

Home Office Research Study 231

Rates and causes of death among prisoners and offenders under community supervision

Ghazala Sattar

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Foreword

Previous studies of deaths of offenders have usually focussed on deaths in prisons. Dr Sattar has widened the issue to look at all violent deaths of offenders under the supervision of the criminal justice system, both those in custody and those under the supervision of the National Probation Service.

In this important study, Ghazala Sattar compares raw death rates and standardised mortality ratios for over 1,250 deaths of community offenders and 240 deaths of prisoners during 1996 and 1997 with the general population rates from the Office of National Statistics. She concludes that prisoners are vulnerable to suicide/self-inflicted death, with a death rate seven or eight times higher than for the general population. She also estimates that community offenders are vulnerable to violent death; at a similar or slightly higher rate for suicide/self-inflicted death and at a much higher rate for accidental death and homicide.

This report also raises issues about the role that drugs and or alcohol play in violent deaths, especially among community offenders. It also goes into the policy initiatives that are needed to reduce the incidence of violent deaths, both in prisons and amongst community offenders.

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Ghazala Sattar

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Executive summary

There is continuing concern about the rising suicide/self-inflicted death rate amongst prisoners (although 2000 saw a drop to 1998 figures). In his thematic report (Home Office, 1999), the Chief Inspector of Prisons stated that there has been more than a doubling of self-inflicted deaths in prison between 1982 and 1998; this rise cannot be solely explained by the rise in the prison population. In 2001 an internal review presented the Prison Service's new three-year risk-based suicide prevention strategy, which aims to achieve a year-on-year reduction in suicide and self-harm amongst prisoners (Prison Service, 2001).

The suicide/self-inflicted death rate for prisoners is higher than for the general population. However, the validity of comparing the prison population with the general population has been questioned, as these groups are different in terms of age, sex, ethnicity, social class, alcohol and drug misuse and physical and mental health. The present study used offenders in the community who are serving community sentences or receiving post-custodial supervision (and therefore have experience of prison) as the main comparison group. Death rate comparisons are also made with the general population (aged 15–64 years and males aged 15–44 years).

Data were collected on offenders who died in 1996 and 1997 while under community supervision (hereafter referred to as community offenders) or in prison in England and Wales. There were 1,267 deaths of community offenders (1,140 men and 127 women) and 236 deaths of prisoners (228 men and 8 women). Information contained in death certificates was used to code for mode of death. Table S.1 shows cause of death for offenders in the two year period. The largest categories were suicide/self-inflicted death (accounting for almost half) for prisoner deaths and accidents (accounting for one-third) for community offender deaths.

Table S.1: Number and proportion of deaths for offenders in 1996 and 1997

Mode of death	Community offenders	Prisoners
Natural causes	259 (20.4%)	92 (39.0%)
Suicide/self-inflicted	282 (22.3%)	110 (46.6%)
Accident/misadventure	423 (33.4%)	29 (12.3%)
Other drug/alcohol*	217 (17.1%)	1 (0.4%)
Homicide	71 (5.6%)	4 (1.7%)
Other violent death	15 (1.2%)	-
Total	1267 (100%)	236 (100%)

* Includes drug/alcohol-related deaths that could not be classified into any other category

All deaths involving drugs and/or alcohol (as a main or contributing factor) were combined (suicide + accidental + homicide + other violence + other drug/alcohol). These deaths were found to account for a far greater proportion of deaths among offenders in the community (46%) than prisoners (3%). This is not surprising as drugs and alcohol are more readily accessible in the community than in prison. Almost two-thirds of all accidental deaths and around one-third of all suicide/self-inflicted deaths among community offenders could be traced to drugs/alcohol.

Age differences were found. As expected natural deaths were more common among older offenders (45–54 and 55+ year olds) and (all types of) violent deaths were more common among young offenders (15-24 and 25-34 year olds).

Deaths among ex-prisoners under supervision tended to occur soon after being released from prison. By four weeks after release over one-quarter of all deaths had occurred, by 12 weeks after release over one-half of all deaths had occurred, and by 24 weeks after release just under three-quarters of all deaths had occurred. Accidents accounted for the largest proportion of deaths.

Death rates (per 100,000 average annual population) were calculated for male community offenders, prisoners and the general population (15–44 years). Table S.2 and Table S.3 show that community offenders had an overall mortality rate that was about double the prisoners' rate and four times the male general population rate. Community offenders and prisoners were relatively similar in terms of the death rates for natural causes and suicide/self-inflicted death. The accidental death rate for community offenders was more than five times the prisoners' rate and the homicide rate was also higher than the prisoners' rate (five times in 1996 and nine times in 1997).

Table S.2: Death rates (per 100,000) for males in 1996

Mode of death	Community offenders	Prisoners	General pop. (15-44 years)
Natural causes	96.0	90.5	64.6
Suicide/self-inflicted injury	98.4	101.9	13.6
Accident/misadventure	143.2	20.7	23.6
Homicide	18.4	3.8	1.2
Other violence	7.2	-	6.8
Other drug/alcohol related	68.0	1.9	-
Overall mortality	431.1	218.8	109.7

Table S.3: Death rates (per 100,000) for males in 1997

Mode of death	Community offenders	Prisoners	General pop. (15–44 years)
Natural causes	86.5	71.0	61.7
Suicide/self-inflicted injury	109.6	87.3	13.4
Accident/misadventure	152.1	29.1	24.0
Homicide	30.1	3.4	1.1
Other violence	4.6	-	7.3
Other drug/alcohol related	81.1	-	-
Overall mortality	464.0	191.7	107.5

Standardised mortality ratios (SMRs) which force the age distribution of the male offender populations to fit that of the general population were calculated. The SMRs presented in Table S.4 show that even with age standardisation, offenders were more vulnerable to death than the general population, especially community offenders.

Table S.4: SMRs for males in 1996 and 1997

Overall SMRs	General population	Community offenders	Ex-prisoners	Prisoners
1996:				
All deaths	100	358	276	150
Suicide	100	997	-	922
Accidental	100	746	-	125
1997:				
All deaths	100	378	358	133
Suicide	100	1307	-	800
Accidental	100	658	-	172

SMRs are expressed relative to 100

In conclusion, the study found violent death (suicide, accidental death, homicide and other violent death) among community offenders to be an even greater problem among community offenders than prisoners. Both offender groups were similarly vulnerable to suicide/self-inflicted death; however, the risks of accidental death and homicide were greater for community offenders. Also, drugs and alcohol played a bigger part in the death of community offenders.

The Prison Service has taken steps to reduce the number of deaths with its strategy on suicide/self-inflicted deaths. It is hoped that its drugs strategy will also indirectly lead to a reduction in drug/alcohol related death (e.g., with the setting up of CARATS – counselling, assessment, referral, advice and throughcare). The Probation Service and relevant external agencies also need to consider developing a strategy to reduce violent death among community offenders.

Deaths of offenders

Since the 1970s, deaths in custody have received growing attention from researchers, policy makers and the public alike. Most of this attention has centred on suicide because it is the main cause of death of prisoners in many countries including England and Wales, Finland and Australia (Dooley, 1990a; Joukamaa, 1997; Dalton, 1998). Today, there exists considerable literature on the suicide of prisoners, yet in comparison there is a dearth of literature on other types of death and other types of offenders.

The present study builds on the limited literature that has examined the death of offenders who are not serving custodial sentences. It appears that offenders in the community are another group vulnerable to violent death. This study, for the first time, compares the death of offenders serving custodial and non-custodial sentences in England and Wales (during 1996 and 1997).

This report begins with a literature review. There are many good published reviews of prison suicides (e.g., Camilleri, McArthur and Webb, 1999; Crighton, 2000; Liebling, 1992; Lloyd, 1990) so this is not an exhaustive review, although the main findings are presented. However, the limited literature on the death of community offenders is comprehensively reviewed.

Violent death

Violent death (e.g., suicide, homicide and accidental deaths) is a serious public concern among the general community. It is known to be higher among more vulnerable groups of society, such as people with mental illness and drug and/or alcohol abuse problems. Another potentially vulnerable group is offenders in the criminal justice system, many of whom suffer from mental illness and drug and alcohol problems. The death rate among prisoners is higher than for the general community, even when age differences have been taken into account (Crighton and Towl, 1997; Dalton, 1999).

Suicide

Suicide has received considerably more research attention than other types of death in prison because suicide accounts for the highest proportion of deaths in prison (see Liebling, 1992). There are 10 to 20 times more suicides than homicides in prison (Dooley, 1990b). As well as high numbers, suicide in prison occurs at a much higher rate than in the general community. In Europe and Australia the prison suicide rate is reported to be between 3 and 11 times the rate for the general community. In the United States the rate is reported to be between 5 and 15 times the general community rate (Liebling, 1992; Nock and Marzuk, 2000). Deliberate self-harm has also been found to account for one-third of deaths of people in police custody (Blaauw, Kerkhof and Vermunt, 1997; Leigh, Johnson and Ingram, 1998).

Overall, in England and Wales there was a rise in the prison self-inflicted death¹ rate in the 1990s; a rise that cannot be solely attributable to the rise in the prison population. Table 1.1 shows the overall trend for a rise in the number and rate of self-inflicted deaths since 1988; however, it can also be seen that 2000 saw a drop to 1998. While the prison suicide rate has been rising, the general population rate has been falling. The Office of National Statistics (ONS) in England and Wales reported that in 1982 there were 5,655 suicides (3,557 men and 2,098 women). By 1996 this had dropped to 4,872 (3,640 men and 1,232 women). Age-standardised rates were calculated because of changes to the structure of the population over time. Between 1982 and 1996 there was a nine per cent fall in the age-standardised male suicide rate and a 43 per cent fall in the age-standardised female suicide rate (Kelly and Bunting, 1998).

1 The Prison Service's self-inflicted death category includes all verdicts of suicide, death by misadventure, open verdicts and accidental deaths.

Table 1.1: Number of self-inflicted deaths* in prison

Year	Number of deaths	Average annual population	Rate per 100,000 prisoners
1988	37	48,900	76
1989	48	48,600	99
1990	50	45,600	110
1991	42	45,900	92
1992	41	45,800	90
1993	47	44,600	105
1994	62	48,600	128
1995	59	51,000	116
1996	64	55,300	116
1997	68	61,100	111
1998	82	65,300	126
1999	91	64,800	140
2000	81	64,700	127

* As defined by the Prison Service (see footnote 1)

Source: Safer Custody Group (Prison Service)

Risk factors

Certain characteristics can make individuals more vulnerable to suicide. Some of these risk factors are discussed. From the evidence presented it is clear that some risk factors are better predictors of suicide than others.

Age

Some studies have found that on average prisoners who commit suicide are younger than those who commit suicide in the general community. Prisoners in their mid 20s to early 30s seem to be at particularly high risk (Kennedy, 1984). For example, in Australia, Morrison (1996) found that 68 per cent of prison suicides were under 30 years. This trend can partly be explained by the prison population being on average younger than the general community (Liebling, 1992). An Australian study found that the average age of prisoners who commit suicide is younger than the average age of the prison population (Hatty and Walker, 1986). According to Liebling (1997) young prisoners who are particularly at risk are those “with a history of previous self-injury, whose distress is acute and who are

particularly vulnerable to imprisonment" (Home Office, 1999, p.21). However, the age trend is not a straightforward one, as an over-representation of older prisoners has also been found in some studies. Hatty and Walker found 50 to 69 year old prisoners to be over-represented in the suicide statistics. Dooley (1990a) found that the average age of prison suicides in England and Wales was significantly higher than the average age of the prison population. The high prevalence of mental illness, which is more common among older prisoners, has been offered as an explanation for suicide among older prisoners. Feelings of guilt, shame and hopelessness for the future may also be offered as possible explanations (Liebling, 1997). It has also been found that 'lifers', who are disproportionately represented in the prison suicide figures, tend to be older than non-lifers. Overall, although literature reviews have revealed contradictory findings (Livingston, 1997; Lloyd, 1990), there is at least some evidence of an association between age and suicide (Camilleri, McArthur and Webb, 1999), with both younger prisoners and older prisoners appearing to be most vulnerable.

Sex

Studies have shown that in the general population, men are 2.5 to 4 times more likely to commit suicide than women (Rich, Ricketts, Fowler and Young, 1988; McClure, 1987). For example, age-standardised death rates (per million)² for suicide and undetermined deaths for 1996 and 1997 were: 137 and 140 for men respectively and 44 and 45 for women respectively. It has been suggested that women make more attempts, but as they use less lethal methods (e.g., overdoses) than males (e.g., hanging or firearms) their attempts are less successful (Liebling, 1992). A National Confidential Inquiry into suicide and homicide by people with mental illness (Department of Health, 1999) found males to account for 76 per cent of hangings and 52 per cent of overdoses.

In prison, the number of females who commit suicide is small. There were eight in 2000 and four in 1999 (Home Office, 2001). This is largely because females account for a small proportion of the prison population (currently around five per cent in England and Wales). Small numbers means that it is usually not possible to reliably analyse for sex differences. Therefore, studies tend to focus solely on male prisoners or not to consider women separately. The few studies that have examined both male and female suicides found no significant sex difference (except Hatty and Walker, 1986). Overall, there is little evidence to suggest that sex is a significant predictor of suicide (Scott-Denoon, 1984).

