

WA DRUG ABUSE STRATEGY OFFICE

Statistical Bulletin Number 4, July 1997

OPIOID DEATHS IN WESTERN AUSTRALIA, 1996

Introduction

This Bulletin contains detailed data about deaths in this State in 1996 which were primarily due to heroin and other opioid drugs. The information presented follows *Statistical Bulletin No. 2* which dealt with mortality caused by opioids in WA in 1995 (published August 1996).

The 1996 data continues to document premature deaths by overdose of young adults that has followed an apparent increase in availability of heroin since the early 1990s.

Over the past decade there has been a marked increase in global opium production leading to greater availability of heroin in Australia as well as other countries. In 1995 world opium yields were estimated to have increased by 16% from the previous year.¹ The consequences of the increased availability of heroin have been noted in a number of official reports and by President Clinton in a report to the United States congress in 1995.²

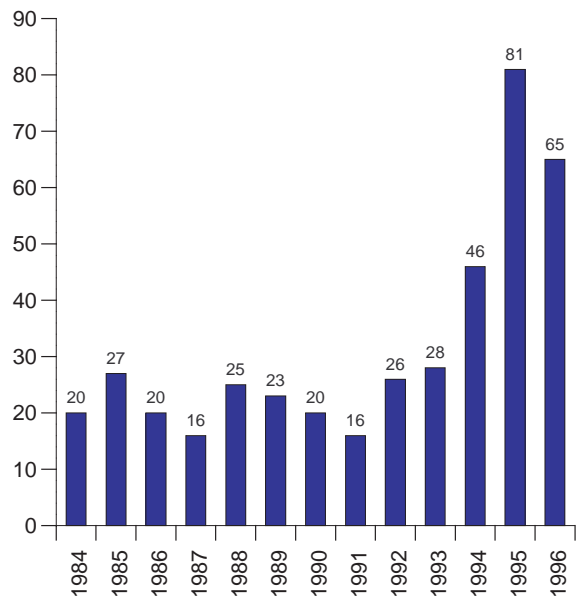
The analysis required identification and examination of those Coronial records where the cause of death was confirmed by formal coronial inquiry as being directly caused by an opioid or a combination of opioids and other drugs. For the remaining records where the coronial investigation has not been finalised relevant cases were identified from Chemistry Centre data where opioid drugs had been detected by toxicological analysis.

Table 1: Quarterly deaths caused by heroin and other opioids, 1995-1996

	1995				1996			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Heroin	11	14	19	19	10	9	10	9
All opioids	17	18	24	22	15	19	18	13

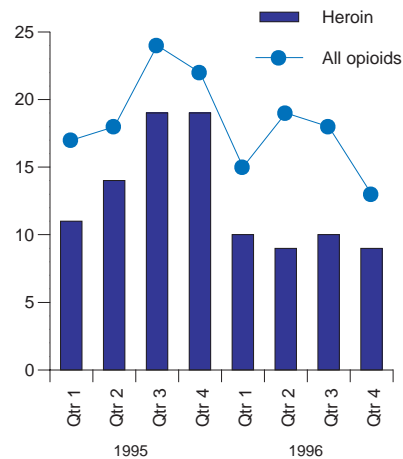
Source: Coroner's Court; Chemistry Centre

Figure 1: Annual deaths caused by opioids, 1984-1996



Source: Coroner's Court; Chemistry Centre

Figure 2: Quarterly deaths caused by heroin and other opioids, 1995-1996



Source: Coroner's Court; Chemistry Centre

The cause of death of this latter group of cases was classified as being a probable opioid related death in conjunction with the advice of the Chief Forensic Scientist.

All confirmed and probable opioid deaths were examined in detail and were classified as primarily being due to illicit or licit opioid abuse. Illicit opioid deaths were those cases where heroin or one its metabolites, usually monacetylmorphine was detected, where there was evidence of self administration of heroin or other opioids (eg samples from injection sites or injection paraphernalia present at the scene) and from other information, such as a history of treatment for heroin abuse.

The remaining cases were classified as licit opioid deaths if the individual had been under medical care for health problems, for example, having been prescribed an opioid for pain relief arising from a medical condition.

