



Co-operation Group to Combat Drug Abuse  
and Illicit Trafficking in Drugs  
(Pompidou Group)

Multi-city study of drug misuse

in Amsterdam, Dublin, Hamburg, London, Paris, Rome, Stockholm

Final report

Section 2

Technical report on indicators  
of drug misuse in the seven cities  
and recommendations for future monitoring

Appendix: Reference data



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TECHNICAL REPORT ON INDICATORS OF DRUG MISUSE IN THE SEVEN CITIES  
AND RECOMMENDATIONS FOR FUTURE MONITORING (\*)

(\*) prepared on the basis of a draft submitted by Mr R Hartnoll



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## 1. INTRODUCTION

### 1-1 Purpose of this Report

The first section of the report of this study, "An Overview and Synthesis of City Reports", describes and compares the drug situation in the seven cities. This section aims to do the following;

- (1) Examine the benefits, the drawbacks and the comparability of indicators that are used to assess and monitor drug misuse. The data to which these issues refer are provided in the appendix.
- (2) Discuss the extent to which it is possible to develop a more integrated \*framework of communication' that would allow for improved and more comparable assessment within Europe;
- (3) Make recommendations as to how monitoring of drug misuse might be improved in the future.

### 1.2 Assessment, monitoring and indicators of drug misuse

#### Assessment

This term is used to mean any relatively systematic exercise to ascertain the situation regarding drug misuse in a community at a particular point in time. An assessment thus presents a static 'window' on the situation. Many of the ad hoc surveys and other special research studies summarised in the first volume provide examples of information that has contributed to the construction of this sort of picture. The disadvantages of such assessments are that (a) they rapidly become out of date, and (b) they fail to provide the regular feedback that is needed to monitor changes, evaluate the relative impact of various interventions and compare trends in different communities.

#### Monitoring

This is taken to mean the systematic and continuing collection, collation and interpretation of information at regular intervals. It differs from assessment in that it is concerned with changes over time and thus provides a more dynamic picture of events. This dimension is vital if epidemiological information is to contribute to the evaluation and planning of cost-effective policies and services. Monitoring requires some form of centralised coordination and collation to ensure consistency and continuity.

## Indicators

Some studies have attempted to obtain a direct and comprehensive count of all cases in a given category. One example is provided by intensive case-finding studies, such as have been carried out in Sweden and Dublin, which actively seek to identify all heavy drug misusers in a community over a 6 or 12 month period. Such methods, however, are expensive, time consuming, difficult to apply on a wide scale, and limited both by the need for confidentiality and by the fact that much drug misuse is illegal and stigmatised. As a result, it is more convenient to concentrate on collecting more accessible information about events which are known, or assumed, to bear a relationship to the pattern and level of drug misuse in the community. Such partial measures are called indicators.

Apart from case-finding studies, the broad categories of indicator methods are as follows.

- (1) Use of available statistics as indicators (e.g. drug-related deaths, seizures, arrests, treatment demand, hospital admissions, hepatitis cases, illicit drug price).
- (2) Surveys, record reviews or reporting systems of drug misusers seen in selected agencies (treatment centres, prisons etc.).
- (3) Ethnographic studies of drug misusers in the community.
- (4) Surveys of the general population, school/student population, or military conscripts.
- (5) Statistical projections on the basis of information obtained through combinations of the methods listed above\*

Some of these indicators are considered in more detail in Chapter 2. The prospects for developing a more integrated framework are discussed in Chapter 3.

## Approach taken in the multi-city study

Throughout this study, the main focus has been on more harmful, problematic drug taking rather than on the wider pattern of all drug taking in the general population. This has been taken to mean regular use of narcotics, intravenous use, and heavy multiple drug use. Thus most attention is devoted to indicators that reflect the medical, social, and legal consequences of drug misuse. The experts involved in the multi-city study consider that it is important to improve the quality of these indicators because (a) they relate to those aspects of drug misuse that are most acutely felt and for which effective responses are most urgently required, and (b) they are already being used by many countries as a basis for deciding whether, and in what ways, interventions are needed. This approach is complemented by school and population surveys that aim to provide a broader picture of drug use in the community. In addition, ethnographic studies can provide rich insights into the qualitative aspects of the lifestyles of groups of drug misusers.