Despite what the literature says, being male is commonly assumed to be a risk factor. However, Liebling (1994) argues that evidence shows the suicide rate for females and males to be similar. By relying on verdicts of suicide, studies tend to find a lower suicide rate

² Based on the European Standard Population.

for females. However, females' deaths are disproportionately likely to be given self-inflicted deaths verdicts other than suicide (e.g., open and death by misadventure). According to Liebling, when all self-inflicted deaths are considered, the suicide rate for females is as high as that for males (Liebling, 1994). The self-inflicted death rates for prisoners in 2000 were 119 per 100,000 for males and 239 per 100,000 for females, and in 1999 were 140 per 100,000 for males and 154 per 100,000 for females (Home Office, 2001).

Unemployment

There is some evidence that being unemployed prior to imprisonment is a suicide risk factor (Dooley, 1990a; Hatty and Walker, 1986; Wilkinson, 1996). Although evidence of an association between unemployment and suicide seems to be clearer for the general population (Moser et al., 1990; Platt and Kreitman, 1984; Hassan, 1995) than the prison population (Camilleri et al., 1999). Community studies have found that unemployment or lack of job security increases the risk of suicide (Lewis and Sloggett, 1998). Moreover, suicide risk increases with length of unemployment. Platt and Kreitman (1984) found that while the suicide rate for people unemployed for more than six months was six times the rate for employed people, after 12 months of unemployment the rate rose to 19 times the rate for employed people.

Unemployment rates are high among prisoners prior to conviction (NACRO, 1993), for example, 77 per cent according to Dexter and Towl (1995) and 76 per cent according to Jones (1996). Singleton, Meltzer and Gatward (1998) found that one-third of male remand prisoners and 44 per cent of male sentenced prisoners were employed prior to coming to prison; the rest were unemployed, living off crime or on long-term sick leave. Even for prisoners who were in employment prior to conviction, the feelings of "loss" may be significant (Stevenson and Skett, 1995). More research is needed in this area

Psychiatric illness

Community studies have found a high prevalence of psychiatric illness among people who commit suicide. For example, Barraclough, Bunch and Nelson (1974) estimated that around 90 per cent of community suicides have experienced some form of psychiatric illness, the most common type being depressive orders (70%).

Prison studies in many countries have found there to be a higher prevalence of psychiatric illness among prison populations than the general community. In the US, Teplin (1990) found the prevalence of severe mental disorders (major depression, mania and schizophrenia) among a random sample of 728 male prisoners to be two to three times higher than the general population. Studies have also examined psychiatric illness among prison suicides. Novick and Remmlinger (1978) found that over 75 per cent of prison

suicides in New York City had psychiatric problems. Later and also in New York City, Marcus and Alcabes (1993) found that 46 per cent of prison suicides had received psychiatric treatment and 63 per cent had a history of suicide threats and attempts. Studies in Ireland (Smith, O'Neill, Tobin, Walshe and Dooley, 1996), Finland (Joukamaa, 1995) and the Netherlands (Schoemaker and Van Zessen, 1997) found that around one-half of the prison population suffered from mental illnesses.

In contrast, UK studies have tended to find a lower prevalence of mental illness in prison populations compared with studies conducted elsewhere. For example, Gunn, Maden and Swinton (1991) found that 37 per cent of the sentenced prison population suffered from severe psychiatric illness. Although a recent study conducted for the ONS found high levels of psychiatric morbidity among prisoners in England and Wales (Singleton, Meltzer and Gatward, 1998). The prevalence of personality disorders (e.g. anti-social personality disorder) were: 78 per cent of male remand prisoners, 64 per cent of male sentenced prisoners, and 50 per cent of female prisoners. The prevalence of psychotic and affective disorders (e.g., schizophrenia) were: 7 per cent of male sentenced, 10 per cent of male remand and 14 per cent of female prisoners. The prevalence of neurotic disorders (e.g., depression) in most cases was more than double the general population rate, especially amongst remand prisoners and women.

Many UK studies have estimated that around one-third of prison suicides suffered from mental illness (Backett, 1987; Crighton and Towl, 1997; Dooley, 1990a; Lloyd, 1990). For example, in the Dooley study, 33 per cent had a history of psychiatric contact and 27 per cent had previous psychiatric in-patient admissions.

Overall, there is clear evidence that a higher proportion of the prison population suffers from psychiatric illness than the general population. There is less evidence to support the suggestion that the prevalence of psychiatric illness is higher among the prison suicides population than the general prison population or the general community (Lloyd, 1990; Nock and Marzuk, 2000).

It should be noted that comparisons between studies are limited. There is variability in the definition of psychiatric illness, for example, studies can choose to include or exclude substance related illness and personality disorders. Also, while some studies use current psychiatric illness, others use the more "unsatisfactory definition" of previous psychiatric contact, which "gives no indication of the mental state of the inmate just prior to suicide, and may refer to psychiatric problems occurring in the distant past" (Lloyd, 1990, p.20). There are also variations in diagnostic instruments and classification systems, for example,

while studies in the US tend to prefer DSM-IV – Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994), European studies tend to use ICD9 – International Classification of Diseases (WHO, 1977). However, overall it does seem that “those with a history of mental health problems have an increased lifetime risk of suicide” (Towl and Crighton, 2000, p.83)

Alcohol and drug abuse

A history of alcohol and drug abuse is widespread among offender populations (McMurrin and Hollin, 1989). In the ONS study, Singleton, Meltzer and Gatward (1998) found the proportions of 3,141 prisoners who had previously engaged in hazardous drinking were: 58 per cent of male remand prisoners, 63 per cent of male sentenced prisoners, 36 per cent of female remand prisoners and 39 per cent of female sentenced prisoners. For drug dependence the proportions were: 51 per cent of male remand prisoners, 43 per cent of male sentenced prisoners, 54 per cent of female remand prisoners and 41 per cent of sentenced females.

There is evidence of alcohol and drug abuse playing a role in suicide among prisoners (Topp, 1979). In the Dooley (1990a) study 29 per cent of prison suicides had a history of alcohol abuse and 23 per cent had a history of drug abuse. Backett (1987) found that 45 per cent of the prison suicides had a history of alcohol and drug abuse. According to Liebling (1992) death in the early phase of custody is particularly common among prisoners with alcohol and drug problems. In the Backett study, 60 per cent of the prison suicides with alcohol and drug problems died in the first week of custody; around a third of these were suffering from withdrawal symptoms at around the time of suicide.

Self-harm/attempted suicide

There is strong evidence of an association between a history of self-harming behaviour (including previous suicide attempts) and prison suicide (see Lloyd, 1990; Livingston, 1997). As in the general population (Barraclough and Hughes, 1987) about one half of all prisoners who commit suicide had a history of self-harm/suicide attempts (Liebling, 1992). Dooley (1990a) found that 43 per cent of prison suicides in England and Wales had a history of self-harm, this is similar to the 41 per cent found by Bogue and Power (1995) and the 45 per cent found by Backett (1987) in Scottish prisons.

In the Singleton et al. (1998) survey, self-harm which was defined as suicidal ideation, suicide attempts and parasuicide, was particularly prevalent among female prisoners. The proportions of offenders who had suicidal thoughts at any point in their lives were: 46 per cent of male remand prisoners, 37 per cent of male sentenced prisoners, 59 per cent of female remand prisoners and 52 per cent of female sentenced prisoners. In terms of actual

suicide attempts at any point in their lives, the proportions were: 27 per cent of male remand prisoners, 20 per cent of male sentenced prisoners, 44 per cent of female remand prisoners and 37 per cent of female sentenced prisoners. The proportions who self-harmed in prison were: 5 per cent of male remand prisoners, 7 per cent of male sentenced prisoners, 9 per cent of female remand prisoners and 10 per cent of female sentenced prisoners.

Social disadvantage/isolation

Prison suicides tend to be single, but then so too are many general population suicides. The National Prison Survey (1991) showed differences between the prison population and the general population in terms of marital status. Nineteen per cent of prisoners were married (compared with 61 per cent of the general population) and a further 31 per cent were cohabiting (compared with four per cent of the general population). Forty per cent of prisoners were single (compared with 21 per cent of the general population) and 10 per cent were widowed, divorced or separated (compared with 15 per cent of the general population). Liebling (1992) argues that being married is not necessarily an insulator to suicide, but that being single can be indicative of a wider lack of social support.

Other social risk factors include “multiple family breakdown, sexual abuse, frequent and severe experience of violence, periods in local authority care, poor educational achievement, and truancy caused by bullying” (Prison Service, 2001, p.7). These people tend to be socially isolated inside or outside prison (Liebling, 1992). Towl and Hudson (1997) consider parental status to be a better predictor of suicide risk than marital status because of a finding that prisoners who have children have a lower suicide risk.

Further risk factors

Prisoners suffer from additional risk factors related to being imprisoned.

Type of prisoner

Many studies have found there to be a disproportionate number of suicides among remand and unsentenced prisoners. In the Dooley (1990a) study 47.1 per cent of the prison suicides were on remand at the time of death, compared with a remand prison population of 11.1 per cent. In a Scottish study, Backett (1987) found that 58 per cent of prison suicides were on remand at the time of death, compared with a remand prison population of 14 per cent. Australian studies have revealed similar findings (Biles, 1992; Morrison, 1996).

The consequence of a high throughput of remand prisoners is likely to over-estimate the suicide rate (Lloyd, 1990). This makes it difficult to determine “whether the increased rate of suicides during the remand period is due to the greater number of inmates exposed to risk during a time of maximum stress alone, or whether other factors may contribute to the excess” (Liebling, 1992, p.42). Other factors that could account for the high suicide rate of remand prisoners include: over-crowding, staff shortages, concerns about the trial, concerns about being imprisoned and being part of a large and constantly changing inmate population (Liebling, 1992).

Studies in which suicide rates are based on the average annual prison population have been criticised (Bogue and Power, 1995; see Box 3.1 later). Therefore, some studies have used annual receptions as an alternative baseline figure. Some of these studies have found higher suicide rates for remand prisoners. For example, in Canada, Scott-Denoon (1984) found a suicide rate of 15.7 per 100,000 receptions for sentenced prisoners and 66.6 per 100,000 receptions for remand prisoners. However, Bogue and Power (1995) found that the statistically significant difference between rates of suicide for remand and sentenced prisoners disappeared when annual receptions were used to calculate suicide rates instead of average population. Overall, it appears that remand is a risky period of custody, but perhaps not to the extent sometimes reported.

Type of prison

A disproportionate number of suicides occur in adult male local prisons. Towl and Crighton (1998) found that 65 per cent of self-inflicted deaths in their study occurred in local prisons, although only 37 per cent of the population was in local prisons. Prisoners are initially received into a local prison, which is likely to be larger and have a higher throughput (from/to courts and to other prisons) than other types of prisons. This stressful experience occurs during a time when prisoners are already particularly vulnerable (i.e., at an early stage of custody).

Stage of custody

Prison studies have found that many suicides tend to occur in the early stages of custody. Many prisoners commit suicide in the first month of custody: 60 per cent according to Topp (1979), 45 per cent according to Dooley (1990a) and 41 per cent according to Backett (1987). Crighton and Towl (1997) looked at the time between reception and suicide and found that 10 per cent of deaths occurred within 24 hours, 28 per cent of deaths occurred within seven days and 45 per cent of deaths occurred within one month of reception. A US study of jail suicides found that over 50 per cent occurred within the first 24 hours of custody.

While suicides occur throughout the custodial period, studies have found that many suicides occur during the early stages of custody. However, research in this area has been criticised for not differentiating between sentenced and unsentenced prisoners. Lloyd (1990) points out that many of the suicides in the first month of custody may occur among remand prisoners. It is possible that the distribution of suicides across time may be more evenly distributed for sentenced prisoners, as found in a Canadian study by Burtch and Ericson (1979).

Type of offence

As long ago as 1880 Gover argued that prisoners who could be violent towards others could also be violent to themselves (see Liebling, 1992). For sentenced prisoners, there is some (ambiguous) evidence that prisoners serving sentences for violent or sexual crimes are over-represented in the suicide statistics (Camilleri et al., 1999). Australian studies have found an over-representation among prison suicides of prisoners serving sentences for offences against the person, e.g., homicide, assault and sexual offences (Hatty and Walker, 1986; Morrison, 1996; Flemming et al., 1992). In contrast, the situation in the UK is less clear. While the findings of some studies have supported the Australian research (Bogue and Power, 1995; Dooley, 1990a) others have not (Backett, 1987; Topp, 1979).

Length of sentence

There is evidence that prisoners serving long sentences are at increased risk of suicide. Topp (1979) found that serving longer sentences increased prisoners' risk of suicide by six or seven times. The Dooley (1990a) prison suicide group contained a high proportion of prisoners serving sentences of four years or more. In contrast, Backett (1987) found a higher proportion of prisoners serving short sentences (for non-violent crimes) at time of death.

There is also evidence that 'lifers' serving indeterminate sentences are at a higher risk of death than determinate sentence prisoners (Dooley, 1990a; Crighton and Towl, 1997; Hatty and Walker, 1986). Official statistics (Prison Service, 2001) confirm the over-presentation of 'lifers' among prison suicides in England and Wales. In 1996–99, 21 per cent of all self-inflicted deaths were among 'lifers', a group that constituted 9 per cent of the 1999 prison population.

Socio-demographic differences

Prison studies examining suicide and self-inflicted death such as those cited above have commonly drawn comparisons between the prison and general populations. However, Home Office statistics illustrate what has long been known, that prisoners have socio-demographic characteristics different from those of the general population.

