PROFILE AND PROJECTION OF DRUG OFFENCES IN CANADA

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Highlights

- From 1977 to 1998, the number of adults charged with a drug offence decreased by 28%, from 53,138 adults charged in 1977 to 38,198 adults charged in 1998. However, the trend has been levelling in the last few years.

- In terms of types of drugs, there had been a large decrease in the number of adults charged with cannabis offences and a large increase in the number of adults charged with cocaine offences during the 1980s. However, all types of drug recorded a levelling trend in the last few years.

- In terms of nature of offence, drug possession now accounts for 55% of all adults charged with drug offences. The remaining 45% involve trafficking, importation, and cultivation of drugs. The proportion of drug possession decreased rapidly during the 1980s. However, the proportion has remained rather stable in the last few years.

- A comparison between the number of adults charged with drug offences and the number of drug cases handled in provincial criminal courts reveals that for every 100 adults charged, about 85 cases end up in courts. However, there are wide variations among different jurisdictions.

- Based on the extrapolation method of projection selected, the number of adults charged with drug offences will increase 6% in the next five years, increasing from 38,198 in 1998 to 40,660 in 2003.

Background

In September 1996, the Agent Affairs Unit of the Criminal Law Branch within the Department of Justice requested the Research and Statistics Division to analyze the level of drug offences in the past and to make future projections. The purpose was to provide information to facilitate discussions relating to volume and case management of drug cases.

This is an update of that project. There are be two products in the project: a national report and a series of jurisdictional reports, one for each jurisdiction. The reports provide information on historical profile of the trend of drug offences in the past 20 years plus a five-year projection of the trend into the future.

Data Sources

The profiles and projections were based on police reported data collected by the Canadian Centre for Justice Statistics. The period of data used was from 1977 to 1998, which are the latest data available. As the objective is to produce indicators of workload in drug prosecutions, data on the number of adults formally charged by the police are be used.

These data were collected by the Uniform Crime Reporting Survey (UCR) which represents the crime data of every police force in Canada. The data from this survey are the most current and reliable data on drug offences that are available in Canada today. [At the request of the Agent Affairs Unit, the number of drug offences here include only those under the Narcotic Control Act (NCA), excluding those under the Food and Drugs Act (FDA).]

In addition to police data, we look at some data from provincial criminal courts as collected by the Adult Criminal Court Survey (ACCS). However, the data are at the present incomplete, with data from 9 jurisdictions representing 80% of the national total number of cases. Data from British Columbia, Manitoba and New Brunswick are not yet available.

Profile of Historical Trends (Tables 1 and 2)

Police data from the UCR are broken down by the types of drugs, including heroin, cocaine, cannabis, and miscellaneous drugs. Data are also broken down by nature of offence, including possession, trafficking, importation, and cultivation.

In terms of types of drugs, number of adults charged with cannabis offences accounted for almost two-thirds (64%) of all drug offences in 1998, followed by cocaine (26%).

Heroine accounted for only 3% while miscellaneous drugs accounted for the remaining 7%.

Heroine offences decreased from over 1,000 adults charged in the late 1970s to around 500 in the 1980s. The total number of adults charged returned to over 1,000 in the 1990s but has been on a levelling trend in the last few years.

Cocaine offences increased rapidly from below 800 adults charged in the late 1970s to over 12,000 in 1989, a fifteen-fold increase. During the 1990s, the total number of adults charged decreased slightly and has been on a levelling trend in the last few years.

Cannabis offences decreased from almost 50,000 adults charged in the late 1970s to less than 25,000 in 1991. Since then, the number of adults charged has stayed around 24,000 and has also been on a levelling trend.

Miscellaneous drug offences stayed at below 2,000 adults charged between 1977 and 1990. The total number increased rapidly in 1991 and 1992 but has since dropped slightly. However, there has a moderate upward trend in the last few years.

In terms of nature of offence, drug possession accounted for more than half (55%) of all adults charged with drug offences in 1998; drug trafficking accounted for 34%; cultivation of cannabis accounted for 9%; drug importation accounted for the remaining 2%.

The number of adults charged with drug possession dropped by more than half between 1977 to 1991, from about 45,000 in 1977 to 23,000 in 1991. Since then, the decrease has slowed down. By 1998, the total was 21,200. Drug possession accounted for 85% of all drug offences in 1977 but only 55% in 1998.

In contrast, the number of adults charged with trafficking, importation, and cultivation of drugs increased rapidly from 8,000 in late 1970s to 17,000 in early 1990s. Since then, the trend has been levelling off.

As a whole, the total number of adults charged with drug offences decreased from about 55,000 in the early 1980s to less than 40,000 in the last few years. The trend has generally been levelling.

It should be noted that the trend of reported drug offences may or may not reflect the level of usage of drugs as the level depends largely on the level of enforcement by the police.

Comparison between Police Data and Courts Data (Table 3)

The assumption in comparing the number of adults charged by the police and the number of cases handled by provincial criminal courts is that a small proportion of the offenders charged may not actually appear before the courts for various reasons such as diversion.

If this is the case, then the number of drug cases in courts should be slightly below the number of adults charged.

