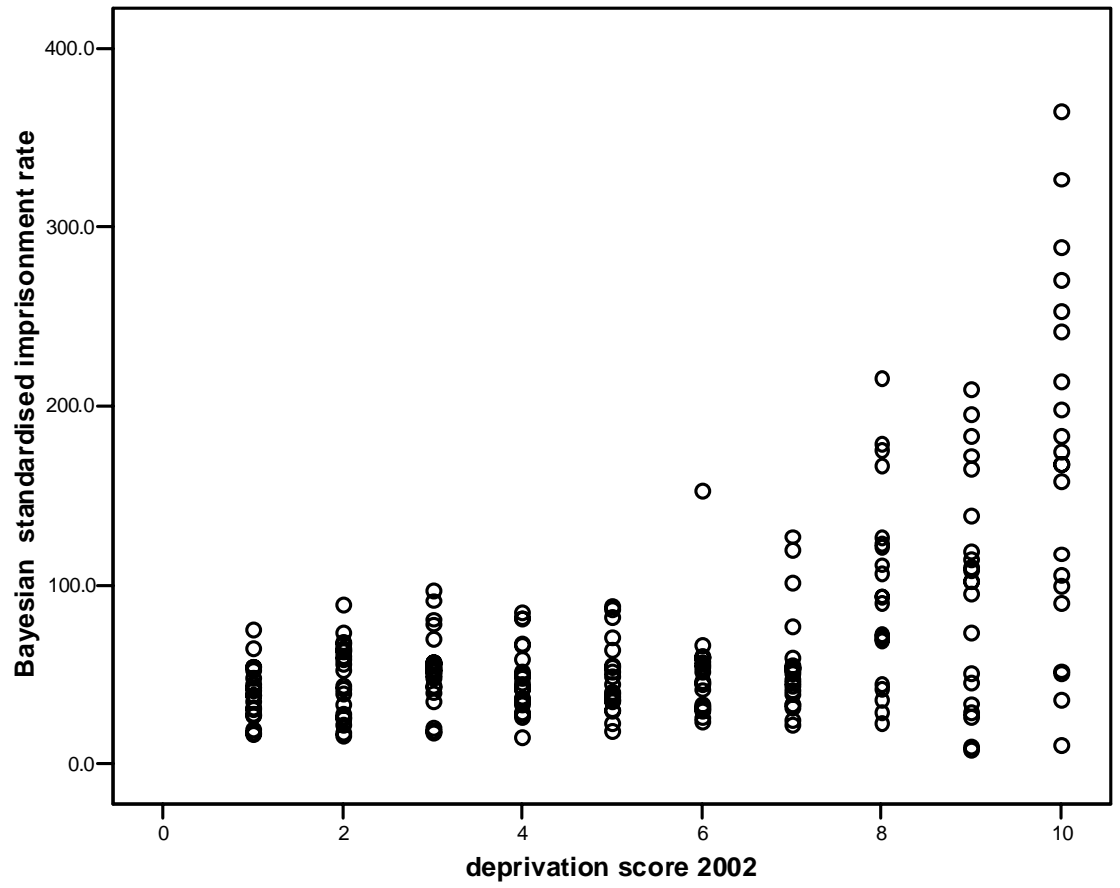


Figure 7.1

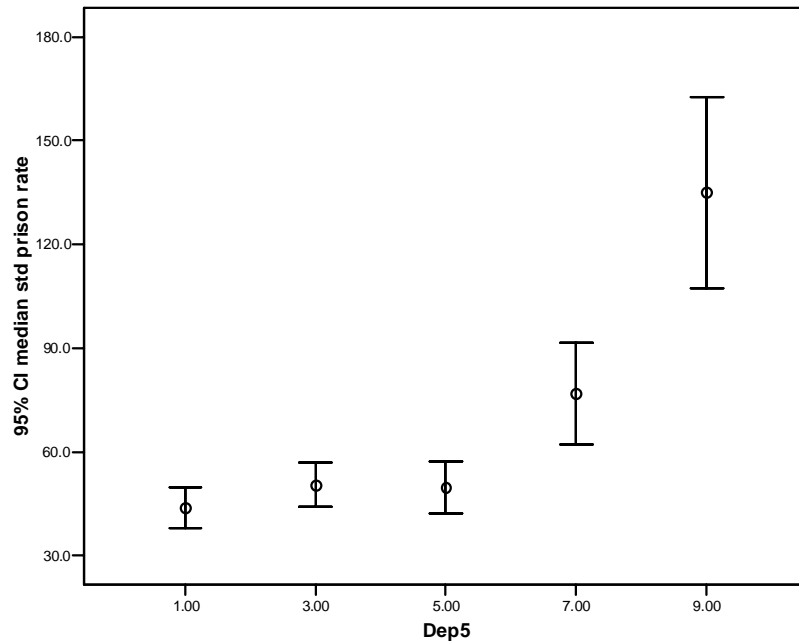
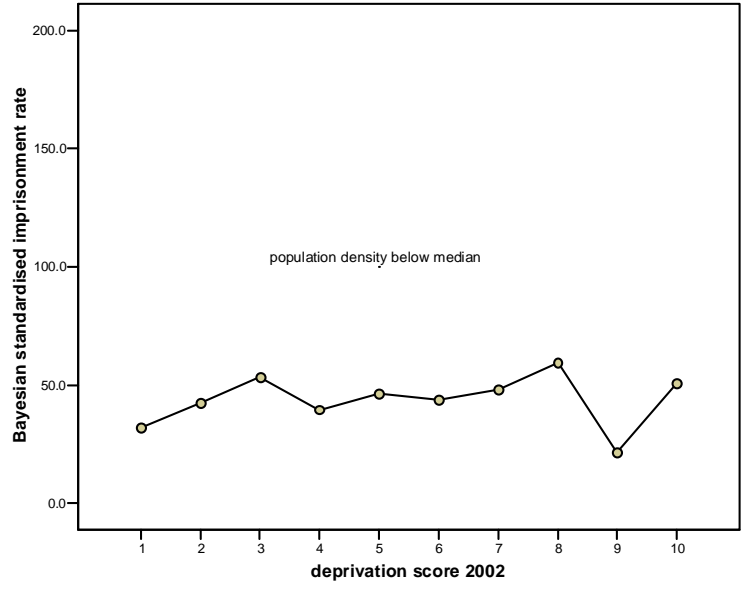
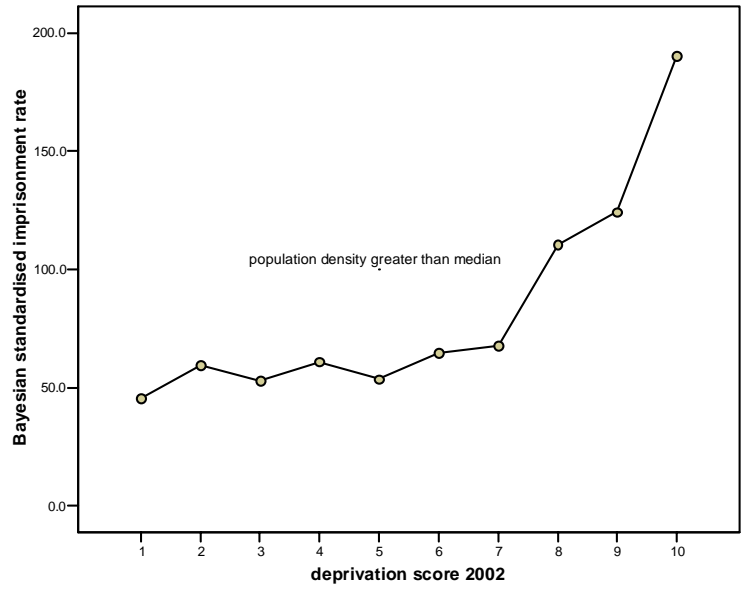


Figure 7.2

Plotting the data in Appendix A as shown in figures 7.1 and 7.2, there is a relationship between the Bayesian Standardised Imprisonment Ratios (SPRs) in the 208 districts and their deprivation scores, with a sharp increase in SPR above a deprivation score of 8.

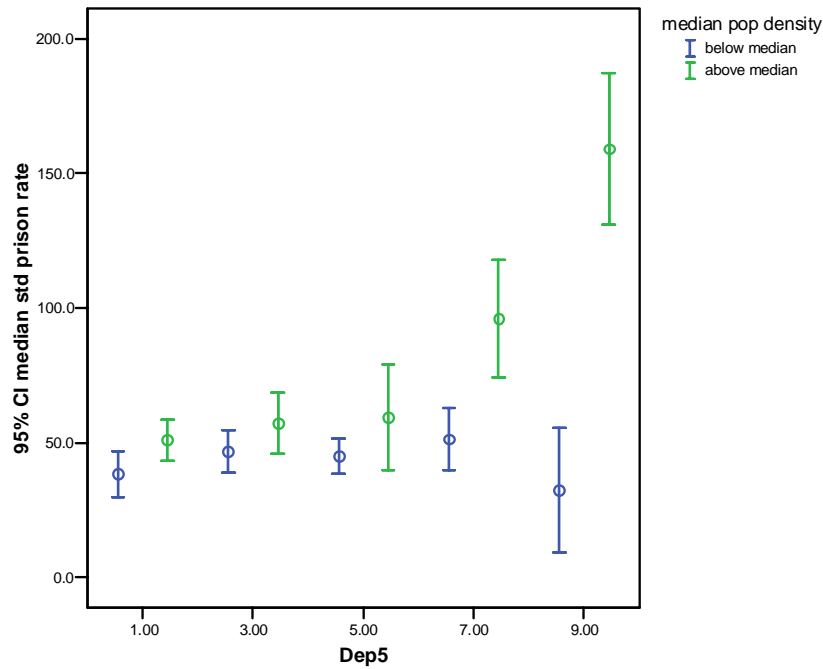
When this is further analysed, it becomes clear that this holds true only for those districts with population density above the median, i.e. it holds true only for urban districts (figures 7.3, 7.4 and 7.5).