#### Limitations of indicators

The indicators covered in this report are considered to have an association with drug misuse, but the exact nature of that association is often unknown. Furthermore, any single indicator reflects only one, possibly atypical, facet of the whole picture. It is therefore essential to (a) use several indicators that draw on a range of different sources of information; (b) take account of extraneous factors that may distort the data.

Factors which influence the indicators include cultural attitudes and policies regarding drug misuse in the cities concerned, the type and availability of facilities, the priorities and level of activity of the bodies from whom the data are derived, the definitions and recording practices that they use, and the mechanisms through which data from individual agencies are aggregated prior to being made available.

It is therefore essential to supplement bare statistical data with an understanding both of the context in which they were collected and of the process by which the statistics were generated.

#### 1.3 What does 'Comparability' Mean?

Comparability is central to this study. Thus it is important to define what it means.

#### Comparability of definitions

Any epidemiological study requires clear and consistent criteria. In particular, this includes definition of: (a) who or what is counted as a 'case' or 'event' ('addict', 'drug-related death\* etc.); (b) the area and population base to whom the data refer (e.g. per 1,000 population aged 15-39, and whether nonresidents are included); and (c) the period of time involved.

In Chapter 2 these criteria are applied to each indicator. In general, the degree of comparability varies considerably, but is not high if one considers exact comparability. However in a somewhat larger number of cases, there is sufficient similarity to allow rough comparisons to be drawn, at least between some cities.

#### Comparability of the significance of the data

Whilst comparability of criteria is important, it is not, in itself, sufficient to achieve the objective of the exercise, which is to establish greater comparability of the data in terms of what they signify regarding the relative situations in the cities. Even given identical definitions, it would still be necessary to interpret the data in the light of the cultures, policies, institutions etc. of the cities concerned. It was to convey this broader sense of comparability that the term 'framework of communication' was coined. Chapter 3 suggests what this could mean in practice.

What is to be compared?

The question of which aspects of the situation in the cities are to be compared is partly determined by practical constraints. At the same time, it is important regarding the sort of data that should be collected in the future. The levels at which the question of comparison might be approached are considered in 3.2. Possibilities include:

- descriptive comparison (see section 1 of this report)
- the prevalence of drug misuse
- the rates of change in drug misuse
- the characteristics of drug misusers
- the patterns of agency contact
- the importance and costs of drug-related problems
- the causes of drug misuse
- the impact of interventions.

#### 1.4 Criteria for evaluating indicators

Members of the multi-city working group agreed that the indicators should be evaluated according to the following criteria.

##### 1. Comparability of definitions and terms

This includes whether clear definitions exist, whether they are consistently applied and the extent to which they are comparable.

##### 2. Availability, accessibility and rapidity

This refers to whether the data are collected at all, and how easily, how quickly and how frequently the data become available.

##### 3. Reliability

This refers to whether the data can be taken as an accurate record of the events which they are supposed to record.

##### 4. Validity

This refers to the degree to which an indicator actually reflects changes in drug misuse rather than other, extraneous factors.

##### 5. Relevance

This refers to the ways in which an indicator can, or cannot, be useful for assessing and monitoring drug misuse (for example, in terms of the categories listed in 1.3 above).

Through applying these criteria, it is possible to comment on the benefits and drawbacks of the indicators, and on the level at which comparison can occur. This in turn highlights areas where practical efforts towards improvements should be directed. This is the concern of the next chapter.

## 2. CRITICAL REVIEW OF THE INDIVIDUAL INDICATORS

This chapter assesses each indicator according to criteria in 1.4

### 2.1 First treatment demand

Treatment demand refers to people who are seen by treatment centres, therapeutic communities, general practitioners, etc. and who are requesting treatment for their drug misuse (usually drug dependence). Hospital admissions are considered separately in the next section. Of particular interest is First Treatment Demand - requests for treatment by people who have not been treated before. This is believed to provide a sensitive indicator of changes in the pattern of serious drug misuse.