Sex

The sexes are reasonably equally balanced in the general population of England and Wales, whereas the prison population is predominately male (95 per cent) (Home Office, 2001).

Age

Eleven per cent of the general population are under 25 years (17–24 years) compared with 32 per cent of the prison population, and 21 per cent of the general population are over 60 years compared with 2 per cent of the prison population (Home Office, 2001 and Office of National Statistics dataset PP98T3 for 1998).

Ethnicity

Home Office statistics (Home Office, 2001) show that the proportion of non-whites is higher in the prison population than in the general population. For example, in England and Wales in 2000, for British nationals, 94 per cent of the general male population was white compared with 86 per cent of the male prison population and three per cent of the general male population was black compared with 10 per cent of the male prison population.

Social class

Many prisoners are from the least wealthy social classes (as determined by employment). For males, Mhlanga (in press) found that: 24.1 per cent of the UK population were in professional/senior manager work compared with 4.3 per cent of the prison population; 25.5 per cent of the UK population were in junior manager/administrative/clerical work compared with 12.1 per cent of the prison population; 24.6 per cent of the UK population were in skilled manual/supervisory work compared with 28.5 per cent of the prison population; and 25.8 per cent of the UK population were in semi-skilled/unskilled/casual work compared with 54.8 per cent of the prison population.

Education

Prisoners are less well educated than the general population. It is estimated that around one in two prisoners have problems with basic skills (numeracy and literacy) compared with one in five of the adult general population (ALBSU, 1994). The Basic Skills Agency's level 2 is equivalent to GCSE grades A to C. Many prisoners are at level 1 or below: 48 per cent for reading, 82 per cent for writing and 65 per cent for numeracy (Home Office, 2001). Singleton et al. (1998) found that 52 per cent of male remand, 46 per cent of male sentenced, 44 per cent of female remand and 48 per cent of female sentenced prisoners had no educational qualifications

Young lives

Prisoners often have led more disrupted lives as youngsters. For example, The National Prison Survey of 1991 found that prisoners are more likely to have been in local authority care: 26 per cent compared with 2 per cent for the general population (Home Office, 1992). This was supported by Liebling (1991), who found a larger proportion of the self-harming young offender subject group had been in local authority care than the control group.

Physical and mental health

Offenders tend to have poorer health than the general population. In a health survey, 48 per cent of male prisoners reported suffering from some form of long-term illness (Bridgwood and Malbon, 1995). Blaauw, Roesch and Kerkhof (2000) report that prisons in Europe and the United States contain large numbers of mentally ill prisoners.

Comparing populations

These findings thus question the validity of only comparing the prison population with the general community. A better, more meaningful comparison group in terms of socio-demographic and criminal history factors would be offenders in the community i.e., those serving community sentences and those receiving post-release supervision by the Probation Service. Many prisoners are likely to have received community sentences in the past and around one-third of offenders on probation would have previously served a custodial sentence (Home Office, 2000). Both offender groups are known to suffer from physical and mental health problems; alcohol and drug abuse is particularly widespread (Gunn, Maden and Swinton, 1991; Pritchard, Cotton and Cox, 1992; Cox and Pritchard, 1995). Both groups also have high unemployment rates. Some studies have found that over two-thirds of male probationers are unemployed (Cox and Pritchard, 1995; Hudson, Cullen and Roberts, 1993; Stewart and Stewart, 1993).

A few studies have provided helpful comparative information on death rates for the prison population and general population. A study conducted in the US by Winfree (1985) took account of some of the differences (gender, race and age) between the prison population and the general population. Comparing the adjusted general population death rate with the prison population death rate, Winfree found lower prisoner death rates for natural causes and homicide but 5 to 15 times higher death rate for suicide.

Studies on people with mental illness are also worthy of mention, not only because they are a vulnerable group of society, but also because compared to the general population a relatively high proportion of prisoners suffer from mental illness. In 2001 the Department of Health published the *Five-Year Report of the National Confidential Inquiry into Suicide and*

Homicide by People with Mental Illness. The report looked at people with mental illnesses who before committing suicide had been in contact with mental health services in England and Wales (n=20,927), Scotland (n=2,650) and Northern Ireland (n=502).

Around one quarter of suicides had been in contact with mental health services in the year before death. Hanging and overdoses were the most common methods used. Younger suicides more often had a history of schizophrenia, personality disorders and drug and alcohol abuse. Most people with schizophrenia who committed suicide were unemployed and unmarried. Around one-quarter of suicides occurred within three months of discharge from in-patient care, with post-discharge suicides peaking in the first 1–2 weeks following discharge.

King and Barraclough (1990) looked at violent death among people with mental illnesses in a single hospital catchment area over an eight-year period. All suicide, accidental and undetermined deaths between 1974 and 1981 were examined and death rate comparisons were made with the local population. It was found that the risk of violent death for people who died within one year of their last psychiatric contact was 27 times higher than that of residents with no recent psychiatric contact. Risk was highest for 35–44 year olds and lowest for 75 years and over.

Death of offenders under community supervision

Unlike the study of the death of prisoners, the death of community offenders has been largely neglected. This section reviews the limited literature on deaths of community offenders from England (Pritchard, Cox and Dawson, 1997), Australia (e.g., Pritchard, Cox and Dawson, 1997; Biles, Harding and Walker, 1999) and Finland (Joukamaa, 1998).

English research

Pritchard, Cox and Dawson (1997) examined the probation records of a six-year cohort of 7,456 male probationers aged between 17 and 54 years living in Dorset, England. During 1990–1995 there were 28 deaths, of which 9 were confirmed suicides, 13 were externally caused (8 involving overdoses, 4 accidents and 1 murder) and 6 died from natural causes. The probationers were found to have a mortality rate more than double the local male population rate for 1990–1994. The suicide rate was even higher; it was almost nine times the local rate, rising to 35 times for the older probationers (35–44 and 45–54 years). For those probationers whose death was externally caused the death rate was four times the local community rate, rising to 14 times for the younger probationers (25–34 years). Pritchard et al. concluded that probationers are a vulnerable group (e.g., because of

psychiatric illness) who have a much higher mortality rate than the general community. Furthermore, the authors pointed out that as under-reporting was a limitation of the research, the actual mortality rate for probationers is likely to be even higher.

Australian research

In a small-scale study conducted by Biles and colleagues for the Royal Commission in Australia, it was found that offenders serving probation, parole, community service or similar non-custodial correctional orders had an higher risk of death than prisoners (see Biles, 1994). Biles commented that:

“it is obvious that custody, notwithstanding its well known dangers and shortcomings, has the effect of reducing or eliminating some of the hazards that confront young adults in the community, and the most important of these are traffic accidents. Also in prison, there is less opportunity for illegal drug use, there are fewer options for suicide, and there is also some level of surveillance and medical care, even if less than perfect. Prison clearly provides a degree of protection...” (Biles, 1994, p. 25).

Biles conducted follow-up research to examine the death of 418 offenders (357 male and 60 female)³ serving community correction orders, in Victoria, for the period 1991–92 to 1997–98 (Biles, Harding and Walker, 1999). Analysis using the 1995–96 and 1997–98 data (because of data accuracy problems for the other years) found drug and alcohol related deaths to be the most common cause of death for males and females. (Other factors found to be associated with high risk of suicide in the community were anti-social behaviour and homelessness.) Age differences were found. Offenders between 30 and 39 years suffered from the highest number of deaths, nearly half of which were drug/alcohol related. The most common cause of death for offenders over 50 years was natural causes. There was little differences between the sexes for cause of death for the different age groups. There were 23 cases of confirmed suicides, with hanging being the most common method used.

Biles et al. made comparisons with deaths in custody and the general community. For younger age groups (i.e., <25 years, 25–44 years and 45–54 years) offenders serving community correction orders had a much higher risk of death than the general community and prisoners. For the 55–64 year olds the risk of death was similar for the three populations, although prisoners had the highest risk of all three groups.

The views of Community Correction Services staff on preventing death and appropriate responses to death of offenders was determined. It was found that staff: (1) were concerned

3 sex unknown for one offender.

about their responsibility in terms of duty of care; (2) had a poor understanding of the role and function of the coroner's court; (3) were dissatisfied with the support services available to offenders, especially for the treatment of psychiatric illness and drug and alcohol abuse problems and (4) were often severely distressed by the death of offenders.

The results of this study support the researchers' previous findings that offenders (especially young ones) serving community correction orders suffer from a higher risk of death than the general community and offenders in custody.

Biles et al. cite the findings of an unpublished Australian study conducted by Haege who analysed the case histories of 128 offenders who died in New South Wales between July 1982 and December 1983. Offenders under supervision were found to be at least 6.4 times more likely to die than were people in the general population. Parolees were more at risk of dying than offenders serving other types of orders.

In another study, Flemming, McDonald and Biles (1992b) requested data from all Australian jurisdictions and New Zealand on deaths of offenders serving non-custodial correction orders (e.g., probation, parole, community service orders and pre-sentence supervision) during 1987–88. Forms were returned for 394 offenders who had died. (The report notes that returns from Queensland and Western Australia were incomplete.) It was found that 52 per cent of the deaths were accidental (of these 64 per cent were alcohol/drug related and 29 per cent were due to motor vehicle crashes); 21 per cent were self-inflicted; 20 per cent were due to natural causes; five per cent were due to homicide and two per cent were due to other causes. The approximate mortality rate for non-custodial offenders (5.6 per 1,000) was found to be double the rate for prisoners (2.6 per 1,000 for 1980–88). Further analysis revealed higher mortality rates for first-time offenders than repeat offenders (80 per cent had a prior offence). Parolees had a higher mortality rate (15.1 per 1,000) than probationers (10.0 per 1,000) or offenders serving community service orders (2.2 per 1,000). Although Flemming et al. advise caution when comparing the non-custodial and custodial data, the rates do highlight the vulnerability of offenders in the community.

Finnish research

Joukamaa (1998) compared mortality amongst recently released male prisoners and the general population. The sample of 807 systematically selected prisoners were socio-demographically representative of the Finnish prison population in 1985. These prisoners were age-matched with the Finnish male population. Their health was monitored between 1986 and 1992. During that time 115 of the 807 released prisoners died. Table 1.2 shows that deaths due to natural causes, accidents and all deaths were more common among ex-

prisoners than the control group. These differences were statistically significant. One-quarter of the prisoners and one-sixth of the control group who died were diagnosed as being alcohol or drug dependent. Furthermore, an indication of alcohol or drug problems was found in the death certificates of more than half of the ex-prisoners and almost half of the control group.

Table 1.2: Causes of death in Finnish study

Death Category	Ex-prisoners		Male general population		Statistically significant
	N	%	N	%	
Natural	45	5.2	16	1.8	*
Accidental	36	4.1	5	0.6	*
Suicide	17	2.0	6	0.7	
Homicide	10	1.1	2	0.2	
Unknown	7	0.8	1	0.1	
All	115	13.2	30	3.4	*

* p < 0.001

Neglected areas of study

Homicide

Considerable attention has been paid to the study of the death of prisoners; however, specific attention to homicide has been limited, despite prisoners being at a greater risk of death by homicide than are people in the general community (Dalton, 1999). Dalton examined data on prisoners in Australia who had died as a result of homicide between 1980 to 1998. During this period there were 56 homicides of prisoners by other prisoners. The number of homicides ranged between 0 and 8 and the annual average was 3. Homicide accounted for 7.25 per cent of all prison deaths. However, while the number of homicides remained fairly stable between 1980 and 1993 there was an increase after 1994. As it was reported that the average prison population had risen by 76 per cent during the study period, annual rates (e.g., per 100,000) would have been useful to see the change in the annual homicide rates.

A Canadian study examined homicides in Canadian federal correctional institutions over two periods, 1967 to 1978 and 1979 and 1985 (Porporino, Doherty and Sawatsky, 1987). There was an increase in the frequency of prison homicides over the 18-year period. The prison homicide rate increased from 14 per 100,000 prisoners in 1967 to 118 per 100,000 prisoners in 1979. There was an almost three-fold increase in the average

homicide rate from 1967–78 (31 per 100,000) to 1978–1984 (87 per 100,000). The prison homicide rate was higher than the general population rate. Jayewardene and Doherty (1985) found the male prison homicide rate to be 14 times the male general population rate. This study showed that the homicide of inmates in Canadian is a problem because “the risk seems to have increased over time and is not showing any evidence of diminishing ” (Porporino et al. 1987, p.133).

Literature on prison homicides in England and Wales is limited, although Dooley (1990b) estimated that there was on average one homicide per year. This figure suggests that homicide in prisons in England and Wales is a relatively rare occurrence (Tilt, 1998). However, more recent data shown in Table 1.3 indicates that the average over the last decade or so has increased to 2.4 homicides per year.

Table 1.3: Homicide of prisoners in England and Wales

Year	No. of homicides	Average prison pop.	Rate per 100,000
1991	2	45,897	4.4
1992	2	45,817	4.4
1993	3	44,566	6.7
1994	3	48,794	6.1
1995	2	51,047	3.9
1996	2	55,281	3.6
1997	2	61,114	3.3
1998	5	65,298	7.7
1999	0	64,771	0
2000	3	64,992	4.6

Source: Safer Custody Unit (Prison Service)

Natural deaths

The natural death of prisoners has received less research attention than unnatural deaths, such as suicide and accidental death.⁴ Natural deaths are those that occur “as a consequence of a known pathological process, such as coronary heart disease, or stroke” (Tilt, 1998, p. 35). A review of data on natural deaths in prisons in England and Wales by Hall (1999) found the following figures: 42 deaths in 1993, 43 in 1994, 56 in 1995, 54 in 1996, and 48 in 1997. The variable quality of the data meant it was not possible to look

⁴ Dr. Seena Fazel, Specialist Registrar in Forensic Psychiatry, Oxford is reviewing natural deaths in custody over a 10-year period. This work is due to be completed at the end of 2001.

at the data in any detail, although the descriptive data showed that the natural death rate is slightly below the prison suicide rate. Further, it is worthy of note that the average age at death ranged from 43 in 1993 to 52 in 1997. Tilt (1998) explains that many prisoners suffering from terminal illnesses such as cancer and AIDS are released from prison on compassionate grounds and thus end up dying in the general community (e.g., in a hospital).