As a further validity check, dispensing with the most sophisticated of statistical procedures and analysing simple imprisonment rates per 1,000 population, the same effect can be seen (figures 7.4, 7.5 and 7.6).



Figures 7.3 and 7.4: SPRs and SAHRU deprivation scores for 208 urban and rural districts, above and below the median population density.

Figure 7.5: same data as in figs 7.3 and 7.4, aggregated with 95% confidence intervals.



**Estimates**

Dependent Variable: median std prison rate

median pop density	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
below median	51.278(a)	4.567	42.274	60.283
above median	91.505(a)	4.567	82.500	100.509

a Covariates appearing in the model are evaluated at the following values: deprivation score 2002 = 5.52.

Analysis using SPSS-11, general linear model, univariate analysis of variance, with the Bayesian SPR as dependent variable, the median population density as fixed variable and deprivation score (rated 1 to 10) as covariate, yields  $F=67.3$ ,  $df=2$ ,  $p<0.001$  overall. For deprivation,  $F=60.3$ ,  $df=2$ ,  $p<0.001$  and for median population density,  $F=37.3$ ,  $df=1$ ,  $p<0.001$ .

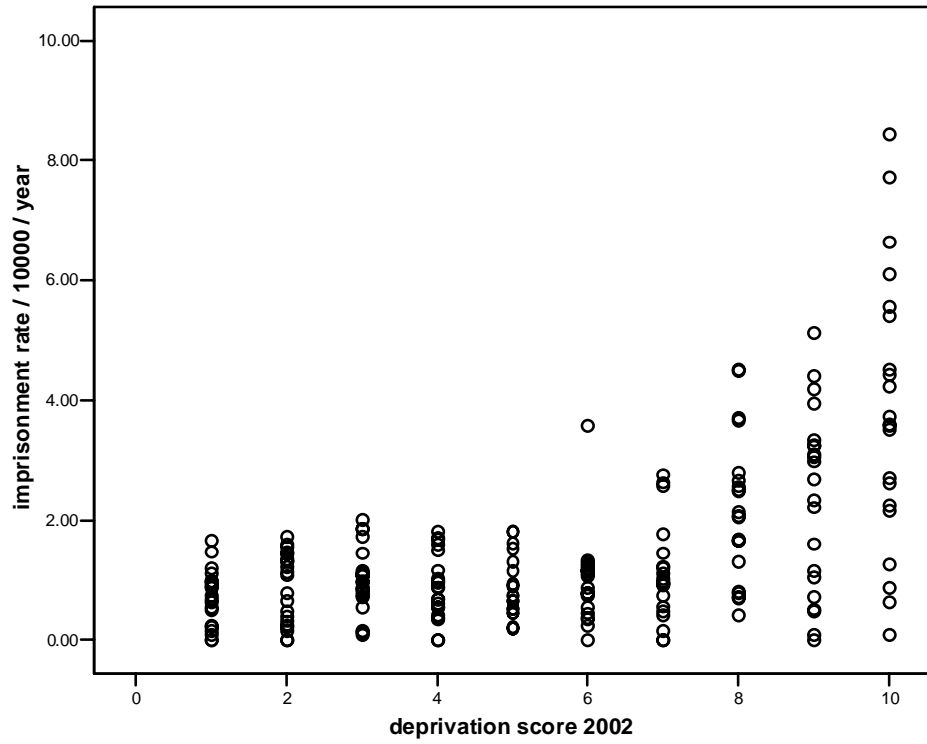


Figure 7.6: raw imprisonment rates per 1000 population for 208 urban and rural districts.

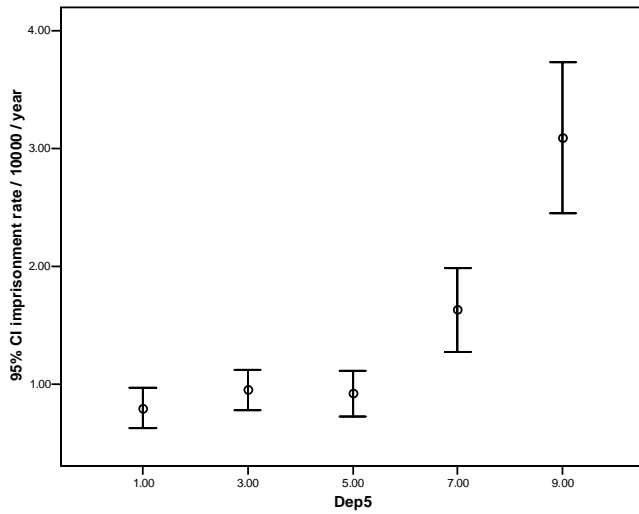
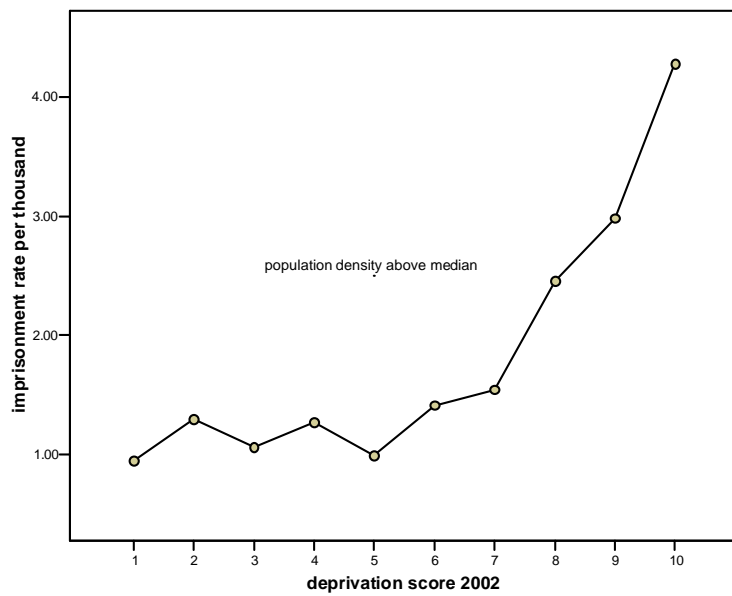
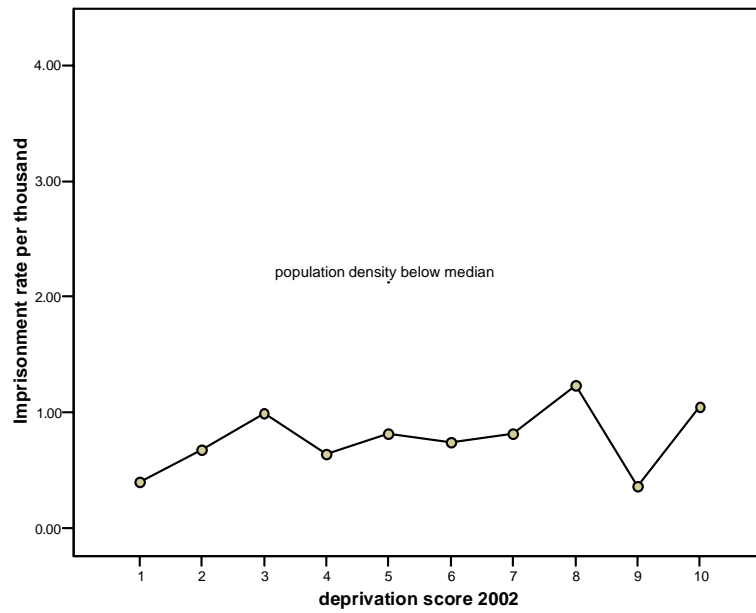


Figure 7.7: same data as in figure 7.6, aggregated, with 95% confidence intervals.





Figures 7.7 and 7.8: same data as in figure 7.6, separated according to population density.

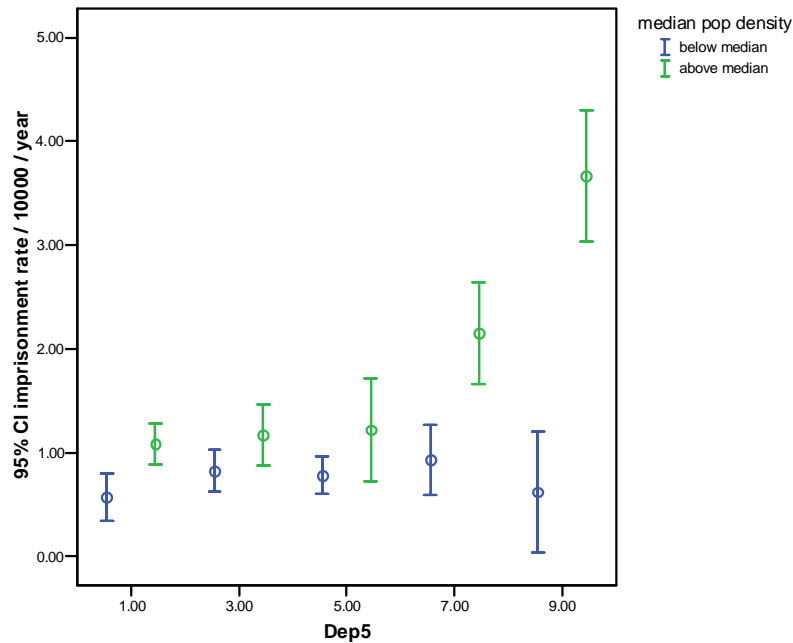


Figure 7.9: same data as in figures 7.7 and 7.8, aggregated and plotted with 95% confidence intervals.

#### Estimates

Dependent Variable: imprisonment rate / 10000 / year

median pop density	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
below median	.934(a)	.107	.724	1.145
above median	2.029(a)	.107	1.818	2.240

a Covariates appearing in the model are evaluated at the following values: deprivation score 2002 = 5.52.

Analysis using SPSS-11, general linear model, univariate analysis of variance, with the raw imprisonment rate per 1000 population as dependent variable, the median population density as fixed variable and deprivation score (rated 1 to 10) as covariate, yields  $F=81.2$ ,  $df=2$ ,  $p<0.001$  overall. For deprivation,  $F=66.8$ ,  $df=2$ ,  $p<0.001$  and for median population density,  $F=57.4$ ,  $df=1$ ,  $p<0.001$ .