Table 2: Quarterly deaths in WA caused by heroin & other opioids, 1996

	Qtr1	Qtr 2	Qtr 3	Qtr 4	Total
Confirmed by coronial finding					
Illicit					
Heroin	10	8	8	1	27
Morphine	-	1	1	1	3
Other opioids	1	2	-	-	3
Opioids combination	2	-	2	-	4
Licit					
Other opioids	-	4	-	1	5
Opioids combination	2	2	1	-	5
Total confirmed	15	17	12	3	47
To be confirmed by coroner					
Illicit					
Heroin	-	1	2	8	11
Morphine	-	-	1	1	2
Other opioids	-	1	1	-	2
Opioids combination	-	-	-	1	1
Licit					
Other opioids	-	-	1	-	1
Opioids combination	-	-	1	-	1
Total probable	-	2	6	10	18
Confirmed & probable					
Heroin	10	9	10	9	38
Morphine	-	1	2	2	5
Other opioids	1	7	2	1	11
Opioids combination	4	2	4	1	11
Total confirmed & probable	15	19	18	13	65

Source: Coroner's Court; Chemistry Centre

Number of deaths

There was a total of 65 deaths directly caused by opioids in this State in 1996, of which 47 (72.3%) were confirmed by coronial investigation, with the remaining 18 cases considered to have been probably caused by opioids (Table 2, page 2). As the remaining 18 cases are yet to be confirmed by the Coroner it is to be emphasised that the total of 65 deaths for 1996 should be regarded as provisional.

This was a drop of nearly 20% from the total of 81 opioid deaths that occurred in 1995. This reduction should be noted with caution but may indicate that there has been a recent reversal in the upward trend in the annual number of deaths that has occurred since 1991 (Figure 1, page 1). This proposition is supported by a quarterly analysis of the number of heroin and other opioid deaths for 1995 and 1996.

The number of opioid deaths peaked in the third quarter of 1995 with 24 deaths, followed by an overall drop of 46% by the last quarter of 1996, when there was a total of 13 opioid deaths (Table 1, page 1; Figure 2, page 1). It can be observed that the number of heroin deaths peaked in the last two quarters of 1995, when 19 heroin deaths occurred, and that subsequently throughout 1996 the number of deaths has remained relatively static, with between 9 and 10 heroin deaths per quarter.

Our analysis suggests that in 1996 there were 38 likely heroin related deaths in this State. This is a drop of 40% on the total of 63 heroin deaths that occurred in 1995. In 1996 and 1995 there were 5 and 3 morphine deaths respectively. ³

Table 3: Deaths in WA caused by heroin & other opioids by gender, 1996

	Male	Female	Total
Illicit			
Confirmed	29	8	37
Probable	13	3	16
Sub total illicit	42	11	53
Licit			
Confirmed	4	6	10
Probable	1	1	2
Sub total licit	5	7	12
Total	47	18	65

Source: Coroner's Court; Chemistry Centre

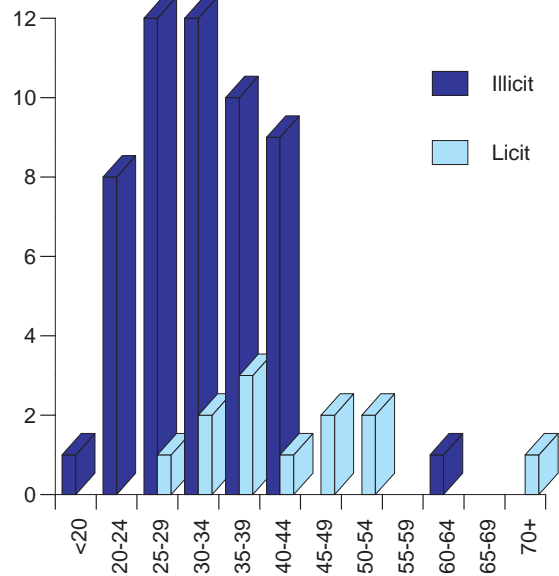
Gender

Nearly three out of every four of all opioid deaths in 1996 involved males (Table 3, page 2). It was found that illicit opioids rather than licit opioids were a more significant cause of death for males, with 42 (89%) of the 47 male deaths primarily due to illicit opioid use, compared to females where 11 (61%) out of the 18 female deaths involved illicit opioid use.

Age group

It can be seen that the majority of the opioid deaths in 1996 involved persons between the ages of 25 and 39 years, with a total of 40 (62%) of all deaths occurring in the 25-39 age group (Table 5, page 3). Our analysis clearly indicates that opioid related mortality is not a common cause of death in younger adults, as there were only 8 deaths recorded for 20-24 age group and a single death involving a person less than 20 years of age.