Drug related death

Drug related death is a serious public concern in the United Kingdom. Studies have shown that recently released prisoners suffer from a high risk of drug-related death (Seaman, Brettle and Gore, 1998; Seymour, Oliver and Black, 2000; Shewan, Hammersley, Oliver and MacPherson, 1996). For example, a Scottish study conducted by Seymour et al. (2000) found that 13 per cent of people who had suffered a drug-related death were recently released prisoners (i.e., within one month of discharge). The Home Office has commissioned researchers at the Office for National Statistics and the National Addiction Centre to determine the nature and extent of drug-related death among recently released prisoners in England and Wales.

In order to assess and understand deaths in prison, researchers have commonly drawn comparisons between the prison and general populations. However, as these two groups are not similar, such comparisons should be viewed with caution. The present study will also make comparisons between the prison population and offenders (including ex-prisoners) who are supervised in the community by the Probation Service. The (limited) literature on the death of offenders in the community suggests that they may have a higher risk of death than prisoners. Using data from the Probation Index, the Home Office (Hansard Written Answer on 1 Feb 1999) has estimated that 0.3 per cent or 1 in 300 ex-prisoners die per year while under the supervision of the Probation Service. In addition to the comparison of death rates, the study will aim to gain an understanding of the wider risks to offenders and ex-prisoners.

Objectives

The objectives are to identify and compare the nature and extent of deaths in 1996 and 1997 of the offender groups in England and Wales:

- Prisoners
- Community offenders, i.e.,
 - those serving community sentences or
 - ex-prisoners receiving post-release supervision by the Probation Service as part of custodial sentences.⁵

Methodology

Data sources

Details of offenders whose supervision in the community had been terminated due to death in 1996 and 1997 were extracted from the Probation Index held by the Home Office. Interrogation of the Probation Index is a lengthy process; therefore only the main types of

⁵ It was not possible to collect data on ex-prisoners who do not receive post-release supervision (i.e., adults serving sentences of less than one year), which is around half of all prisoners discharged).

probation supervision⁶ (i.e., Probation Orders, Community Service Orders and Combination Orders)⁷ and all forms of post-release supervision are included – this accounts for around three-quarters of all probation service supervisions. Rarer court orders (Children and Young Persons Act 1969, Suspended sentence supervision order and Money payment supervision order) and pre-release supervision are excluded. It is possible that some offenders would have died while serving one of the rarer court orders, although numbers are likely to be small. Furthermore, baseline population figures took account of the exclusions (Appendix C).

Details on the offenders who had died in 1996 and 1997 were passed to the Office of National Statistics (ONS) for tracing on the NHS Central Register. For each successful trace a death certificate was returned which contained some or all of the following information:

- cause(s) of death
- verdict for unnatural deaths
- original underlying ICD9
- final underlying ICD9

As recommended by the World Health Organisation (WHO) in the Ninth Revision of the International Classifications of Diseases (ICD9) (WHO, 1977) death certificates contain a section detailing the condition(s) leading directly to death (Part I) and a section detailing any associated conditions which contributed to the death (Part II). The underlying cause of death is based on the condition(s) stated. Box 2.1 lists the main ICD9 codes of interest in the present study.

Box 2.1: Main ICD9 codes (WHO, 1977)

001 – 999	Natural causes
E800 – E999	External causes of injury and poisoning
E800 – E949	Accidents and adverse effects
E800 – E848	Transport accidents
E810 – E819	Motor vehicle traffic accidents
E850 – E869	Accidental poisoning
E880 – E888	Accidental falls
E890 – E899	Accidents caused by fire and flames
E900 – E929	Other accidents
E950 – E959	Suicide and self-inflicted injury
E960 – E969	Homicide and injury purposefully inflicted by other persons
E980 – E989	Injury undetermined whether accidentally or purposefully inflicted

6 The exclusions are: people being supervised under the Children and Young Persons Act 1969, suspended sentence supervision order and money payment supervision order.

7 Comprises a probation and community service component.

Data coding

Researchers interested in suicide and other non-natural deaths need to consider what type of coding framework they would use for analysis. Broadly speaking researchers could opt for an exclusive or an inclusive framework. Although it should be noted that the use of different coding frameworks by different researchers makes it difficult to compare findings.

Exclusive

With an exclusive framework only cases that have received a coroner's verdict of suicide are coded as suicide (e.g., E950–E959). Many studies have used this type of framework (Biles et al. 1999; Bogue and Power, 1995; Dooley, 1990a; Pritchard et al., 1997; Topp, 1979). Pritchard et al. (1997) adopted an exclusive approach by coding only confirmed suicides as suicides and using 'external causes' to code all other violent deaths (e.g., road and other transport deaths, accidental poisoning (overdoses), homicide, drowning, and undetermined death). All remaining deaths were designated 'natural causes'. Similarly, Biles et al. (1999) coded for 'suicide', 'accidents', 'natural causes', 'drugs/ alcohol', 'violent incidents', and 'unknown'. Only those cases where it could lawfully be shown that the intention of the deceased was to take his or her life (and not just cause injury) were categorised as suicide. The Dalton (1999) study (and all other Australian Institute of Criminology reports) used four categories of suicide or self-inflicted death: self-inflicted (intentional), self-inflicted (unintentional), self-inflicted (intention unclear or not stated) and accidental hanging. The use of a strict definition of suicide means that an exclusive framework is likely to underestimate the prevalence of suicide.

Inclusive

An inclusive framework for suicides includes cases where a coroner returned a verdict of suicide (ICD9 codes E950–959) and also cases where the cause of death is undetermined (ICD9 codes E980–E989 but excluding E988.8 which follows Charlton, Kelly, Dunnell, Evans, Jenkins and Wallis (1992)).⁸ Some accidental deaths and deaths by misadventure may also be included. The strict legal definition of suicide means that in some cases of suicides, coroners returned verdicts of open, accidental death or death by misadventure. There are various reasons for this. Coroners may err on the side of caution (Topp, 1979) by recording some suicides as open verdicts. It has been estimated that two-thirds of open verdicts for non-natural deaths may in fact be suicides (Home Office, 1984). Open verdicts may be returned when coroners consider: (a) there to be insufficient evidence to prove the deceased intended to take his or her life (Bunting and Kelly, 1998) and/or (b) to spare the deceased's family (Fenwick, 1984).

⁸ This code has been used since 1979 in England and Wales, although not exclusively, to accelerate the death registration in the case where a coroner adjourns an inquest. Nearly all of these cases that are resolved turn out to be homicide.

The type of cases left out by the strict legal definition of suicide is illustrated by the following examples taken from King and Barraclough (1990, p.715):

A 38-year-old married woman was admitted...after attempting to throw herself from a first-floor window. Later the same day she absconded from the ward in her night-clothes, and was seen running towards the nearby level crossing where she was knocked down while standing on the railway track. A verdict of death by misadventure was recorded.

A 29-year-old Asian woman was admitted...after threatening to pour paraffin over herself and ignite it. While home on weekend leave she locked herself in the bathroom, poured paraffin over herself and ignited it. An open verdict was recorded.

Charlton, Kelly, Dunnell, Evan and Jenkins (1992) found that trends for recorded suicides, suicide and open verdicts followed a similar pattern. Furthermore, Platt, Backett and Kreitman (1988) found that the main difference between open verdicts and recorded suicides in the community was the method of death, with passive methods such as drowning being least likely to receive a verdict of suicide.

When interpreting study findings it is important to be aware that some inclusive frameworks are more inclusive than others. The Prison Service publishes data on 'self-inflicted deaths' which include suicides as well as cases where the verdicts were open, accidental death or death by misadventure. The reason for this is explained by McHugh and Towl (1997):

"Where doubt exists on the extent to which the individual intended to take his own life, coroners frequently avoid a suicide verdict in favour of "open" or "misadventure". To fulfil its commitment to openness and ensuring that lessons are learned from any such tragedies, the Prison Service classifies deaths as self-inflicted for all coroners' verdicts of suicide, death by misadventure, open verdicts and accidental death. In a small number of cases, a judgement has to be made on the basis of the circumstances surrounding the death, for example, in some cases of drug overdose. Since 1995, death by food refusal has been classified as self-inflicted death, although in legal terms it does not meet the criteria for definition as "suicide". Thus it can be seen that to categorize solely on verdicts of suicide would seriously under estimate and significantly distort overall totals" (p. 5).

Towl and Crighton (1998) examined all self-inflicted deaths in prisons during 1988–80 and 1994–95 and found that in 58 to 84 per cent of these cases coroners returned a verdict of suicide.

It is reasonable to argue that some, but not all, open verdicts are unproven cases of suicides. Including all open verdicts will overestimate the prevalence of suicide; however, it could also be argued that this can, to a certain extent at least, be offset by cases that received a verdict of suicide but were actually accidental deaths, death by misadventure and deaths by natural causes (Liebling, 1992; Tilt, 1998).

It should be noted that despite the criticisms of exclusive and inclusive frameworks, studies using either type of framework have consistently reached similar core conclusions.

Present study

This study used an inclusive coding framework. Cases of proven suicide (E950–E959) and open verdicts, where it was not possible to determine whether the injury was accidentally or purposefully inflicted (E980–E989 excluding E988.8), were coded as *suicide/self-inflicted death*. For reasons already explained E988.8 was coded as homicide along with proven cases of homicide. From a legal perspective there is no distinction between accidental death and death by misadventure, therefore these cases were coded as *accidental death*. Certain deaths from natural causes (e.g., alcohol related cirrhosis of the liver) and other alcohol and/or drug related deaths that could not be categorised as suicide/self/inflicted death, accidental death or homicide were coded as *other drug/alcohol related death*. Deaths where there was insufficient evidence to determine whether the death was accidental or purposefully inflicted were categorised as *other violent death*. The inclusive coding framework is presented in Appendix A.

Box 2.2: What happens when a person dies

When a person dies the attending doctor completes a certificate of death. This is taken to the local registrar of births and deaths by an informant (normally a relative). For natural deaths this is normally all that is needed to register a death. In certain instances (e.g., cause of death unknown/death may be due to suicide, accident or violence/death occurred in police or prison custody) the doctor (if present) or police will refer the death to a coroner, who may order a post-mortem examination. If the death is not considered to be due to natural causes then an inquest may be necessary. In most cases the inquest concludes the investigation and the death is then certified by the coroner.

Popularly, the 'verdict' is defined as the circumstances or causes of death. Commonly used verdicts include:

- Natural causes
- Dependence on drugs/non-dependent abuse of drugs
- Suicide/kill himself while balance of mind was disturbed
- Accident/misadventure
- Open verdict
- Unlawful killing

Source: The Coroner's Service website (<http://www.homeoffice.gov.uk/ccpd/coroner.htm>)

Coding reliability

As a criticism of research in this area is the accuracy of data coding, the reliability of coding was tested. Around 10 per cent of the sample of community offenders in 1997 (n=121) was coded twice by two different researchers so that inter-rater reliability could be measured. There was found to be 86% agreement between the coding of the two researchers. Any discrepancies were discussed and resolved (but no changes were made, as the reliability check was conducted after all the coding had been completed).

Data accuracy

To a certain extent it is accepted that research in this area will face data accuracy problems (see Biles et al. 1999) and this study is no exception.

Data were collected from various sources:

- Probation Index (Home Office)
- NHS Central Register (ONS)
- Offenders Index (Home Office)
- Inmate Information System (Prison Service)
- Safer Custody Group deaths database (Prison Service)

Discrepancies between databases caused some problems. The two main problems are explained.

Firstly, the Probation Index provided the names of all offenders who had died while under the supervision of the Probation Service. However, when traced on the NHS Central Register, a few of these offenders were found to have no record of death or to have died in prison. Numbers of such cases were relatively small and those that were identified were removed from the study's master database.

Secondly, details on offenders did not always cross-reference completely: for example, a date of birth on the Probation Index of 1956 being recorded as 1965 on the NHS Central Register, or McDonald being recorded as Macdonald. In such instances it was assumed that the data referred to the same individual, but it is possible that this was not always the case; therefore some people could have been incorrectly flagged.

Additionally, there was a data quality issue with the Probation Index. While the data on people starting supervision is considered to be reasonably accurate, the data on people being supervised is considered to be less accurate. For this reason, the author was advised to use discharge data from the Inmate Information System on prisoners (all young offenders and adults serving sentences of 12 months or over as these should receive statutory supervision) rather than the post-release supervision statistics.

Community offenders

According to the Probation Index in 1996, 640 offenders died while serving a community sentence or while receiving post-release supervision (hereafter referred to as community offenders). A search on the NHS Central Register (NHSCR) revealed that 25 of these offenders had no record of death and a further 12 could not be traced by ONS staff. The base for 1996 was therefore 603. In 1997, 687 community offenders died. A search on the NHSCR revealed that 15 of the offenders had no record of death and a further eight could not be traced. The base for 1997 was therefore 664. The total number of community offenders who had died was 1,267.