We conclude from this that the Irish prisoner population is disproportionately drawn from those districts which combine high economic deprivation scores with high population density. Rural poverty does not carry with it the increased risk of imprisonment that is conveyed by urban poverty. Dublin accounted for 47% of individuals committed to prison, though only 31% would be expected for its population.

Further analysis of this data will clarify whether those prisoners with mental illness were similarly drawn from urban deprived areas. This seems very likely, since we already know that those transferred from prison to the Central Mental Hospital follow this pattern<sup>40</sup>.

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<sup>40</sup> C O'Neill, H Sinclair, A Kelly, HG Kennedy 2002. Interaction of forensic and general psychiatric services in Ireland: learning the lessons or repeating the mistakes? Irish Journal of Psychological Medicine 19(2): 48-54.

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## SUMMARY

### MENTAL ILLNESS

Table 8.1 shows shows the six month prevalences of mental illness by diagnosis in the five prison samples. The overall six month prevalence of mental illness (psychosis, affective disorders and anxiety disorders; ICD-10 codes F20-49) increases from the male committal sample (16%) through to the male sentenced sample (26.7%). The excess in the male sentenced sample is accounted for predominantly by the higher rates of anxiety disorders and to a lesser extent, affective disorders. It is possible that stress incurred upon the individual by time spent in prison caused the higher rates of anxiety and affective disorders in the cross-sectional sentenced population. The acute effects of withdrawal from alcohol and street drugs such as cannabis may also play a part.

Higher rates of substance misuse no doubt contributed to the same problem in this group of prisoners. As expected, the prevalence of substance misuse is high in all five survey samples. The high rate of psychosis in the cross section of male remand prisoners (7.4%) is striking, particularly since it is so much higher than the average in other countries, identified by Fazel and Danesh<sup>41</sup>. A possible explanation for this higher rate of psychosis is that those with serious mental illness are more likely to be remanded in custody. Taylor and Gunn<sup>42</sup> (1994) found this to be the case for mentally ill individuals even when charged with relatively minor offences.

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<sup>41</sup> Fazel S, Danesh J. 2002. Serious mental disorder in 23000 prisoners: a systematic review of 62 surveys. *Lancet* 359, 545-550.

<sup>42</sup> Taylor P, Gunn J 1999. Homicides by people with severe mental illness: myth and reality. *British Journal of Psychiatry* 174, 9-14.

The six month prevalence rates of mental illness can also be broadly compared with studies from other jurisdictions which have been summarized in the meta-analysis by Fazel and Danesh (2002) (table 8.2).

It can be seen that our figures for psychosis and depressive disorder are by and large similar to those generated by this meta-analysis. It can be confidently stated that there is an excess of mental illness in the prisons of all western developed nations. Stigma and discrimination operating at the systems or institutional level appears to be widespread in the criminal justice system, though it is likely that this operates through the stresses of educational failure, unemployment, urban drift and vulnerability to substance abuse and addictions.

**Table 8.1**

Six-month prevalence (%) of mental illness by diagnosis in committals, remand and sentenced male and female prisoners.

<b>Diagnosis</b>	<b>Male Committals N=615 (%)</b>	<b>Male Cross- sectional remand N=232 (weighted %)</b>	<b>Male Cross- sectional sentenced N=438 (weighted %)</b>	<b>Female committals N=94</b>	<b>Female cross- sectional N=92</b>
<b>Psychosis</b>	3.9%	7.6 %	2.7%	5.4%	5.4%
<b>Major Depressive Disorder</b>	5.4%	10.1 %	5.0%	8.5%	16.3%
<b>Anxiety disorders</b>	5.4%	6.8 %	13.8%	8.6%	15.2%
<b>Any substance misuse</b>	61.3%	69.5 %	79.6%	65.6%	65.2%
<b>Any mental illness</b>	16%	21.4 %	23.3%	25.8%	39.1%

When compared with the male samples it appears that the women have higher rates of psychosis, affective disorders, anxiety disorders and overall mental illness, though substance misuse is similar.

**Table 8.2**

Comparison of six-month prevalence rates of psychosis and depressive disorder in Irish prisons and other jurisdictions

	Irish prison study		Meta-analysis (Fazel and Danesh 2002)	
	Male Remand N=232	Male Sentenced N=438	Male Remand N=7193	Male Sentenced N=8854
<b>Psychosis Six-month prevalence (%)</b>	7.6 % [5.0 – 11.9]	2.7 % [1.6 – 4.7]	4% [3.6-4.5]	3% [2.7-3.4]
<b>Major Depressive Disorder six month prevalence (%)</b>	10.1 % [7.9 – 12.9]	5.0 % [3.3-7.5]	9% [8.4-9.7]	11% [10.4-11.7]

	Irish prison study	Meta-analysis (Fazel and Danesh 2002)
	Women remand and sentenced N=186	Women remand and sentenced N=2964
<b>Psychosis Six-month prevalence (%)</b>	5.4% [2.9-9.6]	4% [3.3-4.7]
<b>Depressive disorder six month prevalence (%)</b>	16.3% [10.1-25.2]	12% [10.9-13.2]

Various authors have examined the factors which contribute to the accumulation of the mentally ill in prisons. Penrose<sup>43</sup> studied prison and mental hospital populations in Europe and found a negative correlation. As the size of the prison population goes up the size of mental hospital populations goes down and vice versa. More recently, the de-institutionalisation of the seriously mentally ill in America has led to an increase in the number of mentally ill in prison according to Torrey<sup>44</sup>. A similar picture has emerged in

<sup>43</sup> Penrose LS. 1939. Mental disease and crime: outline of a comparative study of European statistics. *British Journal of Medical Psychology* 18, 1-18.

<sup>44</sup> Torrey EF 1995. Jails and prisons – America's new mental hospitals. *American Journal of Public Health* 85(12): 1611-3.

the United Kingdom. Gunn<sup>45</sup> in the UK showed similar findings to Torrey and argued that the magnitude of the relationship could not be artefactual. In the U.K. 5 % of those entering prison on remand were suffering from a psychosis<sup>46</sup>.

Social factors thought to have a bearing on the large numbers of mentally ill in our prisons include:

- Inadequately resourced community services.
- Homelessness.
- Co-morbid mental illness and substance misuse.
- Absence of mental health legislation and services to divert mentally disordered offenders from the criminal justice system (including Garda station and District Court liaison schemes, hospital diversion, compulsory community treatment orders etc.)

Tables 8.3, 8.4 and 8.5 compare socio-demographic, forensic and psychiatric profiles of those with mental illness and those without mental illness in the various survey samples. A general pattern can be observed for all three categories of mental illness. That is, those with mental illness were more likely to have been homeless and had higher rates of substance misuse than their prison counterparts without mental illness. Those with histories of psychosis were more likely to have been unemployed at the time of imprisonment. With respect to contact with psychiatric services, new committals with mental illness were more commonly in past contact with community services than forensic services despite frequent past imprisonment. The opposite was true for the cross section of remand and sentenced prisoners, a more highly selected group, where the mentally ill were more frequently in contact with the forensic psychiatry service. As would be expected, deliberate self harm and suicide attempts were more prevalent in those with histories of mental illness.

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<sup>45</sup> Gunn J. 2000. Future directions for treatment in forensic psychiatry. *British Journal of Psychiatry* **176**: 332-338.

<sup>46</sup> Birmingham L, Mason D, Grubin D. 1996. Prevalence of mental disorder in remand prisoners: consecutive case study. *British Medical Journal* **313**, 1521-1524.

**Table 8.3**

Comparison of lifetime psychotics with non-psychotics in committal, remand and sentenced prison samples

	Committals		Remand (Weighted means)		Sentenced (Weighted means)		Female committals		Female cross-sectional	
	Psychosis N=42	No psychosis N=573	Psychosis N=27	No psychosis N=205	Psychosis N=20	No psychosis N=418	Psychosis	No psychosis	Psychosis	No psychosis
Age (years)	29.6	29.8	30.6	29.8	34.6	31.8	32.1	27.3	40.4	31.2
Non-Irish %	19.0	19.3	18.3	16.7	8.5	11.9	10.0	14.5	14.3	28.2
Any previous sentence %	61.9	47.7	60.8	58.3	82.9	60.5	30.0	38.6	57.1	42.9
Any previous remand %	52.4	44.2	65.2	52.1	64.0	56.4	40.0	43.4	50.0	54.1
Ever been homeless %	45.2	29.6	52.2	40.1	60.0	26.3	80.0	50.6	42.9	52.4
Unemployed at time of arrest %	69.0	59.4	72.8	66.4	89.0	55.9	61.4	60.0	42.9	76.5
Single %	64.3	65.3	70.4	69.9	82.9	71.6	40.0	65.1	57.1	63.1
Ever attended child psychiatrist %	19.0	10.1	15.6	14.1	32.9	16.9	40.0	21.7	14.3	8.3
Ever attended adult psychiatrist %	69.0	14.6	60.1	25.7	56.0	22.5	90.0	27.7	85.7	35.7
Ever attended forensic psychiatrist %	28.5	9.3	78.4	28.1	92.1	41.0	20.0	13.3	71.4	61.2
History of self harm %	45.2	17.4	45.2	25.0	67.1	23.7	70.0	34.9	33.3	41.7



Any substance use disorder %	85.7	68.0	87.0	73.6	98.7	85.4	80.0	68.7	42.9	73.5
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**Table 8.4**

Comparison of individuals with lifetime prevalence of affective disorders with those without in committal, remand and sentenced prison samples

