



Statistical Report **1** Series 2 April 1975

Published by the Department of the Attorney General & of Justice NSW Bureau of Crime Statistics & Research T Vinson Director

Accidental Shootings

A joint project of the Bureau & the NSW
Police Department Ballistics Unit

ISBN 0 7240 0505 6

Background

The fear which many people have of guns is likely to be aroused by any statistical analysis of crimes, accidents and suicides involving firearms. Indeed, many people would consider such analyses to be somewhat beside the point. As far as they are concerned the views of the British Home Secretary expressed in a 1973 'greenpaper' are in need of no statistical justification:

"The safety of the citizen is a prime concern of government and a more stringent and efficient control of firearms is necessary to prevent more of them falling into the hands of criminals".

The problem is, however, that the types of firearms, crimes and casualties which come to the attention of the police are extremely varied. As Greenwood (1973) has argued, 'to mix together under a single heading the very serious and the very trivial, the domestic argument and the armed robbery, the irresponsible child and the dangerous hardened criminal, may not provide a sound basis for action of any kind'.

It is necessary, therefore, that the present review of gun casualties in New South Wales should attempt to separate accidental, criminal and suicidal shootings as well as examine characteristics of gun users and their victims, the circumstances in which casualties occur, and significant features of the weapons involved.

Such a review is now possible following the introduction in July 1973 of a new statistical series, 'Firearms casualty report'. Investigating police are requested to complete this form in every case in which a person is killed or injured by a firearm of any type, including a speargun or explosive powered tool.

Needless to say, the quality of reporting can be expected to improve as those compiling the statistical returns gain in experience. Nevertheless, the comprehensiveness of the data means that it is possible to explore wider aspects of gun control than those specifically related to the criminal misuse of firearms. Perhaps the main value of the present

data is that it places in perspective the vast overseas literature on the need for stricter controls on the use of concealable firearms. It will be seen that the hand gun plays a minimal role in this State's firearm casualties whether they be of an accidental, suicidal or criminal nature.

That we are not plagued with the same hand gun epidemic as exists, for example, in America* is no reason for complacency about the issue. Rather, it highlights the fact that gun policy debate in this country need not be constrained by the same considerations which apply in a society with even more urgent priorities. This difference is illustrated by a recent hard-hitting commentary (Riley, 1974) on the need for stricter controls on the hand gun in America.

Riley would exempt from such controls hunting and sports shooting with rifles. He includes these activities in a list of more legitimate uses of firearms, arguing that many millions of Americans derive a great deal of pleasure from their sporting weapons. Apart from those who belong to shooting clubs - and who presumably possess some skill in the handling of firearms - there are "unknown millions of 'plinkers' i.e., kids from six to sixty who enjoy shooting informally at tin cans, balloons, bottles and other such improvised targets".

* A conservative estimate by the American Task Force on Firearms to the National Commission on the Causes and prevention of Violence showed 90,000,000 firearms in civilian hands in 1968. Between 1962 and 1968 sales of hand guns quadrupled (from 0.6 to 2.5 million yearly). National Commission On The Causes And Prevention Of Violence, to establish Justice, to Insure domestic tranquillity (1969).

Firearms Accidents

It is precisely this area of 'amateur' shooting which, within the Australian context, warrants close examination. The motivation and intentions of such shooters may be far different from those deliberately using weapons in the course of criminal activities. Regrettably, as the data presented below amply demonstrates, guns remain lethal even in the hands of 'plinkers'.

We commence our examination of gun casualties in New South Wales, with data concerning accidental shootings. In a subsequent report we will present information on suicides and casualties resulting from criminal activity.

Gun Users

Public anxiety about the lethal properties of guns and their potential for accidental or intentional misuse is alleviated when the person handling the gun is mature and skilled in the use of firearms. Unfortunately, those using weapons in New South Wales are often deficient in both these respects: they are neither mature nor experienced in the handling of guns.