Note: Initially the data for 1996 and 1997 were analysed separately; however, as the results for the two years were similar the data were combined for all analyses except when calculating death rates.

Age

Statistical analysis (Cramer’s V Correlation Coefficient) revealed a significant age difference between age range and mode of death ($r_v (n=1276) = 0.27, p < 0.01$). Descriptive analysis suggests that deaths due to natural causes were more common among older offenders, whereas violent deaths, especially accidents, were commoner among younger offenders. This is illustrated in Figure 3.1.

Figure 3.1: Mode of death by age group of community offenders

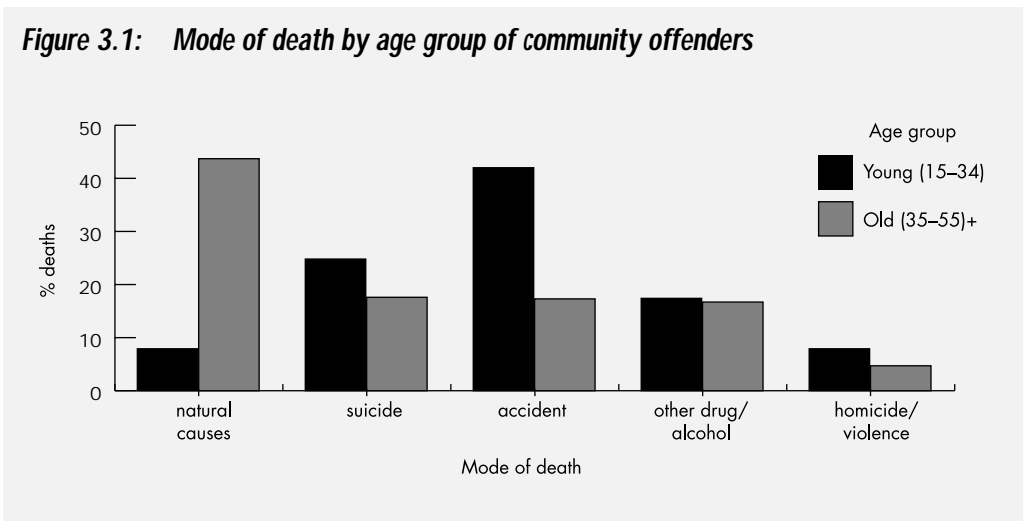


Table 3.1 shows death by age range of community offenders. The 25–34 year olds (with fairly even distribution of deaths across this age range) accounted for the largest proportion of suicide/self-inflicted deaths (43%) and other drug/alcohol relate deaths (40%). The 15–24 year olds accounted for the largest proportion of accidental deaths (41%) and homicide/other violent deaths (44%). For comparison purposes a similar breakdown can be found for the general population in Appendix B.

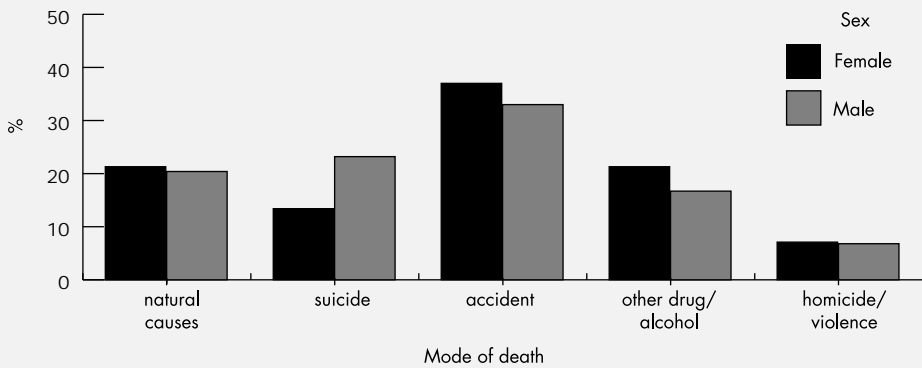
Table 3.1: Mode of death by age range for community offenders

	Age range (years)					Total
	15–24	25–34	35–44	45–54	55+	
Natural causes	19 (7.3%)	46 (17.8%)	49 (18.9%)	71 (27.4%)	74 (28.6%)	259 (100%)
Suicide/self-inflicted injury	84 (29.8%)	120 (42.6%)	49 (17.4%)	24 (8.5%)	5 (1.8%)	282 (100%)
Accident	174 (41.1%)	172 (40.7%)	56 (13.2%)	17 (4.0%)	4 (0.9%)	423 (100%)
Other drug/alcohol	57 (26.3%)	86 (39.6%)	35 (16.1%)	29 (13.4%)	10 (4.6%)	217 (100%)
Homicide/other violence	38 (44.2%)	27 (31.4%)	15 (17.4%)	5 (5.8%)	1 (1.2%)	86 (100%)
All deaths	372 (29.4%)	451 (35.6%)	204 (16.1%)	146 (11.5%)	94 (7.4%)	1267 (100%)

Sex

Figure 3.2 shows the proportion of male (n = 1140) and female (n = 127) community offenders who died by mode of death. Statistical analysis revealed no significant sex difference for mode of death.

Figure 3.2: Mode of death by sex of community offenders



Supervision type

Table 3.2 shows the number of deaths and death rates for community offenders serving one of the four main types of supervision. For both years, offenders serving Probation Orders had the highest death rate, followed by ex-prisoners receiving post-release supervision. Offenders serving Combination Orders had the lowest rate. These findings accord with Flemming et al. (1992b) and are discussed later.

Table 3.2: Death of community offenders by supervision type

Supervision type	No. of deaths*	No. of offenders**	Death rate per 1,000 per year
Died in 1996:			
Post-release supervision	109	33,310	3.3
Probation order	405	54,148	7.5
Community service order	80	33,969	2.4
Combination order	61	19,675	3.1
Died in 1997:			
Post-custodial supervision	140	34,080	4.1
Probation order	410	56,660	7.2
Community service order	100	35,219	2.8
Combination order	57	21,762	2.6

* Each person counted once in total even if subject to several types of supervision in the year.
 ** See Appendix C

Mode of death

Table 3.3 shows the mode and cause of death for community offenders.

Twenty per cent of community offenders died from natural causes, 22 per cent from suicide/self-inflicted injury, 33 per cent from accidents, 6 per cent from homicide and 1 per cent from other violence (i.e., not known if death was accidental or intentionally inflicted).

Just under one-half of all deaths (46%) were drug/alcohol related. Drugs/alcohol was the most common cause of accidental death (62%). Hanging and drugs/alcohol each accounted for 36 per cent of all self-inflicted deaths.

Table 3.3: Mode and cause of death for community offenders

Mode and cause of death	N	%
Natural causes	259	20.4%
Suicide/self-inflicted injury	282	22.3%
Drugs/alcohol	102	8.1%
Hanging/strangulation/suffocation	102	8.1%
Carbon monoxide poisoning	25	2.0%
Cutting	2	0.2%
Drowning/water related	5	0.4%
Burning/fire/smoke	3	0.2%
Vehicle involved	5	0.4%
Unascertained	23	1.8%
Other	15	1.2%
Accident	423	33.4%
Drugs/alcohol	261	20.6%
Hanging/strangulation/suffocation	16	1.3%
Carbon monoxide poisoning	6	0.5%
Road traffic accident	90	7.1%
Fall	17	1.3%
Drowning/ water related	17	1.3%
Burning/fire/smoke	4	0.3%
Other	12	0.9%
Other drug/alcohol related	217	17.1%
Homicide/injury purposefully inflicted	71	5.6%
Cutting/piercing	23	1.8%
Firearm	8	0.6%
Drugs/alcohol	4	0.3%
Other/unspecified means	36	2.8%
Other violent death (not known if purposefully inflicted or accidental)	15	1.2%
Total	1267	100%

Ex-prisoners

This section focuses on the 249 ex-prisoners who were serving the remainder of their custodial sentence in the community at the time of death. There were 242 males and 7 females and 66 per cent were under 35 years.

Table 3.4 shows that 24 per cent of ex-prisoners died of natural causes, 14 per cent from suicide/self-injury, 37 per cent from accidents, 2 per cent from homicide and 5 per cent from other violence. Fifty per cent of all deaths were drug/alcohol related. The proportions compare reasonably well with the community offender group as a whole (see Table 3.3).

Table 3.4: Mode and cause of death for ex-prisoners

Mode and cause of death	N	%
Natural causes	59	23.7%
Suicide/self-inflicted injury	34	13.7%
Drugs/alcohol	14	5.6%
Hanging/strangulation/suffocation	12	5.6%
Other	8	3.2%
Accident	91	36.5%
Drugs/alcohol	65	26.1%
Road traffic accident	15	6.0%
Other	11	4.4%
Other drug/alcohol related	46	18.5%
Homicide/injury purposefully inflicted	6	2.4%
Other violent death (not known if purposefully inflicted or accidental)	13	5.2%
Total	249	100%

It has been suggested that ex-prisoners might suffer from a particularly high death rate during the first few days and weeks after release. It is known that terminally ill prisoners can be released early on compassionate grounds, so they can die in the community (e.g., at home or in hospital). Therefore, mode of death by time (in weeks) since release from custody was analysed to determine whether natural causes accounted for the largest proportion of deaths among ex-prisoners recently released from custody.

Figure 3.3 plots the number of deaths by number of weeks since release. The shape of the graph does indeed suggest that when ex-prisoners died they tended to do so soon after

release: the mode was 1 week. (The median was 11 weeks and the mean was 43 weeks.) The finding that the death rate among ex-prisoners is highest soon after release should be viewed with some caution. This is because as time passes and more offenders complete their statutory supervision, the size of this group decreases.

Figure 3.3: Number of weeks between release and death for ex-prisoners

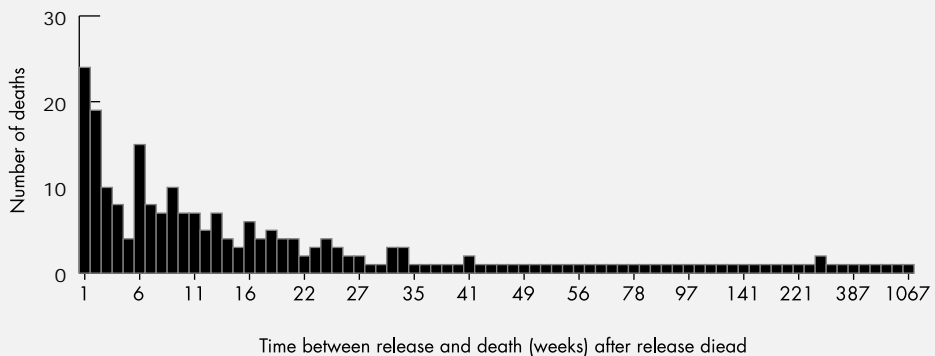


Table 3.5 shows the number and proportion of deaths of ex-prisoners after one, four, 12 and 24 weeks of being released, by cause of death. Accidents (most of which were alcohol/drug related) accounted for a larger proportion of deaths than did natural causes at one week (54% vs. 17%), four weeks (41% vs. 18%), 12 weeks (40% vs. 19%) and 24 weeks (42% vs. 19%) respectively after being released. This suggests that accidental deaths occur more frequently than natural deaths among recently released prisoners. Table 3.6 also shows that by 12 weeks after release about half of all deaths have occurred and by 24 weeks after release nearly three-quarters of all deaths had occurred.

Table 3.5: Cumulative deaths by weeks since release for ex-prisoners

Number of weeks since release	Mode of death					Cumulative death total
	Natural causes	Suicide/self-injury	Accident	Homicide/Other violence	Other drug/Alcohol	
1	4 (7.3%)	4 (12.5%)	13 (15.7%)	1 (5.9%)	2 (4.3%)	24 (10.3%)
4	11 (20.0%)	9 (28.1%)	25 (30.1%)	3 (17.6%)	13 (28.3%)	61 (26.2%)
12	24 (43.6%)	16 (50.0%)	50 (60.2%)	4 (23.5%)	30 (65.5%)	124 (53.2%)
24	32 (58.2%)	22 (68.8%)	71 (85.5%)	8 (47.1%)	37 (80.4%)	170 (73.0%)
...						
1067	55 (100%)	32 (100%)	83 (100%)	17 (100%)	46 (100%)	233 (100%)

Missing data for 16 cases; N = 233

(Any) drug related death was more common among younger ex-prisoners. It was found that 62 per cent of deaths among ex-prisoners aged 15–45 and 25–34 years were drug/alcohol related, compared with 27 per cent for older ex-prisoners (35–44, 45–54 and 55+ years).

Prisoners

The Prison Service’s Safer Custody Group provided the names of prisoners who died in 1996 and 1997. There were 120 deaths in 1996 and 118 deaths in 1997; the total was therefore 238. These prisoners were searched on the NHS Central Register in order to obtain their death certificates. Two prisoners could not be traced therefore the base for the following analyses was 236.

Age

Statistical analysis (Cramer’s V Correlation Coefficient) revealed a significant age difference ($r_v (n=236) = 0.63, p < 0.01$) for type of death.⁹ As with community offenders, descriptive analysis showed that deaths due to natural causes were more common among older offenders, whereas unnatural deaths were commoner among younger offenders. This is illustrated in Figure 3.4.