	Committals N=615		Remand N=232 (weighted means)		Sentenced N=438 (weighted means)		Female committals N=93		Female cross-sectional N=92	
	Affective disorder	No affective disorder	Affective disorder	No affective disorder	Affective disorder	No affective disorder	Affective disorder	No affective disorder	Affective disorder	No affective disorder
Age (years)	31.9	29.5	31.6	29.6	35.4	31.6	32.5	26.3	30.3	33.1
Non-Irish %	15.5	19.9	15.7	17.0	10.9	12.4	13.6	22.5	1.9	12.8
Any previous sentence %	45.1	49.1	53.6	52.7	58.9	62.1	36.6	40.9	43.6	44.2
Any previous remand %	29.6	46.5	50.3	53.9	52.5	57.7	50.0	41.4	56.4	51.9
Ever been homeless %	38.0	29.6	48.1	39.6	31.9	27.0	63.6	50.7	64.1	42.3
Unemployed at time of arrest %	55.0	61.2	69.1	67.2	46.8	59.8	59.1	62.0	76.9	71.7
Single %	62.0	65.4	63.5	38.4	62.5	74.4	59.1	63.4	59.0	65.4
Ever attended child psychiatrist %	8.5	11.0	17.5	16.3	15.6	17.9	18.2	21.1	10.2	7.7
Ever attended adult psychiatrist %	33.9	16.4	55.1	25.0	39.0	19.0	59.1	26.7	48.7	52.7
Ever attended forensic psychiatrist %	16.9	10.0	55.3	30.0	59.4	38.3	18.2	12.6	74.4	52.9
History of self harm %	36.6	17.1	46.2	24.2	39.1	21.4	45.4	36.7	60.5	26.9
Any substance use disorder %	69.0	69.2	74.0	73.6	89.1	85.0	72.7	69.0	79.5	64.7

**Table 8.5**

Comparison of individuals with lifetime prevalence of anxiety disorders with those without in committal, remand, sentenced and female prison samples

	Committals N= 615		Remand N=232		Sentenced N=438		Female committals N=93		Female cross-sectional N=92	
	Anxiety disorder N=	No anxiety disorder N=	Anxiety disorder N=	No anxiety disorder N=	Anxiety disorder N=	No anxiety disorder N=	Anxiety disorder N=9	No anxiety disorder N=84	Anxiety disorder N=	No anxiety disorder N=
Age (years)	29.1	29.9	30.2	29.8	33.9	31.6	31.0	27.4	37.5	30.6
Non-Irish %	7.9	20.3	24.0	15.1	11.3	10.9	22.2	20.2	23.6	40.0
Any previous sentence %	68.0	47.2	52.0	52.7	62.0	56.2	55.6	35.7	27.8	47.9
Any previous remand %	63.2	43.3	40.0	54.8	55.7	52.4	33.3	44.6	38.9	57.5
Ever been homeless %	44.7	29.8	52.8	37.4	32.4	26.4	66.7	22.4	50.0	52.1
Unemployed at time of arrest %	57.9	60.5	72.0	63.7	60.6	52.9	66.7	60.7	61.1	77.0
Single %	68.4	64.7	68.0	71.7	62.0	72.4	33.3	65.5	44.4	67.1
Ever attended child psychiatrist %	10.8	10.7	16.0	16.1	18.3	16.4	33.3	22.5	0	10.9
Ever attended adult psychiatrist %	43.2	16.6	52.0	29.3	31.0	23.8	77.8	29.8	38.9	39.7
Ever attended forensic	21.1	10.0	48.0	35.6	61.4	45.4	22.2	13.1	66.7	60.8
History of self harm %	31.6	18.5	52.0	27.8	38.0	26.4	77.8	34.5	38.9	41.7
Any substance use disorder	86.8	68.4	66.7	81.5	84.5	83.4	88.9	67.9	61.1	73.6

**Table 8.6**

Social and developmental details of male committal, remand , sentenced and female prisoner samples.

	Committals N=615	Remand N=232	Sentenced N=438	Female committals N=94	Female cross- section N=92
Age (years)	29.8	29.9	32.0	27.4	31.5
White Irish %	80.7	84.1	89.0	78.7	85.9
Travellers %	5.4	6.0	9.8	10.6	6.5
Any previous sentence %	48.6	53.0	57.1	37.2	44.0
Any previous remand %	44.7	53.5	52.9	44.1	53.8
Special schooling %	13.1	17.5	18.5	13.8	12.0
Literate %	89.6	89.2	89.2	89.4	98.9
School suspension/expulsion %	47.4	48.2	54.8	38.3	29.9
History of bullying Victim % Perpetrator %	15.8 9.4	12.9 11.6	19.5 12.4	20.2 4.5	13.8 6.9
Age left school (years)	15.1	14.9	14.6	14.8	14.5
Taken into care %	11.1	18.2	19.0	19.1	11.1
Childhood solvent Misuse %	28.1	38.4	33.0	24.5	26.7
Childhood delinquency %	46.3	50.0	51.4	41.5	36.7
Unemployed at time of arrest %	58.9	64.1	52.1	61.3	73.9
Married %	34.7	28.6	29.3	30.1	20.7
Ever homeless %	30.7	39.9	27.4	46.2	51.6

**Table 8.7**

Medical histories in male committal, remand and sentenced prisoner samples, and female samples.

	Committals N=615	Remand N=232	Sentenced N=438	Female committal N=94	Female cross- sectional N=92
Prescription medication prior to committal:					
Benzodiazepines	10.8 %	14.8 %	11.9 %	29.0%	25.6%
Opiates*	15.2 %	9.6 %	4.6 %	35.5%	33.3%
Antidepressant	6.2 %	7.4 %	5.7 %	24.7%	27.8%
Antipsychotic	2.9 %	5.2 %	1.6 %	7.5%	2.2%
Blood borne viruses:					
Hepatitis B	1.3 %	0.9 %	1.6 %	4.3%	2.2%
Hepatitis C	10.8 %	12.2 %	11.2 %	29.0%	34.1%
HIV	1.6 %	0.9 %	0.9 %	6.5%	7.6%

\*opiates = predominantly methadone, with some other opiates prescribed for the same purpose outside Dublin.

Table 8.7 demonstrates the extent of substance use disorders among the prison population. Many enter prison on methadone programmes. The rate of prescription of psychotropic medication is in keeping with the six month prevalence of mental illness. It is worrying that so many have been receiving prescriptions for benzodiazepines (sleeping tablets and anti-anxiety medication) when they are contra-indicated for longer term treatments and ample evidence of abuse and dependence on these drugs in this population. The high self-reported prevalence of Hepatitis C is consistent with widespread intravenous drug use and the practice of sharing syringes.

**Table 8.8**

Psychiatric histories in male committal, remand and sentenced prisoner samples and in female samples.

	Committals N=615	Remand N=232	Sentenced N=438	Female committals N=94	Female cross- section N=92
Attended child psychiatrist %	10.7	13.9	16.7	23.6	8.8
Attended community Adult psychiatrist %	18.3	31.6	24.9	34.4	39.6
Attended forensic psychiatrist %	10.6	36.8	48.0	9.7	57.8
Mean age at first contact with psychiatrist (years)	10.2	14.9	16.7	12.7	18.9
Past history of deliberate self harm %	19.4	30.8	28.3	38.7	41.1
History of deliberate self harm in custody %	4.6	11.2	13.1	10.8	11.9
Attended drug treatment clinic prior to committal %	16.5	12.2	5.5	35.5	29.3
Currently on methadone maintenance programme %	16.7	14.3	3.9	35.5	34.8

**Table 8.9**

Treatment needs of male committal, remand and sentenced prisoner populations and in female samples.

	Committals N=615	Remand N=232	Sentenced N=438	Female committals N=94	Female cross- sectional N=92
Needs referral to psychiatrist %	19.8	9.2	5.5	32.3	48.9
Needs transfer to psychiatric hospital %	3.9	7.6	2.7	5.4	5.4
Needs referral to drug treatment service %	38.6	53.1	60.3	53.8	57.6
Needs referral to alcohol treatment service %	36.8	41.9	47.6	28.0	26.1
Needs psychiatric follow up after release %	17.3	18.1	7.9	28.0	20.7
Needs follow up by drug treatment service on release %	41.4	60.4	58.5	53.8	58.7
Needs follow up by alcohol treatment service on release %	36.2	41.0	46.6	28.0	25.0

### Committal Screening

The current system operated in Cloverhill Prison whereby a nurse carries out a screening interview on all new committals covering both physical, psychiatric and substance abuse problems and risks should be extended to allow a more detailed screening interview to increase the sensitivity of the test. Good examples can be found in use in New South Wales<sup>47</sup> and Victoria in Australia, and in Cook County and New York City in the U.S.A. This would have relatively modest implications for manpower resources, but would require substantial resources to cope with the problems identified, as set out below.

<sup>47</sup> Penny R, Matthews R. 2001. Corrections Health Service, Annual Report 2000/2001. NSW Health2001. Your Guide to MH-OAT. Clinicians' reference guide to NSW mental health outcomes and assessment training. New South Wales Health Department.

It could be argued that the screening service should be located in District courts<sup>48</sup> or even in Garda stations<sup>49</sup>, where those charged with relatively minor offences could be diverted to appropriate local services<sup>50</sup>.

### **Psychiatric In-Reach Clinics**

The 20% of male committals in need of referral to a psychiatrist translates to at least 1,400 individual new assessments per annum, though many of these would currently be committed several times each year. This would require at least 10 clinic sessions a week (assuming three new assessments per session), with between two and three times that number for follow-up treatment sessions (assuming that a follow-up interview takes half as long as a first assessment). For female committals, the 32% in need of referral to a psychiatrist equates to approximately 320 new cases per annum or between two and three clinic sessions per week, with twice or three times that number for follow-up treatment sessions. These in-reach clinics should follow the model of multi-disciplinary working whereby general practitioners, prison nursing staff, probation and welfare officers and health-care managers work closely with psychiatrists and forensic specialist nurses to assess, treat and plan post-release aftercare. Examples of this model of mental health care delivery can be seen currently at Cloverhill, Mountjoy and the Dochas Centre, amongst others.