Between July 1973 and June 1974 a total of 136 firearm accidents were reported to the Police. In almost every case (96 per cent) the person handling the gun was a male and in three cases out of every five (58.9 per cent) he was less than twenty years of age. One case in every five involved a child who was less than fifteen years:

Table 1 Ages of Gun Users involved in Accidents
(N=111:Details not specified in 25 Cases)

| Age | Percentage |
|----------------|------------|
| Under 10 years | 2.3 |
| 10 - 14 years | 18.6 |
| 15 - 19 years | 38.0 |
| 20 - 24 years | 15.5 |
| 25 - 29 years | 9.3 |
| 30 - 34 years | 7.0 |
| 35 - 39 years | 3.1 |
| 40 years + | 6.2 |

The age distribution of those injured in firearm accidents closely resembled the age pattern of the shooters. Six out of ten were under 20 years and one in four was less than 15 years old. Seven of the victims were under 10 years of age. All but 10 were males.

Apart from the fact that the shooters were in the company of people of the same age at the time of the accidents, the similarity of the two age distributions is attributable to one other major factor. In more than two cases out of five (42.6 per cent) the shooters fell victims to their own weapons - they shot themselves:

Table 2 Source of Injury

| | Number | Percentage |
|----------------|------------|--------------|
| Self-inflicted | 58 | 42.6 |
| Someone else | 78 | 57.4 |
| | <u>136</u> | <u>100.0</u> |

Table 3 Experience in handling Firearms

(N = 111: Details not specified in 25 Cases)

| | Percentage |
|------------------|--------------|
| Less than a year | 36.0 |
| 1 - 4 years | 35.2 |
| 5 - 9 years | 9.0 |
| 10 years+ | 19.8 |
| | <u>100.0</u> |

In the absence of reliable information about the ages of those who own or use guns in Australia it is difficult to know to what extent the young are over-represented in the present casualty figures.* Some may think this additional information an unnecessary refinement. They may consider the proportion of accidents attributable to young gun users sufficient justification for designing special measures to protect them and potential accident victims.

It may be, however, that age is a less important factor in the occurrence of accidents than the individual's experience of handling guns. In three cases out of ten (29.4 per cent) the shooter was said to have had less than a year's experience in the use of weapons. For seven people the acquaintance was measured in terms of just a few weeks:

With only one year's data available for analysis there are limits on how far we can probe the relative contribution of 'age' and 'experience' to the occurrence of gun casualties. A higher proportion of the accidents caused by young shooters - those under 20 years of age - resulted in injury to other people. Within the same age group, the individual's experience in handling guns appeared to be unrelated to whether the injury was self-inflicted or not.

Shooters living in 'country' areas (5.78 accidents per 100,000 population) and Newcastle (5.47/100,000) are more than five times as likely as those resident in Sydney (1.06/100,000) to be responsible for firearm casualties, (Wollongong had an accident rate of 3.1 per 100,000 population). These differences in rates probably reflect the distribution of firearms throughout the State.

In later sections of this report we explore the importance of factors extraneous to the gun user - the condition of ammunition and weapon, visibility at the time of the accident and the physical setting in which it occurred. Quite apart from these mechanical and environmental influences we should ask to what extent the gun user was impaired by alcohol.

* Research being conducted by Professors G.Hawkins and R. Harding should help rectify this situation.

Nature of Injuries

Unlike the results of a previous study of serious assaults and homicides,* the present findings indicate that drink played a far less significant role in firearm accidents. In more than nine out of ten (92 per cent) of the 116 cases for which information was available, neither the gun user or the person injured had been drinking prior to the accident.

We have already seen that the majority of firearm accident victims were quite young. What types of injuries did they sustain?

First it should be noted that fifteen people died as a result of the accidental shootings. Five were under 19 years of age, three were between 19 and 25 and six were over twenty five. (The victim's age was not specified in one case).

The self loading or automatic rifle was responsible for more fatalities than any other type of weapon. A major problem with this rifle is that when it is loaded, cocked and with the bolt in the forward position, there is little chance of the untrained person knowing whether the weapon is loaded or unloaded.