⁹ Because of small numbers the categories of suicide, accident, other drug/alcohol and homicide/ other violence were recoded into a new variable (unnatural deaths) for this analysis.

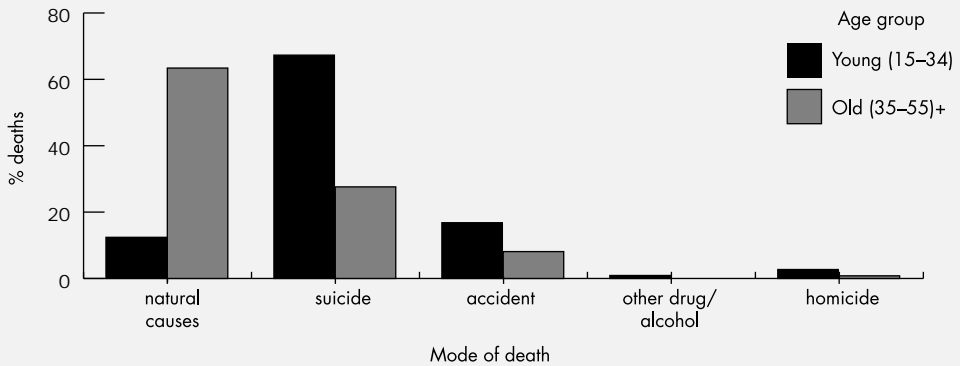
Figure 3.4: Mode of death by age group of prisoners

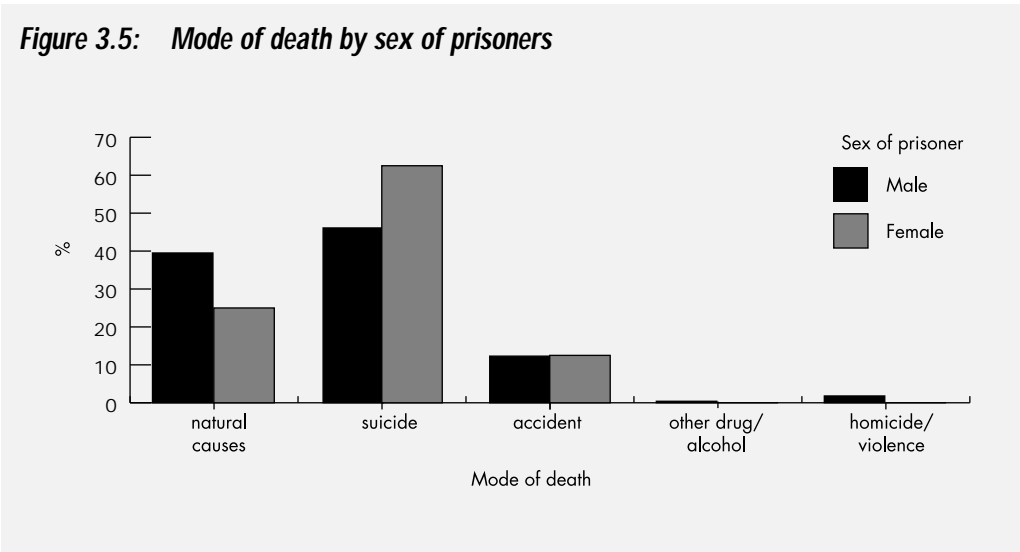
Figure 3.4 and table 3.6 show cause of death by age range of prisoner. The 25–34 year olds accounted for the largest proportion of suicide/self-inflicted deaths (39%) and accidental deaths (38%). In contrast the 55+ year olds accounted for the largest proportion of natural deaths (51%).

Table 3.6: Mode of death by age range for prisoners

	Age range (years)					Total
	15-24	25-34	35-44	45-54	55+	
Natural causes	4 (4.3%)	10 (10.9%)	15 (16.3%)	16 (17.4%)	47 (51.1%)	92 (100%)
Suicide/self-inflicted injury	33 (30.0%)	43 (39.1%)	20 (18.2%)	10 (9.1%)	4 (3.6%)	110 (100%)
Accident	8 (27.6%)	11 (37.9%)	5 (17.2%)	4 (13.8%)	1 (3.4%)	29 (100%)
Other drug/alcohol	1 (100%)	-	-	-	-	1 (100%)
Homicide	2 (50.0%)	1 (25.0%)	1 (25.0%)	-	-	4 (100%)
All deaths	48 (20.3%)	65 (27.5%)	41 (17.4%)	30 (12.7%)	52 (22.0%)	236 (100%)

Sex

Figure 3.5 shows the proportion of male (n = 228) and female (n = 8) prisoners who died in 1996–7. Analysis revealed no statistically significant sex difference for type of death (natural vs. unnatural death). The percentages shown in Figure 3.5 are based on very small numbers in the case of women and therefore this tends to exaggerate differences.



Mode of death

Table 3.7 shows the mode and cause of death for prisoners. It can be seen that 39 per cent of prisoners died of natural causes, 47 per cent per cent from suicide/self-inflicted injury, 12 per cent from accidents and 2 per cent from homicide.

In contrast to community offenders only 3 per cent of all prisoner deaths were alcohol/drug related. Hangings accounted for most of the suicide/self-inflicted deaths and also most of the accidental deaths.

Table 3.7: Mode and cause of death for prisoners

Mode and cause of death	N	%
Natural causes	92	39.0
Suicide/self-inflicted injury	110	46.6
Drugs/alcohol	2	0.8
Hanging/strangulation/suffocation	103	43.6
Cutting	3	1.3
Unascertained	1	0.4
Other	1	0.4
Accident	29	12.3
Drugs/alcohol	4	1.7
Hanging/strangulation/suffocation	22	9.3
Other	3	1.3
Other drug/alcohol related	1	0.4
Homicide/injury purposefully inflicted	4	1.7
Hanging/strangulation/suffocation	3	1.3
Other/unspecified means	1	0.4
Total	236	100%

N = 236 as 2 prisoners could not be traced on the NHSCR

Death rates

Box 3.1: Methodological issues concerning death rates

When examining deaths such as prison suicide comparisons are made with the general population using death rates. Base line data used to calculate rates are average annual populations or sometimes in the case of prisoners, annual receptions.

Average annual population

Suicide rates are commonly expressed as a proportion of the average annual population (AAP). AAP suicide rate refers to the number of suicides per 100,000 person-years and assumes that each person at risk is observed for one whole person-year. While this assumption is fine for the general population it is not for the prison population. Establishments hold many more prisoners than the average population, e.g., the AAP in 2000 was 64,602 and there were 129,733 receptions (Home Office, 2001). The discrepancy between these two figures is particularly evident in local prisons (where incidentally most suicides occur). So, while some prisoners are in custody for a year or more, many more are held for a matter of days, weeks and months. "The average population figure for prisons in any one year is made up of shorter stays by many times that number of prisoners" (Home Office, 1986).

Another assumption in using AAP is that one person-year shared by several individuals is equivalent to one person-year relating to only one individual. However, studies have shown that the risk of suicide is not constant over time, but tends to be higher during the early stage of custody for remand and sentenced prisoners. Therefore, "the risk accumulated during a person-year which is shared by several prisoners will tend to be greater than the risk accruing to a man year spent by one individual" (O'Mahony, 1994, p.46). Suicide rates based on the average population will increase with the number of persons sharing the person-year. Suicide rates that are a proportion of the average annual population are likely to *over-estimate* the true rate (Crighton and Towl, 1997).

Reception rates

Death rates can also be expressed as a proportion of the total number of receptions per annum. Studies that have calculated suicide rates per 100,000 receptions include Dooley (1990a) in England and Wales and Bernheim (1987) and Scott-Denoon (1984) in Canada. Dooley found the suicide rate for 1984–87 to be 15.5 per 100,000, which is an increase of 80 per cent since 1972–75. Crighton and Towl (1997) calculated self-inflicted death rates per 100,000 average daily population (ADP) and per 100,000 receptions for

remand prisoners was higher than for sentenced prisoners: 4.6 times higher for 1998–90 and 2.2 times higher for 1994–5. Self-inflicted death rates per 100,000 receptions were lower than the ADP calculated rates (e.g., at least halved for sentenced prisoners). It was also found that the self-inflicted death rate of sentenced prisoners had overtaken the rate for remand prisoners between the two time periods. They suggested that “rates based on receptions provide a better estimate of rates of suicide for remand prisoners than average daily population figures. This is because the figures for receptions will more accurately reflect the number of individuals placed in the high risk environment of prison over comparatively short time periods” (p.14).

On the other hand, death rates based on receptions are likely to *under-estimate* the true extent of the problem. According to Crighton and Towl this is partly due to double counting of remand prisoners when they are on remand and after sentence – counted as two receptions. “Estimates of the risk of self-inflicted deaths are further complicated by the possibility that prisoners experience particularly high risk periods while in custody” (p. 18). As previously reported there is evidence of a disproportionate number of self-inflicted deaths during the early phase on custody.

For more information see Liebling (1992) and O’Mahony (1994).

For the present study, death rates were calculated using:

- average annual populations
- total receptions for prisoners and total persons starting supervision for community offenders.

Average annual population (AAP)

The following cause specific death rates allow comparisons to be made among three groups: offenders in the community, offenders in prison and people in the general community. This is done first for males and females combined and with a general population sample aged 15 to 64 years. Later in this chapter the rates for males only compared to males in the general population aged 15 to 44 years are examined.

Table 3.8: Cause specific death rates in 1996

Mode of death	Rate per 100,000 AAP		
	Community offenders ⁽¹⁾	Prisoners ⁽²⁾	General population ⁽³⁾
Natural causes	96.4	88.6	236.6
Suicide/self-inflicted injury	92.8	101.3	8.4
Accident	143.2	21.7	14.9
Homicide/injury purposefully inflicted	19.1	3.6	0.7
Other violence	6.4	-	4.4
Other drug/alcohol related	69.5	1.8	-
Overall mortality	427.4	217.0	265
(Number of deaths)	(603)	(120)	(89,415)

(1) Persons supervised as part of a sentence = 141,102 (Appendix C).

(2) Average annual prison population = 55,281 (PSEW 1999).

(3) Estimated population (15-64 years) in England and Wales at 30 June 1996 was 33,743,500 (ONS, 1998a). See Appendix B for number of deaths by age.

Table 3.9: Cause specific death rates in 1997

Mode of death	Rate per 100,000 AAP		
	Community offenders ⁽¹⁾	Prisoners ⁽²⁾	General population ⁽³⁾
Natural causes	83.3	70.4	230.6
Suicide/self-inflicted injury	102.2	88.4	8.3
Accident	149.6	27.8	14.6
Homicide/injury purposefully inflicted	29.8	3.3	0.7
Other violence	4.1	-	4.8
Other drug/alcohol related	80.6	-	-
Overall mortality	449.5	189.8	258.8
(Number of deaths)	(664)	(116)	(87,763)

(1) Persons supervised as part of a sentence = 147,726 (Appendix C).

(2) Average annual prison population = 61,114 (PSEW 1999).

(3) Estimated population (15-64 years) in England and Wales on 30 June 1997 was 33,905,500. See Appendix B for number of deaths by age.

Overall mortality

Community offenders had a rate that was around double the prisoners' rate and around two-thirds more than the general community rate. Prisoners had the lowest overall mortality rate.

Natural causes

Community offenders had a rate that was slightly higher than the prisoners' rate and around one-third of the general population rate. Again, prisoners had the lowest rate.

Suicide/self-inflicted death

The rate for community offenders and prisoners was reasonably similar. (In 1996 the prisoners' rate was 10 per cent more than the community offenders' rate and in 1997 the community offenders' rate was 16 per cent more than the prisoners' rate.) The community offenders' rate was more than 10 times (11x in 1996 and 12x in 1997) the general population rate.

Accidental death

Community offenders had a rate that was more than five times the rate for prisoners and 10 times the general population rate. A high rate for community offenders was expected, because unlike prisoners they have the opportunity to be involved in traffic accidents and greater opportunity to engage in illegal drug use (Biles, 1994). Note the considerable higher other drug/alcohol related death rate for community offenders than prisoners.

Homicide

Community offenders had a rate that was five times the prisoners' rate in 1996 and nine times the prisoners' rate in 1997. Community offenders had a rate that was considerably higher than for the general population rate (approximately 30 and 40 times for 1996 and 1997 respectively).

Other violence

Other violence refers to deaths where it is not clear whether the injury was purposefully inflicted or accidental. No prison deaths are classified as 'other violence'. The other violence death rate was reasonably similar for community offenders and the general population.

Further death rate comparisons

Further death rates were calculated for males only because offender populations are predominately male (e.g., 95 per cent of the prison population is male and around 90 per cent of persons supervised by the probation service are male). Comparisons were made with the male general population aged between 15 and 44 years because approximately 90 per cent of prisoners and community offenders are between 15 and 44 years.

Table 3.10 Cause specific death rates in 1996 (males only)

Mode of death	Rate per 100,000 AAP		
	Community offenders ⁽¹⁾	Prisoners ⁽²⁾	General population ⁽³⁾
Natural causes	96.0	90.5	64.6
Suicide/self-inflicted injury	98.4	101.9	13.6
Accident	143.2	20.7	23.6
Homicide/injury purposefully inflicted	18.4	3.8	1.2
Other violence	7.2	-	6.8
Other drug/alcohol related	68.0	1.9	-
Overall mortality	431.1	218.8	109.7
(Number of deaths)	(539)	(116)	(12,241)

(1) Males supervised as part of a sentence = 125,040 (Appendix C).