Further and extensive in-input from drugs counsellors and addictions specialist teams is required to provide a service for the 60 –70% with drugs and alcohol problems in remand and sentenced populations. This is so pervasive that traditional ‘clinic’ models are unlikely to provide the best solution for most. A generalised strategy to change the prevailing ‘pro-drug’ culture within the prison population should include graded incentives for short-term and long-term drug-free status, drug-free areas in remand prisons and drug-free prisons for longer-term prisoners, and extensive access to educational and motivational material regarding alcohol and drugs. Abstinence should be preferentially rewarded (e.g. extra remission of sentence for those who remain drug-free over long-periods), with harm reduction programmes for all.

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<sup>48</sup> James D. 1999. Court diversion at 10 years: can it work, does it work and has it a future? *Journal of Forensic Psychiatry* 10: 507-524.

<sup>49</sup> James D. 2000. Police station diversion schemes: role and efficiency in central London. *Journal of Forensic Psychiatry* 11, 532-555.

<sup>50</sup> Wexler DB (ed) 1990. *Therapeutic Jurisprudence: the law as a therapeutic agent*. Durham, Carolina academic Press.

In the sentenced population, substantial additional psychiatric in-reach clinics are required, though it is possible that increasing the proportion of prisoners who are drug-free, through incentive schemes and drug-free areas, would substantially offset this need.



**Table 8.10**

Forensic psychiatric bed need, based on six month prevalence of psychosis in cross-sectional samples.

	number needing transfer in total prison population at any point
Male remand prisoners (n=466)	35
Male sentenced prisoners (n=2721)	73
<b>Total males</b>	<b>108</b>
Female remand and sentenced (n=104)	6

**Table 8.11**

Estimate of number of acute psychiatric hospital transfers from prison required per year using two different indices.

	number needing hospital transfer at point of reception/year	number sent to pad for more than three days due to a mental health reason /year	estimate of number of acute admissions to CMH from prison/year
Male committals (8673/year)	338	300	<b>320</b>
Female committals (1043/year)	56	Unknown	<b>56</b>

Note: if the average length of stay in hospital for committal patients is 60 days, then 19,254 occupied bed days per year are required, or 52 beds for male acute admissions. This does not include the estimated 108 beds in table 8.10, but would probably greatly reduce the required 35 remand beds contained within that figure. It would probably not reduce the estimated 73 'sentenced' beds i.e. between 125 and 160 extra male beds would be required to provide a timely and sufficient service for current levels of activity within the Irish prison population. This does not include those found unfit to plead, legally insane or those transferred from local

psychiatric intensive care units under the Mental Treatment Act (1945) / Mental Health Act (2001).

Note: for 56 female acute admissions, with average length of stay 60 days, 9 beds would be required. This would overlap to some extent with the 6 beds required for the remand and sentenced population. However, estimates based only on the prevalence of psychosis are likely to be substantial under-estimates of need in the female prison population, where affective disorders and borderline disorders add substantially to the need for transfer to secure psychiatric beds. An estimate of 15 is very conservative.

Some mental health needs can be adequately dealt with in the prison setting either by the visiting psychiatrists or general practitioners, when they present relatively low or manageable risk and do not require either the special therapeutic resources or the added therapeutic security of a hospital setting. In the modern practice of psychiatry, it is seldom helpful to admit a patient from the community to hospital for the treatment of uncomplicated addiction or for a range of anxiety and depressive disorders and personality disorders, all of which are better treated as out-patients in the community. The transfer of this model to a prison setting is not without controversy but is now the norm in other jurisdictions.

Many patients in the acute phase of serious mental illness such as psychosis or major mood disorders continue to require inpatient hospital treatment. From these clinical interviews a level of need was established for each individual with respect to substance use problems and psychiatric illness (table 8.9). Extrapolating from these figures, an estimate can be made for the total number of transfers required to the Central Mental Hospital (CMH) (table 8.10 and 8.11). Figures for the total male and female remand and sentenced populations and yearly committals are taken from the Irish Prison Service Report 2002. The average length of stay of acute admissions to the CMH is sixty days. This means that one bed can provide for six admissions per year. However, about 4% of these admissions 'convert' into new long-stay in-patients who occupy hospital beds for more than two years. From the estimate of acute admissions needed per year (table 7.11) 52 beds are required to accommodate this number of hospital transfers, without allowing for 'new long-stays'. As it stands the CMH provides 74 functioning beds catering for short, medium and accumulated long stay patients. Only sixteen of the beds currently provide for acute admissions (a capacity of 96 admissions per annum) leaving a short fall of 36 acute beds. Between 73 and 108 further male beds are required for the larger population of the severely mentally ill in the male sentenced and remanded prison population. Those found unfit to plead or insane and patients detained under the Mental Treatment / Mental Health Acts require further secure psychiatric beds, predominantly medium and long-term.

## DISCUSSION AND SERVICE IMPLICATIONS

### THE FUTURE OF MENTAL HEALTH SERVICE PROVISION IN IRISH PRISONS

Predicting future need for psychiatric services depends on a prediction of the future prison population. The best attempts at such predictions demonstrate that the future size of the prison population is largely a matter of political policy rather than an epidemiological function of the projected age structure or geographic and economic characteristics of the population as it grows<sup>51</sup>. Since this is an imponderable, no attempt at future growth projection is attempted here, though a prudent planner would allow for continued expansion of the prison population in line with most other jurisdictions.

How best to provide for the needs of mentally disordered offenders has exercised those responsible for providing such services for many years, both in Ireland<sup>52</sup> and in other jurisdictions<sup>53</sup>. The responsibility to provide mental health services in prison of at least equivalent quality to the services available in the community is the most basic of ethical obligations<sup>54</sup>.

Good clinical practice in psychiatry incorporates a multidisciplinary approach based on the active participation of patients, families and health care staff (and other agencies where appropriate). The patient should be given the greatest degree of autonomy possible. There are many alternatives to coercive treatment, though the most progressive of these depend on therapeutic jurisprudence and the avoidance of the

<sup>51</sup> Grove P, MacCleod J, Godfrey D. 1998. Forecasting the prison population. *Operational Research Insight* 11, 3-9.

<sup>52</sup> Henchey S. (chair) 1978. Treatment and care of persons suffering from mental disorder who appear before the courts on criminal charges (Third Interim Report of the Interdepartmental Committee on Mentally Ill and Maladjusted Persons – The Henchey Committee). Dublin: The Stationary Office.

Mac Bride S. (chairman) 1980. Report of the Commission of Enquiry into the Irish Prison System.

Whittaker TK (chairman) *Report of the Committee of Inquiry into the Penal System*. Dublin, The Stationary Office.

O'Brien B. (Chair) 1991. *Report of the Advisory Group on Prison Deaths*. Dublin: The Stationary Office.

Woods J (chairperson) 1999. *Report of the National Steering Group on Deaths in Prisons*. Dublin: The Stationary Office.

<sup>53</sup> Reed J, (1992) 'Review of Health and Social Services for Mentally Disordered Offenders and others Requiring Similar Services', Department of Health and Home Office, HMSO.

<sup>54</sup> HG Kennedy 2003. Human Rights Standards and Mental Health in Prisons *Medico-Legal Journal of Ireland* 8: 58-65.

experience of coercion through the use of fair legal processes and involvement of the patient in choosing the treatment plan<sup>55</sup>. These require modern legislation.

Prisoners come to the prison with multiple vulnerabilities and risk factors for mental illness. By definition prison curtails freedom and imposes levels of environmental<sup>56</sup> and social stress<sup>57</sup> which limits the scope for treating or ameliorating mental illness<sup>58</sup> and may actually be harmful to health<sup>59</sup>. Despite the constraints of incarceration, the aim for mental health care of prisoners should be to provide equivalence with care available in the community, as far as possible.

As it stands, specialist psychiatric care is provided in all the main prisons on an out-patient sessional basis, increasingly delivered by modern multi-disciplinary 'in-reach' teams, at least in the prisons within reach of Dublin. Where a prisoner requires in-patient psychiatric care arrangements are made for the prisoner to be transferred to the Central Mental Hospital in Dublin for treatment. There are three major points at which the current system departs from an equivalence with community psychiatric practice.

1. There is incomplete provision of treatment modalities in the prisons, for example psychology, occupational therapy, counsellors etc. which would be available on an out patient basis or as part of a day hospital treatment programme in the community. A multidisciplinary approach is not widely available in prison.
2. Patients requiring in patient hospital treatment are transferred to a special security hospital (Central Mental Hospital) regardless of their security needs.
3. Acutely disturbed patients with mental illness in prison are often confined to isolation cells ('strip'/'pad'). Beyond the immediate containment of a crisis situation solitary confinement has no therapeutic benefit for the mentally disordered prisoner, and can be harmful if prolonged for more than the shortest of durations. The condemnation of this practice by international organizations (Amnesty, the Council of Europe Committee for the Prevention of Cruel and Inhumane Treatments and Torture, CPT) has been widely publicized.

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<sup>55</sup> Monahan J, Bonnie RJ, Appelbaum PS, Hyde PS, Steadman HJ, Swartz MS. 2001. Mandated Community Treatment: Beyond Outpatient Commitment. *Psychiatric Services* 52, 1198-2005.

<sup>56</sup> Canter D. 1987. Implications for 'new generation' prisons of existing psychological research into prison design. In: AE Bottoms & R Light (eds) *Problems of Long Term Imprisonment*. Aldershot, Craver.

<sup>57</sup> Baum A, Paulus PB 1987. Crowding. In: D Stokols & I Altman (eds) *Handbook of Environmental Psychology*. New York, Wiley.

<sup>58</sup> Duffy D, Linihan S, Kennedy HG. 2003. Screening prisoners for mental disorders. *Psychiatric Bulletin* 27, 241-242.

<sup>59</sup> Cox VC, Paulus PB, McCain G et al 1982. The relationship between crowding and health. In: A Baum & JE Singer (eds) *Advances in Environmental Psychiatry*. Hillside NJ, Erlbaum.

Sommer R 1979. Are crowded jails harmful? Field and laboratory on trial. *American Journal of Forensic Psychiatry* 1, 7-21.