Figure 3: Deaths caused by heroin & other opioids by age group, 1996



Source: Coroner's Court; Chemistry Centre

Table 4: Purity of heroin seized by WA Police, January-July 1996

%	No. of seizures							All samples	
	January	February	March	April	May	June	July	n	%
0-10				1	1			2	3.6
11-20	1			2	1		1	5	9.1
21-30	1			2	1	1		5	9.1
31-40	1	1	1	2	1	2		8	14.5
41-50			3	2	2	1	1	9	16.4
51-60	2	2	1	2	2		2	11	20.0
60+	5	3		2		4	1	15	27.3
Total	10	6	5	13	8	8	5	55	100.0

Source: WA Police; Chemistry Centre

Table 5: Deaths caused by heroin & other opioids by age group, 1996

	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
Illicit													
Confirmed	1	7	6	8	8	6	-	-	-	1	-	-	37
Probable	-	1	6	4	2	3	-	-	-	-	-	-	16
Sub total illicit	1	8	12	12	10	9	-	-	-	1	-	-	53
Licit													
Confirmed	-	-	-	2	3	1	2	2	-	-	-	-	10
Probable	-	-	1	-	-	-	-	-	-	-	-	1	2
Sub total licit	-	-	1	2	3	1	2	2	-	-	-	1	12
Total	1	8	13	14	13	10	2	2	-	1	-	1	65

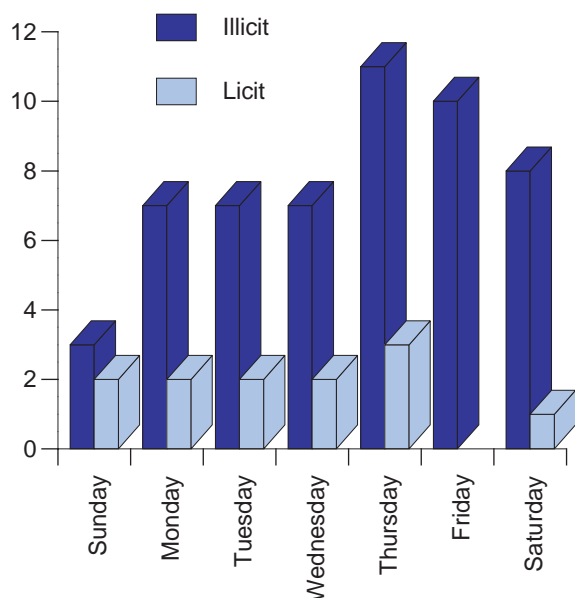
Source: Coroner's Court; Chemistry Centre

It can be seen that illicit opioid mortality in this State largely involves people from their late 20s to their early 40s, whereas licit opioids involve an older age group of persons typically from their early 30s to their early 50s (Figure 3, page 3).

Day of week

There was evidence that day of week is a factor in relation to deaths due to illicit opioids (Table 6, page 4). Licit opioid deaths were evenly distributed over the week, whereas illicit opioid deaths typically occurred at the end of the week. A total of 29 (55%) of the 53 illicit deaths occurred on Thursdays, Fridays and Saturdays (Figure 4, page 4).

Figure 4: Deaths caused by heroin & other opioids by day of week, 1996



Source: Coroner's Court; Chemistry Centre

Table 6: Deaths caused by heroin & other opioids by day of week, 1996

	Illicit	Licit	Total
Sunday	3	2	5
Monday	7	2	9
Tuesday	7	2	9
Wednesday	7	2	9
Thursday	11	3	14
Friday	10	-	10
Saturday	8	1	9
Total	53	12	65

Source: Coroner's Court; Chemistry Centre

It is important that this result is investigated to identify other factors which are associated with illicit opioid abuse. For instance, it may be possible that the pattern of mortality occurring towards the end of the week may reflect recreational patterns of drug use with heavy use of alcohol by non heroin dependent individuals.

Heroin purity

It was considered that a key factor for the increase in opioid related deaths up to the end of 1995 discussed in Statistical Bulletin Number 2 (published in August 1996) had been an increase in the purity of heroin available to both dependent and recreational users. This suggestion has now been confirmed by recently available data.

The results of the analysis of 55 samples of heroin seized by the Western Australian Police over the period January-July 1996 show that heroin abusers in this State face considerable risks because of the high levels of purity of heroin (Table 4, page 3).

For instance, only 7 (12.7%) samples had a purity of 20% or less, and nearly half of all samples had a purity of greater than 50%. If heroin abusers in this State typically used heroin with these purity levels, there would only be about a one in eight chance that the heroin had a purity of 20% or less, and about a one in 25 chance of the heroin having a purity of 10% or less.

References

¹ Australian Bureau of Criminal Intelligence. *Australian illicit drug report 1995-96*. Canberra, ABCI, 50.

² White House. *1995 National Drug Control Strategy: strengthening communities' response to drugs and crime*. Washington DC, White House, 24.

³ There is a likelihood that morphine deaths are attributable to heroin as diacetylmorphine is metabolised to monacetylmorphine and finally to morphine. But it is also possible that these deaths result from access to morphine originally of pharmaceutical origin.

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