The tabulation of wound locations which follows conveys little of the long term physical and social consequences of some of the injuries. For example, apart from the fatalities, there were 34 serious medical injuries requiring hospitalisation and long term treatment. (Fifteen of these were self-inflicted and 19 were caused by others).

The serious wounds included complicated internal injuries such as abdominal and pelvic wounds, intestinal damage, fractured ribs and limbs, severe facial, head, lung and chest injuries and, in the case of one teenager, permanent injury to the right hand.

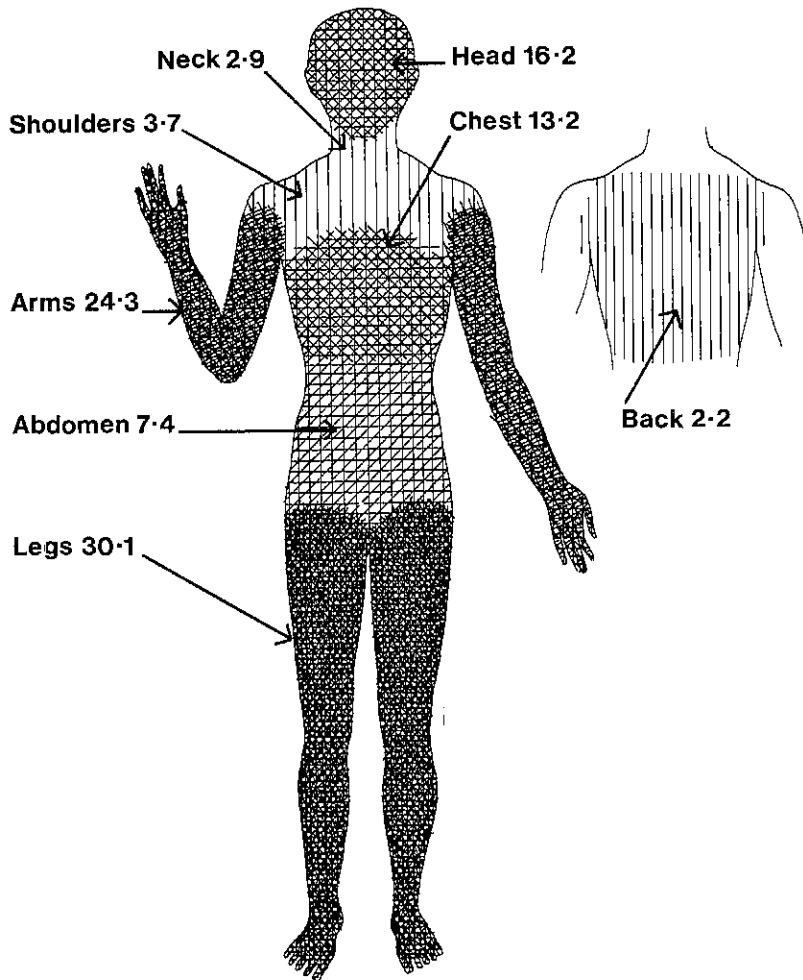
The pattern of wound location in firearm accidents was different from that revealed by the Bureau's earlier study of gun assaults and homicides. Leg and arm injuries were far more common among the accident cases:

Table 4 Wound Locations—Accidental Shootings

| | Number | Percentage |
|-----------|--------|------------|
| Chest | 18 | 13.2 |
| Head | 22 | 16.2 |
| Abdomen | 10 | 7.4 |
| Neck | 4 | 2.9 |
| Back | 3 | 2.2 |
| Shoulders | 5 | 3.7 |
| Leg | 41 | 30.1 |
| Arms | 33 | 24.3 |
| | <hr/> | <hr/> |
| | 136 | 100.0 |

* Gun And Knife Attacks, Bureau of Crime Statistics and Research Report No. 9, August 1973.