(2) Average male annual prison population = 53,019 (PSEW 1999).

(3) Estimated male population (15-44 years) in England and Wales at 30 June 1996 was 11,158,000 (ONS, 1998a). See Appendix B for death by age breakdown.

Table 3.11: Cause specific death rates in 1997 (males only)

Mode of death	Rate per 100,000 AAP		
	Community offenders ⁽¹⁾	Prisoners ⁽²⁾	General population ⁽³⁾
Natural causes	86.5	71.9	61.7
Suicide/self-inflicted injury	109.6	87.3	13.4
Accident	152.1	29.1	24.0
Homicide/injury purposefully inflicted	30.1	3.4	1.1
Other violence	4.6	-	7.3
Other drug/alcohol related	81.1	-	-
Overall mortality	464.0	191.7	107.5
(Number of deaths)	(601)	(112)	(12,036)

(1) Persons supervised as part of a sentence = 129,520 (Appendix C).

(2) Average annual prison population 1997 = 58,439 (PSEW 1999).

(3) Estimated population (15-44 years) in England and Wales on 30 June 1997 was 11,192,100. See Appendix B for number of deaths by age.

The following section describes the findings and compares these with the previous findings for all offenders (male and female) and an older general population group.

Overall mortality

As before, the rate for male community offenders was around double the male prisoners' rate, which is similar to the death rates calculated for male and female offenders combined. However, the difference between the community offenders and the general population increased: the rate for male community offenders was four times the male general population (15 to 44 years) rate. Whereas before prisoners had the lowest overall mortality rate, this time it was the general population.

Natural deaths

As before, the rate for male community offenders was slightly higher than the rate for male prisoners. Previously the rate for community offenders was lower than the general population rate. However, this time the community offenders' rate exceeded the general population rate by 40 per cent in 1996 and 50 per cent in 1997.

Suicide/self-inflicted deaths

In 1996 the rate for male community offenders and male prisoners was the same; however, in 1997, the male community offenders' rate was 25 per cent more than the male prisoners' rate. As before, the male community offenders' rate was considerably higher than the male general population rate (seven and eight times in 1996 and 1997 respectively).

Accidental deaths

As before, male community offenders had a rate that was more than five times the rate for male prisoners. The male community offenders' rate was six times the male general population rate (compared with 10 times previously). The accidental death rate was lowest for prisoners.

Homicide

As before, community offenders had a rate that was five times the prisoners' rate in 1996 and nine times the prisoners' rate in 1997. Community offenders had a rate that was considerable higher than the general population rate (20 and 30 times for 1996 and 1997 respectively) but this is not as high as before.

Other violence

As before, the rate for other violence was reasonably similar for community offenders and the general population.

Overall conclusions

Overall, excluding the small number of female offenders made no difference to the death rate findings for the offender groups. However, comparing the offender groups with a younger, male general population group changed the findings. Overall mortality death rate differences between the two offender groups and the general population doubled. Community offenders now had an overall rate four times (rather than double) the general population rate. Prisoners now had an overall rate around double (compared with about two-thirds) the general population rate. The main reason for this change was the fall in the natural death rate among the general population when a younger age group was used as the comparison. Differences between the two offender groups and the younger male general population group narrowed slightly for suicide/self-inflicted death, accident, homicide and other violence.

Annual receptions

Death rates were also calculated for community offenders and prisoners using total annual receptions.

Table 3.12: Cause specific death rates in 1996

Mode of death	Rate per 100,000 receptions	
	Community offenders ⁽¹⁾	Prisoners ⁽²⁾
Natural causes	93.2	40.6
Suicide/self-inflicted injury	89.8	46.4
Accident	138.4	10.0
Homicide/injury purposefully inflicted	18.5	1.7
Other violence	6.2	-
Other drug/alcohol related	67.2	0.8
Overall mortality	413.2	99.5
(Number of deaths)	(603)	(120)

(1) Persons starting Probation Service supervision = 145,920 (Appendix C).

(2) Total receptions = 120,600 (PSEW, 1996).

Table 3.13: Cause specific death rates in 1997

Mode of death	Rate per 100,000 receptions	
	Community offenders ⁽¹⁾	Prisoners ⁽²⁾
Natural causes	80.6	34.3
Suicide/self-inflicted injury	99.0	43.1
Accident	144.9	13.6
Homicide/injury purposefully inflicted	28.8	1.6
Other violence	3.9	-
Other drug/alcohol related	78.0	-
Overall mortality	435.3	92.5
(Number of deaths)	(664)	(116)

(1) Persons starting Probation Service supervision = 152,546 (Appendix C).

(2) Total receptions = 125,400 (PSEW, 1997).

Community offenders had:

- an *overall mortality* rate that was four times the prisoners' rate in 1996 and approaching five times in 1997
- a *natural causes* death rate that was more than double the prisoners' rate
- a *suicide/self-inflicted death* rate that was double the prisoners' rate
- an *accidental death* rate that was more than 10 times the prisoners' rate
- a *homicide* rate that was 11 times the prisoners' rate in 1996 and 18 times in 1997

Using receptions to calculate death rates led to a widening of the difference between community offenders and prisoners by a factor of 2. For example, the overall mortality rate for community offenders using AAP was double the prisoners' rate, but this quadrupled when receptions were used.

Note: It is not necessary to compute reception death rates if average population death rates are available. In 1996 and 1997 the throughput was double the average prison population; therefore, dividing the annual population death rates by two would give death rates per 100,000 receptions.

Standardised mortality ratios (SMRs)

Cause specific death rates do not take age and sex into consideration. Males and females and the young and the old are combined; yet, offender populations are younger and more male-dominated than the general population. Therefore, standardised mortality ratios (SMRs) were calculated. As female numbers were small, SMRs were calculated for males only. In basic terms, SMRs force the age distribution for the male offender populations to fit that of the general population.

Note: Mid-year population for prisoners and end-of-year population for community offenders were used as these take greater account of *time at risk* than receptions or starting supervision figures.

Male deaths in 1996

Table 3.14: SMRs for overall deaths of men in 1996

Age range	General population	Community offenders	Ex-prisoners	Prisoners
15 – 24	100	346	280	179
25 – 34	100	489	396	162
35 – 44	100	340	235	129
45 – 54	100	298	174	125
55 – 64	100	258	266	155
Overall SMR	100	358	276	150

SMRs are expressed relative to 100.

The overall SMRs for all deaths in 1996 show that community offenders were almost four times, ex-prisoners were almost three times and prisoners were almost two times more likely to die than the general population. Age-specific SMRs show that the 25–34 year old community offenders were five times more likely to die and 25–34 year old ex-prisoners were four times more like to die than same-aged population.

Table 3.15: SMRs for suicides/self-inflicted deaths of men in 1996

Age range (years)	General population	Community offenders	Prisoners
15 – 24	100	756	1028
25 – 34	100	867	672
35 – 44	100	1201	553
45 – 54	100	1309	1135
55 – 64	100	684	1448
Overall SMR	100	977	922

The overall SMRs for suicide/self-inflicted deaths in 1996 show that community offenders and prisoners were over nine times more likely to die than the general population. Age-specific SMRs show that community offenders aged 45 to 54 years were 13 times more likely to die and 55 to 64 year old prisoners were 14 times more likely to die than the same-aged general population.

Table 3.16: SMRs for accidental deaths of men in 1996

Age range (years)	General population	Community offenders	Prisoners
15 – 24	100	512	74
25 – 34	100	824	21
35 – 44	100	610	251
45 – 54	100	824	264
55 – 64	100	1013	0
Overall SMR	100	746	125

The overall SMRs for accidental deaths show that community offenders were over seven times more likely to die accidentally than the general population, whereas prisoners were only slightly more likely to die than the general population.

Male deaths in 1997

Table 3.17: SMRs for overall deaths of men in 1997

Age range	General population	Community offenders	Ex-prisoners	Prisoners
15 – 24	100	301	242	110
25 – 34	100	478	488	131
35 – 44	100	604	348	231
45 – 54	100	1018	1223	248
55 – 64	100	2831	4255	1892
Overall SMR	100	378	358	133

The overall SMRs for all deaths in 1997 show that community offenders and ex-prisoners were almost four times more likely to die than the general population, whereas prisoners were only slightly more likely to die than the general population. The age-specific SMRs suggest older offenders to be at greatest risk of death relative to the same-aged population.

Table 3.18: SMRs for suicides/self-inflicted deaths of men in 1997

Age range	General population	Community offenders	Prisoners
15 – 24	100	855	719
25 – 34	100	914	520
35 – 44	100	974	916
45 – 54	100	1663	712
55 – 64	100	2554	1322
Overall SMR	100	1307	800

Suicide SMRs were not calculated for ex-prisoners because of small numbers

The overall SMRs for suicide/self-inflicted deaths in 1997 show that community offenders were 13 times and prisoners were eight times more likely to die than the general population. The age-specific SMRs show that 55 to 64 year old offenders were at highest risk when compared with the same-aged general population.

Table 3.19: SMRs for accidental deaths of men in 1997

Age range (years)	General population	Community offenders	Prisoners
15 – 24	100	546	65
25 – 34	100	776	171
35 – 44	100	1015	54
45 – 54	100	479	287
55 – 64	100	319	330
Overall SMR	100	658	172

The overall SMRs for accidental deaths in 1997 show that community offenders were almost seven times more likely to die than the general community, although 35 to 44 year olds were ten times more likely to die than the same-aged population. Prisoners were less than twice as likely to die from accidents than the general population.

Overall, the findings show that, even when the age distribution for offender populations is made to match that of the general population, offenders are still more vulnerable to death. The SMRs provide further evidence that community offenders (including ex-prisoners) are more vulnerable to death than are prisoners.

Offender group similarities

It was expected that the two offender groups under study would be similar in terms of socio-demographic and criminal history factors. Data from the Offenders Index were used to compare all community offenders, ex-prisoners and prisoners in the study samples in order to examine this.

Sex

Table 3.20 shows that a larger proportion of community offenders were female than prisoners (10% vs. 3% respectively). However, when ex-prisoners are compared with prisoners the proportions are the same.

Table 3.20: Sex by offender group

Sex	Community offenders		Prisoners
	All	Ex-prisoners	
Male	1195 (90%)	242 (97%)	228 (97%)
Female	132 (10%)	7 (3%)	8 (3%)
Total	1327 (100%)	249 (100%)	236 (100%)

Age

The mean ages at death were:

- 33 years for community offenders;
- 34 years for ex-prisoners; and
- 39 years for prisoners.

Table 3.21 presents a breakdown by age group. A larger proportion of community offenders (two-thirds) fell into the younger age groups (15–34 years) than the prisoners (one-half).

Table 3.21: Age group by offender group

Age group (years)	Community offenders		Prisoners
	All	Ex-prisoners	
15 – 24	372 (29%)	83 (33%)	48 (20%)
25 – 34	451 (36%)	81 (33%)	65 (28%)
35 – 44	204 (16%)	24 (10%)	41 (17%)
45 – 54	146 (12%)	27 (11%)	30 (13%)
55+	94 (7%)	34 (14%)	52 (22%)
Total	1267 (100%)	249 (100%)	236 (100%)

Sentence length

Table 3.22 shows that over half of the community ex-prisoners were serving shorter sentences of less than 24 months when they died. In contrast over half of the prisoners were serving longer sentences.

Table 3.22: Sentence length by offender group

Sentence length	Community offenders	Prisoners
Up to 12 months	52 (36%)	14 (13%)
13 to 24 months	33 (23%)	14 (13%)
25 to 36 months	24 (17%)	8 (7%)
37 to 48 months	14 (10%)	11 (10%)
49 months +	19 (13%)	44 (41%)
Life	2 (1%)	16 (15%)
Total	144	107

Missing data for 105 community offenders and 130 prisoners

A larger proportion of natural deaths occurred among prisoners serving long sentences of four years or more (63%) than ex-prisoners (32%). Suicide/self inflicted deaths were more evenly distributed in terms of sentence length range. Fifty-one per cent of accidental deaths among community offenders occurred among those serving short sentences of under 12 months compared with 22 per cent for prisoners.

Criminal history

The offender groups' criminal history was compared. Table 3.23 presents statistics for the number of previous prison and community sentences served by the three offender groups. There were some similarities. Community offenders and ex-prisoners both had a median of three previous community sentences and ex-prisoners and prisoners both had a median of two previous prison sentences. The median is more helpful in making comparisons, as it is less distorted by extreme scores (of which there are some) than the mean.

Table 3.23: Number of previous sentences by offender group

Sentence type	Community offenders				Prisoners	
	Mean	All Median	Ex-prisoners Mean	Median	Mean	Median
Community Sentences	4.1	3	3.3	3	1.6	1
Prison Sentences	2.1	1	3.7	2	2.8	2

This study determined the causes and extent of death among community offenders and prisoners in 1996/7. Death rate comparisons were made with the general population. The death of community offenders received particular attention because of the dearth of research on this group of offenders.

There was found to be no statistically significant difference in death rates between male and female offenders. However, an age pattern was found within the deaths of both community offenders and prisoners. As expected natural deaths were more common among older offenders and unnatural or violent death was more common among younger offenders. It was found that over three-quarters of the accidental deaths of community offenders and two-thirds of the accidental deaths of prisoners occurred among the 15–24 and 25–34 years olds. Previous research by Biles et al. (1999) and Liebling (1992) reported that offenders in their late 20s and early 30s were at particularly high risk of violent death.