#### 1. Comparability of definitions

There is little exact comparability. Further, there are large differences between treatment systems, so the data have different significance in different cities. First treatment demand refers to:

- Amsterdam: Addicts registered for the first time (ever) by the Central Registration System (CMR) following provision of methadone at any of a wide range of facilities (public health service, GPs, clinics, hospital, prisons and police stations)
- Dublin: Drug abusers taken on for treatment for the first time (ever) by Jervis Street, the city's primary treatment centre (largely outpatient, includes methadone). GPs, prisons and hospitals are not included.
- Hamburg: Drug addicts, who did not attend in the previous year. requesting aid from drug counselling centres.
- London: Narcotic addicts notified for the first time (ever) to the Home Office by treatment centres, hospitals, GPs and prison medical officers.
- Paris: New cases seen by individual treatment centres (no consistent criteria). (Data are collated from health institutions on addicts seen in the last quarter of each year, but they do not distinguish new cases.)
- Rome: First applications (ever) for treatment by addicts to public health facilities (outpatient methadone and counselling centres and therapeutic communities).
- Stockholm: Drug misusers treated by therapeutic communities and other social and medical facilities (residential and nonresidential). The data do not distinguish new cases.

In all cities apart from Stockholm, treatment demand data refer mainly to opiate addicts. However, only in Dublin are cases actually specified in terms of ICD 9 codes, though in London, Paris and Stockholm, data are reported using similar categories such as 'primary drug of addiction\*', and in Amsterdam and Rome, the nature of the treatment services implies that most clients are opiate addicts. In Amsterdam and London, and to a lesser extent in Dublin and Rome, the monitoring systems are also primarily aimed at opiate addicts and are thus likely to be relatively insensitive to the misuse of other drugs. In Hamburg, there are no data on the main drugs involved, and in Paris and Stockholm, they are not available separately for the first demand.

In Hamburg and Rome, first treatment demand refers to first requests for treatment, in Amsterdam and Dublin it refers to the number taken on for treatment, and in London and Paris to an uncertain mixture of both. The distinction is important, since the numbers actually taken on for treatment may reflect the capacity of services, whereas the numbers requesting help are more likely to reflect the demand for treatment.

In the cities where data are provided (Appendix, Table II) they refer to first demands over a given year (12 month treatment incidence). The only cities which provide data as a rate per 1,000 population aged 15-39 are Amsterdam, Dublin, London and Rome. In addition, data for the number in treatment and demanding treatment in any given month (point treatment prevalence and incidence) are available in Amsterdam and Rome (and, for the end of the year only, in London). The value of this additional data is that it is possible to monitor the turnover of clients using treatment services. Only Amsterdam and Dublin record data on residence.

In Amsterdam, Dublin, London and Rome, the data refer to unique individuals. In Hamburg, there may be some double-counting. In Paris there appears to be inconsistency between institutions in terms of whether they record the number of individuals or the number of demands.

## 2. Availability, accessibility and rapidity

Basic data on first treatment are centrally collated, routinely available, and easily accessible in Amsterdam, London, and Rome. They are readily available in Dublin, though they have to be obtained from the treatment agencies. In Stockholm, there are no data on first treatment demand, though general treatment data are available from selected agencies. In these five cities, other data given include 'main drug, age and sex. In Paris, the only data available on first demand came from a special survey in 1981 and 1982. In Hamburg, information-available from drug counselling services is limited to a rough figure for 'new clients'.

The data are available rapidly (updated each month) in Amsterdam and Rome, and fairly rapidly (within one year) in Dublin, Hamburg, London and Stockholm. In Paris,, data from reports by institutions in the last quarter of each year are available three years later.

The data from all cities, except Stockholm and Hamburg (though the information is very limited) are obtained largely from medical agencies. Hamburg and Rome include data on therapeutic communities,

though these are second line facilities to which addicts are referred on. Whilst all cities collect data from treatment centres, only Amsterdam and London include data from GPs.

Thus, apart from Stockholm and Hamburg, there is a marked absence of data concerning demand for treatment or help from nonmedical agencies. It is clear from the city reports that such services exist in most cities, often on a voluntary (nonstatutory) or private basis. It is important that efforts are directed towards obtaining data from such agencies. Thus in cities where treatment centres concentrate on opiate addicts (eg by providing methadone), patterns of drug misuse which do not involve dependence on opiates may be missed.

It can be particularly useful to obtain data from community-based, first-line agencies, medical or nonmedical. By definition, they are closer and more sensitive to changes in the pattern of drug misuse.

### 3. Reliability

The reliability of the data varies. In general, data derived from treatment centres are relatively reliable measures of the demand on the services covered. For nonspecialist agencies, the data are more likely to be unreliable.