Wound Locations as Percentages



The Weapon

Seven out of ten (69.1 per cent) of the weapons involved in accidental shootings were rifles. Approximately one in eight involved air-rifles and, in an equal number of cases, the injury resulted from shot-gun wounds. Revolvers or pistols were responsible for only five accidents:

Table 5 Type of Weapon involved

| | Number | Percentage |
|-------------------------|--------|------------|
| RIFLE | 94 | 69.1 |
| Single shot - | 30 | |
| Repeater - | 33 | |
| Self-loading - | 31 | |
| AIR RIFLE (single shot) | 18 | 13.2 |
| SHOT GUN | 17 | 12.6 |
| Single shot - | 7 | |
| Self loading - | 1 | |
| Double barrel - | 7 | |
| Not specified - | 2 | |
| REVOLVER/PISTOL | 5 | 3.7 |
| SPEARGUN | 1 | 0.7 |
| EXPLOSIVE POWERED TOOL | 1 | 0.7 |
| | <hr/> | |
| | 136 | 100.0 |

Types of Weapon

A great many different makes of weapons were involved in the accidents. However, four types of guns accounted for more than a third (35.3 per cent) of the total casualties.

Perhaps more important than the question of manufacture was the fact that two-thirds of the weapons were of .22 calibre. More than one in ten were 12 gauge shotguns:

Table 6 Calibre of Weapons

| Calibre | Number | Percentage |
|---------------|--------|------------|
| .22 | 88 | 64.7 |
| 12 gauge | 16 | 11.8 |
| .177 | 5 | 3.7 |
| .38 | 3 | 2.2 |
| .32 | 2 | 1.5 |
| .222 | 2 | 1.5 |
| .243 | 1 | 0.7 |
| .303 | 1 | 0.7 |
| .308 | 1 | 0.7 |
| .45 | 1 | 0.7 |
| Not specified | 4 | 2.9 |
| | <hr/> | |
| | 136 | 100.0 |

Extraneous Factors

The .22 calibre rifle is a direct descendant of the old 'pea rifle'. Fifty or sixty years ago when black powder was used, this type of weapon did not have a great deal of power. With the evolution of the modern smokeless .22 calibre cartridge, its power has been greatly increased. This is evidenced by the fact that all manufacturers of .22 calibre ammunition place the following notice on each box that is sold:

'Dangerous to a distance of one mile'.

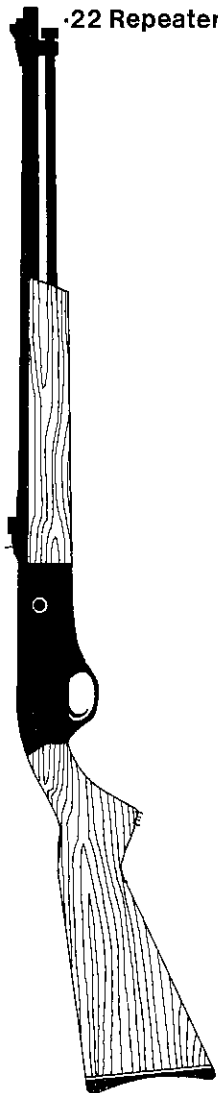
Ballistics experts are, in fact, aware of many instances in recent years where a person has been injured or killed at distances up to one mile. A .22 cartridge discharged at a human being at close range is capable of passing right through the body. In cases of suicide where most persons shoot themselves through the head, the bullet penetrates the tough human skull and usually just exits from the skull or is lodged just beneath the surface of the skin.

At the present time any person in New South Wales over the age of sixteen can walk into one of numerous retail outlets throughout the State and purchase a .22 calibre firearm. In fact they can purchase the most powerful rifles and shotguns that are offered for sale.