Two years of provincial criminal court data were used in the comparison (1996/97 and 1997/98). In actual case, the number of cases in 1996/97 is almost the same as the number of adults charged as the ratio between the two number is 1.01 for Canada as a whole. Note that the number can be higher than 1 because the time of appearance before the courts is not the same as the time of charging by the police.

In addition, the ratio varies by jurisdiction, ranging from 0.74 in Saskatchewan to 1.08 in Quebec. The high ratio in Yukon is the result of the small number of cases.

However, the result for 1997/98 is quite different. The ratios are mostly significantly lower than in 1996/97. The average for Canada is only 0.68 meaning that for every 100 adults charged by the police, only 68 cases were handled by the provincial criminal courts. The reason of these lower ratios is not known.

The conclusion is that for every 100 adults charged by the police, the average number of court cases is about 85. However, the actual number may vary widely from about 40 to 100, depending on the jurisdiction in question.

Methods of Projection

When we want to make projections for future trends in drug offences, we can select from one of three groups of projection methods: (1) subjective method, (2) econometric method, or (3) extrapolation method.

The first group is the subjective method. It involves an estimation of future trends by experts in the related area, for example, including police officers, litigators, court administrators. They are first provided with past levels of drug offences and are then asked to make predictions of future levels based on their knowledge of the system. The results are then reviewed and an average projection is worked out from those results.

The second group is the econometric method. It involves a mathematical projection using the multiple regression technique. The future trends of drug offences can be calculated based on a wide range of demographic, social and economic factors.

Demographic factors can include:

- the number of young persons and the number of single persons (as the offenders are mostly young and single)

- the number of separated and divorced persons and the number of lone parent households (as persons in broken families may use drugs more often)

Social and criminal justice factors can include:

- the unemployment rate (as unemployed persons may involve in drugs more often)

- the number of police officers and the amount of police expenditure (as these may cause an increase in enforcement)

- the number of robberies and thefts (as drug offences may use these to finance their drug habit)

Economic factors can include:

- Consumer Price Index (as the use of drugs may correlate with inflation)

- interest rates, average personal income, average disposable income and average earnings per hour (as the use of drugs may correlate with prosperity)

- exchange rates relative to the U.S. (as the Canadian drug market is associated with the U.S. market)

The third group is the extrapolation method. It involves mathematical projections purely based on the trend in the past such as using moving averages and exponential smoothing techniques on past data.

The econometric method may appear the most sophisticated method. However, it depends on the availability of data for many factors, both past and future. For example, you have to make separate projections of the change in prices, unemployment, demographic composition, expenditure in justice before you can make the projection of drug offences. In contrast, the extrapolation method requires a lot less data and has also proved to be a reliable method of projection in many past studies, including those in justice areas. Therefore, this is used most widely of all three methods and this method is chosen in the present project.

The method, then, is to define the ongoing trend of drug offences for those years where we have actual data, that is, from 1977 to 1998, and to project the trend into the future for 1999 to 2003. The statistical method chosen is called Holt's two parameter exponential smoothing extrapolation projection. The method involves calculation of moving averages of historical data. While this method uses all data points in the past, it puts most weight on the most recent preceding years. Therefore, what has been occurring in drug offences for the past several years (for example, 1994 to 1998) will weigh heavily on the outcome of the projected trend for the future.

Accuracy of Previous Projection

When the projection exercise was performed three years ago, the projected number of adults charged by the police for 1996-1998 were 37,538, 36,427 and 35,315. The actual numbers reported by the police were 38,400, 35,799 and 38,383. Note that these numbers are slightly higher than those shown in the tables as they include those charged

under the Food and Drugs Act. Thus, the variances between the actual numbers and the projected numbers are 2.2% in 1996, 1.8% in 1997, and 7.5% in 1998. Past research in projections show that the variance after three years of projection normally exceeds 10%. Therefore, it is concluded that the projections done in the previous exercise can be judged as highly accurate.

Results of the Projection (Table 4)

While the analysis of historical data includes separate profiles based on types of drugs and nature of offence, the projection is only done for overall total number only because small numbers after the breakdown in many of the jurisdictions.

The extrapolation projection shows that the number of adults charged by the police will increase slightly in the next five years, by about 1% per year. The total increase after 5 years is estimated to be about 6%, from 38,198 adults charged in 1998 to 40,660 in 2003. However, the increase varies widely among jurisdictions. Among the 10 provinces, the increases range from 36% in Prince Edward Island to 2% in Ontario.

It should be kept in mind, however, that the higher the number of adults charged, the more reliable the projection is. Smaller numbers result in higher volatility, thereby making the trends more difficult to predict accurately. For that reason, the actual levels in smaller jurisdictions will be more likely to be affected by changes in charging or reporting. Therefore, projections for Canada and the larger jurisdictions are more likely to be accurate than smaller jurisdictions.

The use of this information

The purpose of the profile and projections reports is to inform discussions concerning the level of drug offences in different jurisdictions and whether they will increase or decrease and to what extent. While we can tell the amount of drug activity that has occurred over the past two decades, we are less certain as to the exact nature of change which may occur in the future, particularly in view of unanticipated influences such as changes in government policy or legislation, enforcement practices or other social factors. Therefore, it is important to use the mathematical projections in conjunction with the experience and knowledge of people in the field that deal with these issues daily in order to determine the course that drug offences will take during the immediate future.