To remedy these problems appropriate facilities are needed either within prisons or in the community. In their report of 2004 The Group to Review the Structure and Organisation of Prison Health Care Services endorsed the concept that there should be equivalence of care between the prison population and the general population and considered that development of prison psychiatric units and hospitals should be avoided.

In order to achieve equivalence of treatment in line with these recommendations there needs to be a national expansion of local secure psychiatric services, for example psychiatric intensive care units (i.e. acute low-secure psychiatric units) and long-term low-secure psychiatric units. A significant number of mentally disordered prisoners are detained in custody on relatively minor charges where treatment in such a community psychiatric service would be more appropriate, serving both the patients' best interest and the public at large. Others are still remanded in custody solely for the preparation of a psychiatric court report, an unnecessary and regrettable practice. Under current legislation (Mental Treatment Act 1945) the court cannot make any disposal for such individuals to be assessed and if necessary treated in the mental health system, thereby keeping them out of the criminal justice system. Many examples of such legislative instruments and services can be found in other jurisdictions<sup>60</sup>.

## **MENTAL ILLNESS IN IRISH PRISONS AND IMPLICATIONS FOR SERVICE PROVISION**

A study published by the Central Mental Hospital in 1996 indicated that ten of two hundred and thirty five prisoners examined had a substantial or disabling psychiatric diagnosis. The current study has shown similar rates<sup>61</sup>. As discussed in chapter 7, there is mounting evidence to suggest that closure of psychiatric hospitals coupled with under-resourced community care has led to an accumulation of mentally ill individuals in US and UK prisons. It is a commonly held, although not universally accepted belief that the same applies to this jurisdiction. Whatever the cause, there is no doubt that many mentally ill individuals languish in prison.

Such individuals frequently have other disadvantages including homelessness and substance misuse. Difficulties are often experienced in successfully linking these individuals into community psychiatric services. This leads to the so-called revolving door

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<sup>60</sup> Joseph, P.L., Potter, M. 1990. Mentally Abnormal Homeless Offenders; Diversion from Custody. *Health Trends* **22**, 51-53. James DV 1999. Court diversion at 10 years: can it work, does it work and has it a future? *Journal of Forensic Psychiatry* **10**: 507-524.

<sup>61</sup> Smith C, O'Neill H, Tobin J, Walshe D, Dooley E. 1996. Mental disorders detected in an Irish prison sample. *Criminal Behaviour and Mental Health* **6**:177-183. Mohan D, Scully P, Collins C, Smith C. 1997. Psychiatric disorder in an Irish female prison. *Criminal Behaviour and Mental Health* **7**:229-235.

phenomenon where multiple disadvantages lead to their continual circulation through the criminal justice system and mental health services.

## **SUBSTANCE MISUSE, CO-MORBIDITY AND VIOLENCE**

Substance misuse is widely prevalent in Irish prisons. A high proportion of prisoners with mental illness have co-morbid substance use disorders.

The Epidemiologic Catchment Area study<sup>62</sup> suggests a four-fold increased risk of substance misuse in schizophrenia and a six-fold risk increased risk in mania. In the U.K., a recent survey of prisoners indicated that those prisoners with psychoses were much more likely to have used amphetamine or cocaine before the age of 16 and to have been dependent on cannabis<sup>63</sup>. In our studies substance misuse was no more prevalent in those with psychosis or mania than in other prison committals or inmates. There is also good evidence that in those with serious mental illness there is an increased risk of violent offending in those with co-morbid substance misuse<sup>64</sup> including alcohol.

These individuals are difficult to engage and treat successfully and controversy remains as to what the best management strategy is for this group. Prison offers an opportunity to address these problems. Prison drug treatment services and psychiatric services run independently of each other but given the high rates of co-morbidity there is a case for a more integrated approach.

The Irish prison service approach to drug treatment involves provision of detoxification, methadone maintenance, education programmes, an information forum, addiction counselling, drug therapy programmes and the operation of drug free areas.

Emphasis is placed on the provision of methadone maintenance to those prisoners who were already receiving this via drug treatment services prior to committal. Opiate dependent persons not attending a community drug treatment service on committal usually undergo a brief methadone detoxification programme. This is in keeping with the national drugs strategy for 2001 to 2008, the overall objective of which is to reduce the harm caused to individuals and society by the misuse of drugs<sup>65</sup>. When considering harm, criminal conviction has been used as a proxy measure in drug misusing individuals. Indeed

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<sup>62</sup> Robins R, Regier D. 1991. Psychiatric disorders in America: the epidemiological catchment area study. New York: The Free Press.

<sup>63</sup> Farrell M, Boys A, Bebbington P, Brugha T, Coid J, Jenkins R, Lewis G, Meltzer H, Marsden J, Singleton N, Taylor C. 2002. Psychosis and drug dependence: results from a national survey of prisoners. *British Journal of Psychiatry* 181, 393-398.

<sup>64</sup> Hodgins S, Mednick SA, Brennan PA, Schulsinger F, Engberg M. 1996. Mental disorder and crime: evidence from a Danish birth cohort. *Archives of General Psychiatry* 53, 489-496.; Hodgins S 1992. Mental disorder, intellectual deficiency and crime: evidence from a birth cohort. *Archives of General Psychiatry* 49, 476-483.

<sup>65</sup> Farrell M, Gerarda C, Marsden J. 2000. *External Review of Drug Services for the Eastern Health Board*. London: National Addiction Centre, Institute of Psychiatry.

one rationale for methadone maintenance is that patients stabilized on such a programme will no longer need to support an expensive heroin habit through acquisitive crime. Results from our committal survey showed 101 males were on methadone maintenance programmes prior to committal to prison which represents 1.95% (101/5173)<sup>66</sup> of all those registered on methadone treatment programmes in Ireland. 109 heroin dependent men not attending methadone maintenance clinics were screened during the same study period. This represents 2.4% of the estimated male heroin users not on methadone maintenance (109/4625 i.e. of circa 9,798 total male opiate users<sup>67</sup> less 5173 registered for methadone maintenance) in Ireland, who mainly reside in the Dublin region. This would suggest that those attending drug treatment services in the community on methadone programmes tend to be remanded to custody less frequently than heroin users who are not on community drug treatment programmes (relative risk 0.83, 95% CI 0.63 to 1.08, attributable risk -0.10, 95% CI -0.24 to +0.04). Although the reduction in risk does not reach statistical significance, the methadone maintenance group is selected for more severe heroin dependence and associated problems, while the heroin users include a proportion of casual or short-term users. There is a pressing need to extend the initiation of methadone maintenance to chaotic heroin users while in prison. This would require either additional resources for community methadone programmes so that methadone treatment started in prison could be continued on release, or prioritising prisoner users on community waiting lists. The potential benefits in preventing deaths due to accidental overdose both in prison and in the weeks immediately after release from prison should justify this.

A large number of individuals entering prison have alcohol use disorders. If they are dependent users a brief benzodiazepine detoxification programme with thiamine supplements is used to treat or prevent potentially fatal alcohol withdrawal syndrome.

Although prisoners have access to Alcoholics Anonymous and Narcotics Anonymous there is little provision of drug and alcohol treatment for those who contemplate longer term abstinence.

While it is essential to continue methadone programmes in prison, there is clearly a place for alternative treatment and harm reduction strategies aimed not only at heroin dependence and alcohol but the increasing burden of morbidity associated with misuse of other substances including cocaine, cannabis and benzodiazepines. We suggest that the 'clinic' model is unlikely to have a substantial impact within the prison population, nor can counselling services prevail with individuals when the culture within the prison population is so orientated towards the use of intoxicants. Only a general regime policy

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<sup>66</sup> Central Treatment List, Drug Treatment Centre Board: 2002 total number 7,596, women 2,423, men 5173..

<sup>67</sup> A Kelly, M Carvalho, C Teljeur (2003) Prevalence of Opiate Use in Ireland 2000-2001 a 3-year capture Recapture Study. Small Area Health Research Unit TCD and National Advisory Committee on Drugs, Dublin.

which incentivises and facilitates abstinence can change this culture. Positive incentives such as remission of sentence, privileged regimes and drug-free areas for those who demonstrate prolonged abstinence from all intoxicants could be introduced in prisons and are likely to have substantial benefits for health both within the prison and in the wider community.

## **TRAVELLERS AND OTHER ETHNIC MINORITIES**

Historically, the prison system contained almost exclusively Irish nationals with occasional small numbers of other (generally English speaking) nationalities. In recent years, however, the increased number of non-national (often non-English speaking) people entering the country has brought about an increase in the number of such individuals entering the prison system.

Travellers comprise a small proportion of the national population estimated at 0.58% of the entire population in the last census. They are one of the most marginalised and disadvantaged groups in Irish society<sup>68</sup>. Linehan et al<sup>69</sup> found that male travellers had a relative risk of imprisonment compared to the settled community of 17.4.

Members of the travelling community were disproportionately represented among the prison population in all our studies as shown in table 9.1

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<sup>68</sup> Traveller Accommodation Unit (1999), Department of Environment and Local Government, Dublin.  
Central Statistics Office (1998). Statistical Special Release: The Demographic situation of the Traveller Community in April 1996.  
Government Publications Office, Dublin.

<sup>69</sup> S Linehan, D Duffy H O'Neill, C O'Neill, HG Kennedy 2002 Irish Travellers and forensic mental health. Irish Journal of Psychological Medicine 19(3):76-79.



**Table 9.1**

Ethnic representation in prisoners on remand, sentenced and on committal to prison.

	Men on committal to prison N=615	Cross section of remanded men N=232	Cross section of sentenced men N=438	Female committals N=94	Female cross-sectional N=92
White Irish / EU (%)	80.7	83.1	88.0	78.7	85.9
Irish Traveller (%)	5.4	4.2*	10.7	10.6	6.5
Other ethnic groups (%)	13.9	12.7	1.3	10.7	7.6

\*Irish Travellers were much more prevalent in remand centres outside Dublin (11.4%) compared to Cloverhill (1.6%).