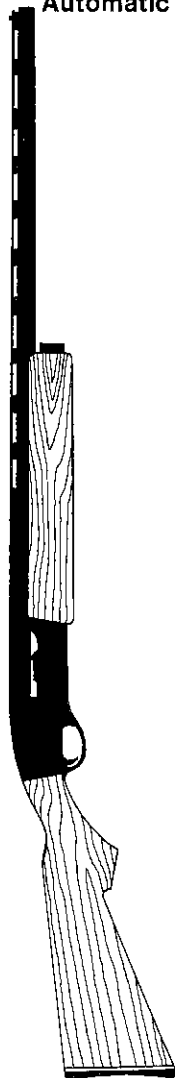
The 12 gauge shotgun also accounted for a substantial number of firearm casualties. This weapon is capable of discharging different classes of shot which can inflict a lethal wound on a human being at distances up to 200 yards. There is no more devastating weapon at close range where it can cause gross mutilation.

The .22 calibre high velocity sporting weapon is designed for use at longer distances. It is capable of inflicting very severe wounds on human beings or animals at distances up to three or four hundred yards. It is a high velocity, powerful weapon.

.22 Repeater Rifle



Automatic Shotgun



We noted earlier the youthfulness of many of the gun users and victims involved in weapon casualties. Now that we have considered the destructive potential of even those guns which are in common use, it is appropriate to return to a question touched upon earlier in this discussion:

To what extent were the accidents attributable to factors extraneous to the person using the weapon - factors like the age or poor condition of the gun and ammunition?

Obviously, lack of precaution in the selection and maintenance of shooting equipment may be linked with the age and personal make-up of the gun user. Nevertheless, it would be helpful to know if the picture we already have of gun accidents resulting from young and inexperienced people mishandling firearms really reflects the fact that these groups tend to use poor equipment.

In all but nine cases the investigating police reported on the condition of the guns involved in accidents. The weapons were considered to be in at least 'fair' or 'average' condition in 'six cases out of seven.

The state of the ammunition was not assessed in 24 instances but the investigating police rated it defective in less than four per cent of the remaining 112 cases:

**Table 7 Police Assessment of Condition of
(i) Gun & (ii) Ammunition**

| | Gun | Ammunition |
|---------------------------|------|------------|
| | % | % |
| Neglected, old, bad | 14.0 | 3.0 |
| Average, fair | 16.9 | 2.2 |
| New, very good, excellent | 62.5 | 77.2 |
| Not specified | 6.6 | 17.6 |

Less complete information was available concerning the age of the gun and ammunition. Of the 81 cases in which the age of the weapon was established, six times out of ten it was less than five years old. Only one in ten was more than 20 years old. With regard to the ammunition, more than nine out of ten of the 91 fully documented cases involved ammunition that was less than a year old. In only three cases were guns, and two cases ammunition, considered to be of defective manufacture.

Environment

If few of the accidents appear to be attributable to defective equipment, perhaps environmental factors (like cover and the amount of light) played a more prominent role.

Visibility at the time of the accident was reported in all but 8 cases. In more than four cases out of five (83.6 per cent) light conditions were described as 'clear'. In eleven instances the light was considered 'poor' and in a further seven cases a spotlight was being used.

8

Naturally, not all of the accidents occurred in the open. In fact, one in three took place in buildings or motor vehicles. Of the casualties which did occur outdoors, the vast majority took place in open country. In the opinion of the investigating police, there were only 15 cases where the victim may have been obscured by 'dense' or 'light' cover:

Table 8 Accident Victim's Location

| | Number | Percentage |
|--------------|--------|------------|
| Dense cover | 4 | 2.9 |
| Light cover | 11 | 8.1 |
| Open country | 74 | 54.4 |
| Building | 33 | 24.3 |
| Vehicle | 14 | 10.3 |
| | <hr/> | |
| | 136 | 100.0 |

That environmental factors played only a minor role in the occurrence of the gun accidents is borne out by two further considerations. First, estimates of the distance between the firearm and the victim indicate that four out of five casualties occurred at a distance of less than 10 yards:

Table 9 Distance of Firearm from Victim

| | Number | Percentage |
|-----------------------------|--------|------------|
| Direct contact | 42 | 30.9 |
| Less than 10 yards | 70 | 51.4 |
| 10 yards less than 50 yards | 13 | 9.6 |
| More than 50 yards | 6 | 4.4 |
| Not stated | 5 | 3.7 |
| | <hr/> | |
| | 136 | 100.0 |

Finally, the investigating police nominated what they considered to be the main 'cause' of the accidents. A wide variety of explanations were offered (Table X below) but basically they can be reduced to two categories: (i) accidents attributable to the lack of skill and experience of the shooter, (ii) accidents which might befall even experienced shooters.