Various death rates were calculated so that comparisons could be made among community offenders, prisoners and the general population (e.g., death rates per 100,000 annual average population and per 100,000 receptions). Overall, community offenders were found to have the highest overall mortality rate. This was double the prisoners' rate, which supports Flemming et al. (1992b) who found that the mortality rate of non-custodial offenders in Australia was double the prisoners' mortality rate. The overall mortality rate for community offenders was much higher than the general community rate: the difference was four-fold when compared with the same-aged general population via SMRs. This difference is greater than Pritchard et al. (1997) who found probationers to have an overall mortality rate that was more than double the local community rate.

Natural deaths were most common among older offenders (45–54 and 55+ year olds) and this supports previous research by Biles et al. (1999). The natural causes death rates for the offender groups were relatively similar and at or below the natural causes death rate in the same-aged general population.

Over two-thirds of all suicide/self-inflicted deaths occurred among the younger age groups (15–24 and 25–34 year olds). The suicide/self-inflicted death rates for the two offenders' groups were relatively similar. The rate for community offenders was seven to eight times the same-aged general community rate. This compares with Pritchard et al. (1997) who found the suicide rate of probationers to be nine times the local community rate.

When methods used in suicide/self-inflicted deaths were examined, hanging was found to account for around one-third of deaths of community offenders and most (94%) deaths of prisoners. This concurs with previous research, which has consistently found hanging to be the most common method used by prisoners who commit suicide (Crighton and Towl, 1997; Dooley, 1990a). A recent internal report by the Prison Service stated that hanging was used in 93 per cent of all suicides (Prison Service, 2001). Offenders in custody considering taking their own lives frequently use this method, because prison offers few alternatives. Furthermore, hanging is a lethal method, more likely to lead to death than other methods (e.g., overdosing) and it is difficult to remove all opportunities for hanging in prison.

Community offenders had an accidental death rate that was more than five times higher than the rate for the same-aged general population. In contrast, prisoners had the lowest rate of all three groups. These findings support Biles (1994) who argued that while prison has its dangers, it still manages to protect prisoners from antisocial and potentially life-threatening behaviour such as illegal drug-taking, physical assaults and (drink-driving related) traffic accidents. A much larger proportion of accidental deaths involved drugs and/or alcohol for community offenders (21%) than prisoners (2%).

In fact, in line with previous studies, drugs and/or alcohol accounted for a far greater proportion of all deaths amongst community offenders (46%) than prisoners (3%) (Biles et al., 1999; Flemming et al., 1992b; Joukamaa, 1998). Drugs and alcohol are more readily accessible in the community than in prison. For community offenders, drugs and/or alcohol contributed to almost two-thirds of all accidental deaths and around one-third of all suicide/self-inflicted deaths. Drugs and alcohol affect thinking and the ability to reason; they can act as a depressant and decrease inhibitions and thus lead to suicidal thoughts (The Samaritans, 1998). It is known that drugs play a large part in the lives of offenders; however, the study findings show that drugs and alcohol also play a large part in the deaths of offenders in the community. This has implications for the treatment needs of community offenders, which is discussed later.

The homicide rate for community offenders was considerably higher than for the same-aged general population (20 to 30 times for 1996 and 1997 respectively). It was also higher than the rate for prisoners (five and nine times the prisoners' rate), thus lending support for the idea of prison protecting offenders from violent death.

For community offenders overall death rates were analysed by type of Probation Service supervision. Offenders serving Probation Orders had the highest death rate, followed by ex-prisoners receiving post-release supervision. These findings accord with Flemming et al.

(1992b) who found probationers had a higher death rate than did offenders serving community service orders in Australia. There are two possible explanations. Firstly, offenders serving Probation Orders and ex-prisoners receiving post custodial supervision are likely to have committed more serious crimes and therefore likely to lead more antisocial and risky lifestyles. Secondly, community service may be viewed as a meaningful activity that helps to increase offenders' reintegration into society and therefore lead a less criminal and risky lifestyle.

Ex-prisoners being supervised in the community were examined because it has been suggested that when they die, they tend to do so soon after release. The data supported this: many ex-prisoners died soon early on – the mode was one week. The study findings mirror those of prison studies, which have found that a large proportion of deaths occur during the early stages of custody. Crighton and Towl (1997) found that 10 per cent of all suicide/self-inflicted deaths occurred within 24 hours and 45 per cent within one month of arrival at prison. The present study yielded similar findings for ex-prisoners: 10 per cent of all suicide/self-inflicted deaths had occurred by one week after release and 50 per cent by four weeks after release. The findings suggest that the early stages after release from prison are a risky time for offenders in terms of violent death.

As terminally ill offenders have been known to be released early from prison on compassionate grounds (Tilt, 1998) it was speculated that most of the deaths that occurred in the first few weeks after release would be due to natural causes. In fact accidental deaths were found to account for an even larger proportion of deaths among ex-prisoners during this period; most of which involved drugs and/or alcohol. Deaths involving drugs and/or alcohol (accidental, suicide, etc.) accounted for around half of all deaths of ex-prisoners. Offenders who come off drugs in prison (thus developing a lower tolerance to drugs) and then return to drug use on release may help explain these high figures. Another or additional explanation may be the propensity of ex-prisoners to engage in binge drug taking on return to the community, because of increased access to illegal drugs. Both practices are likely to increase the risk of accidental drug overdosing. Research currently being conducted by Dr. Michael Farrell of the National Addiction Centre and Nicola Singleton of the Office of National Statistics for the Home Office should increase further our understanding of the drug-related deaths of recently released prisoners.

Standardised Mortality Ratios that forced the age distribution for the male offender groups to fit that of the general population were calculated. Even with such age standardisation, offenders were still more vulnerable to death than the general population, especially community offenders. In terms of overall death community offenders and ex-prisoners were

more likely to die than prisoners. For suicide/self-inflicted death, community offenders and prisoners were at least eight times more likely to die than the general population. For accidental death, community offenders were around seven times more likely to die than the general population. In contrast, prisoners were only slightly more likely to die from an accidental death than the general population.

The present study was based on the assumption that the prisoners and community offenders were similar in terms of socio-demographic and criminal history factors. Offenders Index data was used to compare the community offenders, ex-prisoners and prisoners. A larger proportion of community offenders than prisoners were female; however, when ex-prisoners are compared with prisoners the sex ratios were similar. On average, the prisoners were slightly older (late 30s) than the community offenders (early 30s) when they died. There was some variability in the sentence lengths being served by ex-prisoners and prisoners. Over half of the ex-prisoners were serving sentences of less than 24 months when they died compared with one-quarter of prisoners. Overall, the prisoners were serving longer sentences than the ex-prisoners when they died. Community offenders and ex-prisoners had served a similar number of previous community sentences (prisoners had fewer) and ex-prisoners and prisoners had served a similar number of previous prison sentences (community offenders had fewer). Overall, there appeared to be some similarity between the offender groups. It is possible that the offender groups varied on other relevant factors including mental illness and previous suicide attempts; however, no data were available.

In conclusion, findings of the study suggested that violent death is an even greater problem for community offenders than prisoners. Both offender groups were similarly vulnerable to suicide/self-inflicted death; however, the risk of accidental death and of homicide were greater for community offenders. Also, drugs and alcohol played a bigger part in the death of community offenders. These findings are not surprising as unlike offenders in custody, offenders in the community have greater freedom to engage in antisocial and risky behaviour that can involve illegal drug taking, physical assaults and in particular (drink-driving related) traffic accidents. These findings add support to Biles who argued that while prison has its dangers, it still manages to protect or limit offenders' involvement in antisocial and risky behaviour (Biles, 1994).

The Prison Service is continually taking steps to reduce the number of suicide/self-inflicted deaths in its establishments. Since 1994 the Prison Service has had in place a strategy on the awareness of the problem of suicide and self-harm. April 2001 saw the implementation of the recommendations of an internal review on the prevention of suicide and self-harm in the Prison Service (Prison Service, 2000). This includes the use of full-time suicide prevention co-ordinators in high-risk local prisons, the development of new screening procedures and improved mental health support.

It is important that ex-prisoners can continue their drug treatment when released into the community and it is vital that this occurs immediately after release. This issue is currently being addressed by the Prison Service's 1999 drugs strategy (*Tackling drugs in prison*). There are developments under way to provide drug treatment throughcare for newly released prisoners in specially designed hostels in the community. A consequence of this service could be a reduction in the number of ex-prisoners dying from drug-related deaths, during what is a particularly vulnerable period. (The Probation Service will shortly take over responsibility for this service.)

The findings have implications for the Probation Service and other organisations that work with offenders who are being supervised in the community. It is clear that some members of the Probation Service have acknowledged the need to think about violent death among community offenders. At a Howard League for Penal Reform seminar (7th March 2001), Arnold Barrow, the Chief Probation Officer of Suffolk Probation Service, spoke about suicide after release from prison. The Probation Service does not have the same duty-of-care as the Prison Service (i.e., that prisoners are held in conditions that are safe and promote their well being); however, the Probation Service is committed to suicide and self-harm prevention, despite receiving no guidelines. Unlike the Prison Service, the Probation Service does not have a policy unit responsible for the self-harm and suicide of offenders in the community, although Arnold Barrow stated that this was something that was being considered. If such a policy unit is set up it would be possible to develop a strategy on the awareness of violent death amongst offenders being supervised by the Probation Service.

Death categories used in coding framework

Natural causes

Suicide/self inflicted deaths (including open verdicts)

- hanging/strangulation/suffocation
- drugs/alcohol
- cutting
- CO poisoning
- drowning/water related
- unascertainable
- burning/fire/smoke related
- vehicle involvement
- other

Accident/misadventure

- drugs/alcohol
- road traffic accident
- fall/head injury
- drowning/water related
- hanging/strangulation/suffocation
- CO poisoning
- unascertainable
- burning/fire/smoke related
- other

Other drug/alcohol related (including natural – alcohol related deaths such as alcohol related cirrhosis of the liver)

Homicide/injury purposefully inflicted

cutting/piercing

firearm

other/unspecified means

Other violent death (including those where it is not known if purposefully inflicted or accidental)

Unascertainable

Appendix B

Death by age group for the general population

Table B.1: Mode of death by age for the general community in 1996 (15-64 years)

Mode of death	Age (years)					Total
	15-24	25-34	35-44	45-54	55+	
Natural causes	1,401 (1.8%)	3,326 (4.2%)	7,577 (9.5%)	20,595 (25.8%)	46,942 (58.8%)	79,841 (100%)
Accidents/ adverse effects	1,167 (23.2%)	1,266 (25.2%)	876 (17.5%)	890 (17.7%)	821 (16.4%)	5,020 (100%)
Suicide/self- inflicted injury	353 (12.5%)	843 (29.7%)	669 (23.6%)	608 (21.5%)	361 (12.7%)	2,834 (100%)
Homicide/ other violence	350 (20.3%)	481 (28.0%)	37 (22.0%)	324 (18.8%)	186 (10.8%)	1,720 (100%)
Overall mortality	3,271 (3.7%)	5,916 (6.6%)	9,501 (10.6%)	22,417 (25.1%)	48,310 (54.0%)	89,415 (100%)

Taken from ONS (1998a)

Table B.2: Mode of death by age for the general community in 1997 (15-64 years)

Mode of death	Age (years)					Total
	15-24	25-34	35-44	45-54	55+	
Natural causes	1,411 (1.8%)	3,145 (4.0%)	7,404 (9.5%)	20,702 (26.5%)	45,512 (58.2%)	78,174 (100%)
Accidents/ adverse effects	1,172 (23.7%)	1,217 (24.6%)	938 (19.0%)	837 (16.9%)	775 (15.7%)	4,939 (100%)
Suicide/self- inflicted injury	383 (13.6%)	795 (28.3%)	651 (23.2%)	628 (22.3%)	353 (12.6%)	2,810 (100%)
Homicide/ other violence	339 (18.4%)	501 (27.2%)	451 (24.5%)	333 (18.1%)	216 (11.7%)	1,840 (100%)
Overall mortality	3,305 (3.8%)	5,658 (6.4%)	9,444 (10.8%)	22,500 (25.6%)	46,856 (53.4%)	87,763 (100%)

Taken from ONS (1998b)

Appendix C

Population data for death rate calculations

Table C.1: Persons supervised by the probation service by supervision type

Supervision type	1996	1997
Probation orders	54,148	56,660
Males	43,709	45,285
Females	10,439	11,375
Community Service orders	33,969	35,219
Males	31,391	32,158
Females	2,578	3,061
Combination	19,675	21,767
Males	17,790	19,577
Females	1,885	2,190
Post release supervision	33,310	34,080
Males	32,150	32,500
Females	1,160	1,580
Total	141,102	147,726
Males	125,040	129,520
Females	16,062	18,206

Source: Probation Statistics 1998; Prison Statistics 1996; Prison Statistics 1997

Note: Persons being supervised under the Children and Young Persons Act 1969, suspended sentence supervision and money payment supervision were excluded.

Table C.2: Persons starting supervision by the probation service by supervision type

Supervision type	1996	1997
Probation orders	49,105	51,509
Community Service orders	46,501	47,870
Combination	17,004	19,087
Post release supervision*	33,310	34,080
Total	145,920	152,546

Source: Probation Statistics 1998; Prison Statistics 1996; Prison Statistics 1997

* Reliable 'starts' figures unavailable; more reliable prison discharge data used

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