Substance use disorders were common amongst travellers in prison. 98.3% of travellers on remand had a lifetime history of substance use disorders. Alcohol use was particularly problematic. In remand prisoners on committal to prison, all of the travellers interviewed had a history of alcohol dependence and abuse. There is a disproportionate percentage of Irish Travellers in the sentenced population, when compared with committals and men on remand. It appears that Irish Travellers are more likely to be remanded and sentenced and more likely to be sentenced for non-violent offences. Irish Travellers accounted for 3.4% of forensic psychiatric admissions to the Central Mental hospital, compared to 0.6% of the adult population. Travellers transferred from prison to psychiatric hospital had more learning disability and less severe mental illness than other groups.

## **FUTURE DIRECTION FOR PRISON MENTAL HEALTH SERVICES**

Prison health care services should provide equivalence of care to that available to the rest of the population<sup>70</sup>. To this end a number of recommendations can be made based on the findings of this prison survey.

Mental health services in prison should be reorganized with the adoption of a multidisciplinary approach for its delivery. This should include

- prison mental health nurses (with training in psychiatry) dedicated to mental health care of the prison population.

<sup>70</sup> WHO (Regional Office for Europe) 1998. Mental Health Promotion in Prisons. Health in Prisons Project. The Hague.

- better screening procedures undertaken by persons trained in the assessment of mental illness and suicide risk.
  - better access to allied health services including occupational therapy, psychology and counselling.
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- The practice at the time of this survey of confining prisoners in isolation for mental health reasons should be ended. In the absence of suitable alternatives in community psychiatric services, provision should be made for appropriate local low secure units and reorganisation of the Central Mental Hospital to accommodate approximately 300 transfers from prison to in patient psychiatric care.
  - There is an urgent need for the implementation of mental health legislation that would facilitate the diversion of mentally disordered individuals from the criminal justice system to treatment in community psychiatric services. Existing (civil) mental health legislation and case law could be used more consistently.
  - There is an urgent need for more secure psychiatric beds on a national level. The lack of provision of low secure units and under provision of community hostel beds in many Health Boards should be addressed<sup>71</sup>.

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<sup>71</sup> C O'Neill, H Sinclair, A Kelly, HG Kennedy 2002. Interaction of forensic and general psychiatric services in Ireland: learning the lessons or repeating the mistakes? Irish Journal of Psychological Medicine 2002; 19(2): 48-54.

APPENDIX A: Geographical Origins of Committals, Observed and Expected Numbers Imprisoned, Bayesian Standardised Imprisonment Rates, and Confidence Intervals.

County	District	Obs	Exp	LCI*	SPR	UCI**
Carlow	Baltinglass No. 2 R.D.	6	7.1	33.7	71.4	137.6
Carlow	Carlow R.D. & U.D.	50	90.2	41.7	54.4	69.3
Carlow	Idrone R.D.	0	3.9	9.3	27.9	69.6
Cavan	Bailieborough R.D.	16	20.9	42.3	70.9	109.9
Cavan	Bawnboy R.D.	3	7.3	16.9	41.7	90.5
Cavan	Castlerahan R.D.	4	12.8	17.3	36.1	68.8
Cavan	Cavan R.D.	22	55.0	29.0	43.0	61.6
Cavan	Cavan U.D.	16	7.3	111.2	198.4	312.5
Cavan	Enniskillen No. 2 R.D.	0	2.4	10.9	33.3	91.9
Cavan	Mullaghoran R.D.	1	3.8	15.8	44.2	112.5
Clare	Ballyvaghan R.D.	1	4.3	7.8	26.0	71.0
Clare	Corrofin R.D.	1	5.9	9.4	25.4	63.0
Clare	Ennis R.D.	51	82.9	44.0	58.8	76.0
Clare	Ennis U.D.	49	14.1	247.9	326.8	434.3
Clare	Ennistimon R.D.	4	16.5	11.5	26.3	53.9
Clare	Killadysert R.D.	0	7.7	4.6	17.3	47.5
Clare	Kilrush R.D.	2	17.7	9.5	23.2	48.1
Clare	Kilrush U.D.	15	4.5	146.8	270.9	467.4
Clare	Meelick R.D.	10	27.9	24.8	40.9	65.6
Clare	Scarriff R.D.	3	11.5	16.5	35.6	68.9
Clare	Tulla R.D.	4	10.6	18.9	38.4	81.8
Cork	Bandon R.D.	26	36.6	42.5	63.6	92.7
Cork	Bantry R.D.	6	14.9	15.3	33.0	62.4
Cork	Castletown R.D.	4	7.5	13.1	39.0	89.0
Cork	Clonakilty R.D.	1	178	6.4	165	37.3
Cork	Clonakilty U.D.	5	6.7	20.0	55.5	125.3
Cork	Cobh U.D.	14	14.9	51.7	89.9	142.0
Cork	Cork City	522	283.4	169.0	183.4	199.2
Cork	Cork R.D.	99	230.8	35.4	43.3	52.0
Cork	Dunmanway R.D.	1	14.4	7.4	17.6	38.2
Cork	Fermoy R.D.	11	30.6	23.1	39.9	64.2
Cork	Fermoy U.D.	10	4.8	83.0	172.5	319.2
Cork	Kanturk R.D.	18	29.6	36.5	56.9	86.4
Cork	Kinsale R.D.	11	34.3	20.7	34.9	56.5
Cork	Kinsale U.D.	7	5.3	45.8	109.8	212.9
Cork	Macroom R.D.	3	27.2	9.9	19.4	33.6
Cork	Macroom U.D.	2	5.8	8.2	28.8	85.0
Cork	Mallow R.D.	23	8.4	3.4	58.9	82.2
Cork	Mallow U.D.	26	14.0	115.9	175.8	248.4
Cork	Midleton R.D.	24	44.2	34.2	52.5	76.2
Cork	Midleton U.D.	4	8.2	16.6	45.7	98.3

Cork	Millstreet R.D.	1	12.6	8.6	21.8	46.0
Cork	Mitchelstown No.1 R.D.	8	15.0	27.3	51.4	88.8
Cork	Skibbereen R.D.	6	18.9	14.3	31.7	60.6
Cork	Skibbereen U.D.	9	3.8	79.0	178.8	340.7
Cork	Skull R.D.	0	6.5	4.0	15.6	47.6
Cork	Youghal No. 1 R.D.	0	7.5	10.2	27.5	63.0
Cork	Youghal U.D.	14	12.7	55.9	99.8	160.2
Donegal	Ballyshannon R.D.	7	11.1	27.2	55.6	104.0
Donegal	Buncrana U.D.	4	6.2	15.7	50.9	118.2
Donegal	Bundoran U.D.	5	3.2	9.3	102.5	228.0
Donegal	Donegal R.D.	5	21.8	11.9	25.0	47.9
Donegal	Dunfanaghy R.D.	1	19.4	3.9	11.0	25.9
Donegal	Glenties R.D.	9	32.0	13.8	26.3	46.1
Donegal	Inishowen R.D.	12	55.1	13.6	22.9	36.9
Donegal	Letterkenny R.D. & U.D.	17	47.5	19.4	31.2	48.8
Donegal	Millford R.D.	1	22.0	2.8	9.5	24.3
Donegal	Stranorlar R.D.	16	43.1	20.0	33.8	53.7
Dublin	Dublin City	2546	1217.4	201.2	209.2	216.5
Dublin	Dun Laoghaire-Rathdown	215	397.7	47.9	54.6	62.0
Dublin	Fingal	306	453.7	60.2	67.4	75.0
Dublin	South Dublin	855	557.6	142.1	152.7	163.8
Galway	Ballinasloe No. 1 R.D.	8	14.4	30.7	56.0	96.5
Galway	Ballinasloe U.D.	27	11.3	11.6	215.8	306.4
Galway	Clifden R.D.	0	16.4	1.6	7.9	26.1
Galway	Galway City	182	178.5	86.9	101.1	115.7
Galway	Galway R.D.	8	62.4	10.6	17.8	29.5
Galway	Glennamaddy R.D.	6	9.8	28.0	56.6	106.0
Galway	Gort R.D.	4	19.3	13.0	26.6	49.9
Galway	Loughrea R.D.	22	37.5	37.1	54.8	79.3
Galway	Mount Bellew R.D.	2	14.8	13.0	28.1	54.4
Galway	Oughterard R.D.	6	21.0	15.2	29.2	52.8
Galway	Portumna R.D.	11	11.2	43.5	82.1	141.7
Galway	Tuam R.D.	47	54.3	60.3	81.1	106.5
Kerry	Cahersiveen R.D.	4	16.1	9.5	23.6	49.8
Kerry	Dingle R.D.	2	7.3	6.6	18.6	43.8
Kerry	Kenmare R.D.	0	13.1	.1	15.3	33.5
Kerry	Killarney R.D.	16	57.0	18.5	28.7	44.1
Kerry	Killarney U.D.	15	20.4	38.2	66.6	111.2
Kerry	Listowel R.D.	15	35.3	27.8	44.6	70.3
Kerry	Listowel U.D.	12	6.2	88.0	165.3	287.3
Kerry	Tralee R.D. & U.D.	123	92.9	106.3	127.1	151.7
Kildare	Athy No. 1 R.D.	15	35.2	30.1	46.7	68.9
Kildare	Athy U.D.	19	10.5	103.8	167.4	251.1
Kildare	Celbridge No. 1 R.D.	46	124.0	28.7	38.8	50.2
Kildare	Edenderry No. 2 R.D.	12	19.7	35.1	59.5	95.1