In allocating accidental shootings to one or the other of these two categories we have used the following list of simple rules:

- . Don't point a gun at another person,
- . Don't take a loaded gun indoors or store ammunition and weapons within reach of children,
- . Don't assume a gun is unloaded,
- . Don't fire past people in front of you,
- . Don't climb through fences, climb trees or jump ditches with a loaded gun,
- . Don't leave a loaded gun in an unstable position,
- . Don't fire at a flat hard surface or water.

When the 136 casualties are examined in the light of these elementary rules 99 - almost three out of every four - can be attributed to the inexperience or lack of basic gun knowledge of the shooter. The proportion would be even higher (82 per cent) if one were to include in the list of simple principles 'Don't remove the safety catch until ready to fire'.

Table 10 Police nominated Cause of Casualty

| | Number | Percentage |
|--------------------------------------------|--------|------------|
| Victim moved into line of fire | 11 | 8.0 |
| Victim out of sight of shooter | 4 | 3.0 |
| Shooter stumbled and fell | 16 | 11.8 |
| Weapon fell from insecure rest | 6 | 4.5 |
| Ricochet | 10 | 7.3 |
| Trigger caught on brush, other object | 7 | 5.1 |
| Transferring weapon in/out vehicle | 11 | 8.0 |
| Riding in vehicle with loaded firearm | 5 | 3.7 |
| 'Horse play' | 16 | 11.8 |
| Crossing fence/obstacle with loaded weapon | 6 | 4.5 |
| Mishandled weapon: loading | 5 | 3.7 |
| Mishandled weapon: unloading | 9 | 6.7 |
| Defective weapon | 3 | 2.2 |
| Defective ammunition | 2 | 1.4 |
| Other | 22 | 16.1 |
| Not stated | 3 | 2.2 |
| | <hr/> | |
| | 136 | 100.0 |

Comment

As the sociologist R.K. Merton has observed, 'pervasive problems that seldom have dramatic and conspicuous manifestations are apt to arouse smaller public attention than problems which erupt in the spotlight of public drama .

Each year thousands of Australians are killed or injured in motor vehicle accidents. However, most of us only become aware of the problem through the aggregation of cold and impersonal numbers. In a similar although perhaps even less dramatic way, we are exposed to the continual low pressure reporting of domestic firearm casualties. Unlike the many dramatic reminders of human loss we receive during times of war, we are seldom confronted with the total picture of civilian firearm deaths and injuries within our own country. It is instructive to compare the two sets of figures.

All sections of the community were saddened by the deaths of Australian soldiers in Vietnam. Between July 1962 and December 1972 these fatalities numbered 426. There were 2,394 non-fatal battle casualties during the same period. Readers need hardly to be reminded that these injuries and deaths were the subject of considerable public attention.

Last year the number of firearm deaths within Australia was 46 and the number of reported cases of injury 283. Unfortunately, we do not have figures for the same period as the Vietnam war but we do know that a study in 1960 indicated a domestic firearm casualty rate that was even higher than our most recent findings. If then, we simply multiply last year's figures by ten we can make the following assertion*:

Between 1962 and 1972 as many Australians were accidentally killed and injured by firearms in the fields, motor vehicles and loungerooms of Australia as were killed on the battlefields of Vietnam.

References

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Greenwood, C., "Controlling Violent Crime", New Society, 31 May 1973, pp. 491-3.

Riley, R.J., "Shooting to kill the Handgun: Time to Martyr another American here," Journal of Urban Law, Vol. 51, pp. 491-523.

* Estimates derived in this manner would probably be conservative since there is reason to assume that at this early stage of the development of reporting procedures there will be underreporting of cases.