Kildare	Naas No. 1 R.D.	108	136.7	64.6	78.3	94.4
Kildare	Naas U.D.	22	427	33.8	52.7	77.1
Kilkenny	Callan R.D.	6	12.2	22.0	45.1	84.8
Kilkenny	Castlecomer R.D.	21	14.5	6.8	121.8	176.7
Kilkenny	Ck-on-Suir No.3 R.D.	2	7.1	15.9	37.3	76.2
Kilkenny	Ida R.D.	0	4.7	9.5	28.4	68.4
Kilkenny	Kilkenny M.B.	28	19.2	91.5	138.9	196.2
Kilkenny	Kilkenny R.D.	19	46.8	27.1	42.2	62.7
Kilkenny	Thomastown R.D.	2	23.0	9.9	20.4	39.7
Kilkenny	Urlingford R.D.	4	8.3	24.0	50.4	97.9
Kilkenny	Waterford No. 2 R.D.	1	23.6	8.8	18.7	37.0
Laois	Abbeyleix R.D.	11	23.7	26.9	47.8	75.2
Laois	Athy No. 2 R.D.	6	10.2	27.7	54.1	102.6
Laois	Mountmellick R.D.	71	72.7	74.6	93.9	118.6
Laois	Roscrea No. 3 R.D.	1	5.0	167	41.6	90.7
Laois	Slivemargy R.D.	1	10.5	12.5	30.3	62.7
Leitrim	Ballinamore R.D.	2	5.2	7.3	44.8	108.3
Leitrim	Ck-on-Sh'non No.1 R.D.	10	12.8	37.5	67.3	114.6
Leitrim	Kinlough R.D.	0	3.6	12.3	31.9	82.8
Leitrim	Manorhamilton R.D.	7	11.8	26.5	52.2	92.9
Leitrim	Mohill R.D.	7	13.2	30.1	55.4	91.9
Limerick	Croom R.D.	17	23.5	42.1	68.5	106.7
Limerick	Glin R.D.	0	4.6	9.5	30.6	80.0
Limerick	Kilmallock R.D.	11	29.5	24.8	39.8	62.0
Limerick	Limerick City	359	123.2	261.7	288.7	320.3
Limerick	Limerick No. 1 R.D.	84	128.1	52.0	64.9	79.8
Limerick	Mitchelstown No.2 R.D.	2	6.4	14.9	37.9	87.1
Limerick	Newcastle R.D.	25	42	41.2	59.5	87.6
Limerick	Rathkeale R.D.	18	26.8	40.5	63.8	97.3
Limerick	Tipperary No. 2 R.D.	2	8.4	14.7	4.8	71.9
Longford	Ballymahon R.D.	7	9.8	34.3	68.9	120.1
Longford	Granard No. 1 R.D.	19	14.0	75.0	119.8	176.1
Longford	Longford R.D.	24	27.7	59.4	86.6	124.1
Longford	Longford U.D.	30	7.7	248.5	365.1	516.7
Louth	Ardee No. 1 R.D.	18	34.5	34.6	54.2	80.1
Louth	Drogheda M.B. & Louth R.D.	94	82.4	90.8	111.4	135.8
Louth	Dundalk R.D. & U.D.	123	98.6	103.2	123.3	147.9
Mayo	Ballina R.D.	22	31.5	43.5	66.5	94.8
Mayo	Ballina U.D.	25	13.6	115.8	174.6	244.3
Mayo	Ballinrobe R.D.	24	234	62.7	91.4	139.8
Mayo	Belmullet R.D.	7	12.8	24.2	51.1	94.4
Mayo	Castlebar R.D.	22	32.6	43.4	65.0	97.8
Mayo	Castlebar U.D.	11	14.4	39.3	72.6	126.9
Mayo	Claremorris R.D.	24	23.1	63.7	96.7	141.5
Mayo	Swineford R.D.	14	25.7	32.5	53.9	84.3

Mayo	Westport R.D.	8	27.9	18.8	33.7	56.7
Mayo	Westport U.D.	5	10.4	18.0	44.2	89.1
Meath	Ardee No. 2 R.D.	1	6.2	18.6	41.7	84.8
Meath	Ceannanus Mor U.D.	3	5.0	16.8	52.1	136.4
Meath	Dunshaughlin R.D.	35	73.6	34.9	48.1	64.6
Meath	Kells R.D.	7	25.4	20.2	35.1	57.1
Meath	Meath R.D.	21	42.0	33.7	51.6	72.7
Meath	Navan R.D. & U.D.	62	74.1	62.3	80.9	102.2
Meath	Oldcastle R.D.	2	8.1	14.2	35.7	74.8
Meath	Trim R.D. & U.D.	27	50.4	7.1	53.5	74.5
Monaghan	Carrickmacross R.D.	12	11.1	51.3	90.4	147.9
Monaghan	Carrickmacross U.D.	7	21.7	17.2	35.2	65.8
Monaghan	Castleblayney R.D. & U.D.	31	23.0	89.8	126.9	180.3
Monaghan	Clones No. 1 R.D.	11	11.5	49.2	88.4	145.2
Monaghan	Clones U.D.	3	2.3	35.3	105.6	283.7
Monaghan	Monaghan R.D. & U.D.	22	46.0	33.0	49.7	73.5
Offaly	Birr No. 1 R.D.	18	30.2	37.2	59.3	88.3
Offaly	Birr U.D.	9	7.1	51.5	106.8	194.1
Offaly	Edenderry No. 1 R.D.	18	22.5	49.0	77.0	115.6
Offaly	Roscrea No. 2 R.D.	1	9.0	14.1	33.1	66.8
Offaly	Tullamore R.D.	19	38.5	34.4	52.4	76.9
Offaly	Tullamore U.D.	43	21.1	140.4	195.6	260.7
Roscommon	Athlone No. 2 R.D.		23.9	12.0	26.9	46.7
Roscommon	Boyle No. 1 R.D.	8	15.4	26.8	51.4	87.2
Roscommon	Castlereagh R.D.	11	25.7	25.8	45.4	74
Roscommon	Roscommon R.D.	32	33.9	62.9	88.8	124.2
Sligo	Boyle No. 2 R.D.	1	7.6	12.5	29.9	64.1
Sligo	Dromore West R.D.	1	11.5	8.1	21.8	50.0
Sligo	Sligo M.B.	41	41.3	69.9	95.4	127.3
Sligo	Sligo R.D.	11	39.5	17.2	30.5	48.5
Sligo	Tobercurry R.D.	4	12.7	15.5	33.5	65.6
Tipperary NR	Borrisokane R.D.	6	12.6	25.9	49.6	88.1
Tipperary NR	Nenagh R.D.	15	33.4	27.1	45.0	67.8
Tipperary NR	Nenagh U.D.	5	13.4	16.6	36.1	77.3
Tipperary NR	Roscrea No. 1 R.D.	16	15.0	55.0	93.2	146.2
Tipperary NR	Templemore U.D.	7	5.5	50.5	108.7	213.4
Tipperary NR	Thurles R.D.	15	26.7	34.3	55.8	83.0
Tipperary NR	Thurles U.D.	16	13.1	66.1	114.8	182.7
Tipperary SR	Carrick-on-Suir U.D.	6	4.0	43.8	102.0	202.5
Tipperary	Cashel R.D.	13	28.4	29.9	48.2	74.7

SR						
Tipperary SR	Cashel U.D.	13	4.7	130.9	241.8	397.7
Tipperary SR	Ck-on-Suir No.1 R.D.	1	3.5	19.2	47.4	103.6
Tipperary SR	Clogheen R.D.	9	22.4	24.5	44.6	73.9
Tipperary SR	Clonmel M.B.	42	21.7	135.1	183.6	240.5
Tipperary SR	Clonmel No. 1 R.D.	19	20.9	53.2	85.1	124.2
Tipperary SR	Slievardagh R.D.	4	10.9	20.8	42.2	78.3
Tipperary SR	Tipperary No. 1 R.D.	8	23.5	22.5	39.5	63.8
Tipperary SR	Tipperary U.D.	16	8.6	91	167.6	26.6
Waterford	Ck-on-Suir No.2 R.D.	7	8.0	37.8	70.2	129.6
Waterford	Clonmel No. 2 R.D.	4	4.8	34.1	73.9	143.8
Waterford	Dungarvan R.D.	8	15.6	29.4	54.7	91.3
Waterford	Dungarvan U.D.	32	14.2	146.4	213.8	301.0
Waterford	Kilmacthomas R.D.	8	12.7	30.8	59.9	114.1
Waterford	Lismore R.D.	9	14.4	29.6	57.4	96.2
Waterford	Waterford City	120	99.2	98.1	118.5	140.8
Waterford	Waterford No. 1 R.D.	15	35.5	26.7	43.8	67.1
Waterford	Youghal No. 2 R.D.	1	5.4	11.0	32.8	80.5
Westmeath	Athlone No. 1 R.D.	22	34.9	41.9	63.4	91.1
Westmeath	Athlone U.D.	45	16.7	186.6	253.3	332.2
Westmeath	Ballymore R.D.	3	4.1	2.1	70.0	153.8
Westmeath	Coole R.D.	2	3.1	26.2	60.5	133.3
Westmeath	Delvin R.D.	6	12.6	22.6	48.9	84.6
Westmeath	Mullingar R.D.	64	76.5	63.8	81.8	103.3
Wexford	Enniscorthy R.D.	33	58.0	38.5	53.7	75.1
Wexford	Enniscorthy U.D.	2	6.0	11.6	35.8	94.1
Wexford	Gorey R.D.	11	40.0	17.8	29.6	49.7
Wexford	New Ross R.D.	14	32.0	27.0	43.0	66.6
Wexford	New Ross U.D.	18	9.7	96.0	158.4	245.5
Wexford	Wexford M.B.	21	16.8	75.5	117.5	178.7
Wexford	Wexford R.D.	26	66.7	27.4	40.0	57.1
Wicklow	Arklow U.D.	16	1.0	41.5	73.6	114.0
Wicklow	Baltinglass No. 1 R.D.	18	29.9	39.1	60.2	88.7
Wicklow	Bray U.D.	62	35.9	128.8	167.0	208.7
Wicklow	Rathdown No. 2 R.D.	42	56.1	54.8	75.0	98.1
Wicklow	Rathdrum R.D.	32	62.5	35.5	51.7	71.2
Wicklow	Shillelagh R.D.	5	13.6	20.4	41.2	76.6
Wicklow	Wicklow U.D.	7	14.7	20.6	45.5	88.0