### 4. Validity

First treatment demand has different validity in different cities. It is considered a valid indicator of trends in drug misuse in Dublin and London, and in the special surveys conducted in Paris. In Amsterdam and Rome, the existing data tend to reflect the expansion of the monitoring systems. Once they have stabilised, it is thought that they will generate valid measures. In Hamburg and Stockholm, first treatment demand is considered to reflect the availability of services rather than trends in drug misuse.

### Conclusions

The data on first treatment demand provided in the Appendix (Table II) are considered to be a useful indicator of trends in drug misuse in most of the cities. However, it is affected by the type and availability of services and by which services are monitored. Furthermore, it is a 'lagged' indicator, since there is an interval of up to several years between initial drug use and seeking help. Data on this latency period have been found to be of epidemiological value in Dublin, London and Paris. Elsewhere (United States, Berlin) they have been used to generate prevalence estimates. They can also provide information about the point in their drug careers at which drug misusers seek treatment. Other examples of the use of treatment data include the study of how long addicts remain in treatment or utilise several agencies (*Amsterdam*).

Despite differences, there are similarities between some of the cities. Thus Amsterdam, Dublin, London and Rome all have facilities which include methadone treatment and all report data on first treatment demand by opiate addicts from those facilities. These data fulfil enough of the above requirements to permit a crude degree of preliminary comparison.

- (a) Routine data gathering should be centralised in one database (respecting the requirements of confidentiality).
- (b) As broad a range of first-line services as is practical should be covered, including GPs and nonmedical agencies,
- (c) It is important to develop, or to maintain, data gathering structures that clearly distinguish new cases as a separate category in the overall treatment data.
- (d) Ideally, it is preferable to record the number of requests for treatment because the number entering treatment is liable to reflect the capacity of the service.
- (e) Data should be recorded using consistent criteria for primary diagnosis (ICD 9), including main drug type, route of administration, age, sex and whether resident of city or not. Ideally, the age of first drug use should also be recorded, since this provides data on the 'latency' period.

## 2.2 Hospital admissions

This indicator can be considered a subcategory of treatment demand in that it refers mainly to inpatient treatment of drug dependence. However, it also includes hospitalisation for other drug-related conditions (drug psychoses, nondependent drug abuse). If secondary diagnoses are available, then it can also indicate the range of other medical conditions for which addicts enter hospital (infections, hepatitis etc.).

### 1. Comparability of definitions

All cities use the term 'hospital admission' in the sense of the WHO definition: "a stay in hospital lasting one night or more, irrespective of whether the patient is admitted for the first time, re-admitted...or transferred from another hospital." However, there are differences in how the data are collected and reported which make it impossible to compare all cities. In some cities, there are more than one source of data.

**Amsterdam:** Primary and secondary discharge diagnoses from general hospitals; primary admission diagnoses from psychiatric hospitals; addicts registered by the CMR following a request for guidance whilst in hospital.

**Dublin:** Primary and secondary discharge diagnoses from general hospitals; primary and secondary admission diagnoses from psychiatric hospitals.

**Hamburg:** Addicts admitted to the city's detoxification unit.



London: Primary and secondary discharge diagnoses from general hospitals; primary and secondary admission diagnoses from psychiatric hospitals.

Paris: Addicts reported in a survey of institutions during the last quarter of each year.

Rome: Addicts admitted to hospital for emergencies (no clear criteria).

Stockholm: Discharge diagnoses from psychiatric hospitals; drug misusers admitted to selected hospital-based drug treatment units.

Amsterdam, Dublin, London and Stockholm use ICD 9 in routine hospital statistics. The relevant codes are drug psychosis (292), drug dependence (304) and nondependent abuse (305.2-.9). Other cities do not report any hospital statistics based on ICD 9. However, in Paris, and in selected Stockholm treatment centres, the data are classified by primary drug in a way that is similar to ICD 9. The data from Hamburg and from the Amsterdam CMR system refer primarily to opiate addicts. In Rome, hospital admissions refer mainly to addicts treated for emergencies, but no special criteria are provided for addicts.

In Amsterdam, Dublin, Hamburg and London, hospital admissions are expressed as a rate per 1,000 population. On the basis of existing information, it would not be possible to rate the data from the other cities. In Dublin and London, data refer to primary and secondary diagnoses for both general and psychiatric hospitals. In Amsterdam, psychiatric data refer to primary diagnoses only.

In most cases, the data refer to the number of admissions or discharges, not to the number of individuals involved. The exception is the Amsterdam CMR data. In Stockholm, the number of admissions each year is approximately double the number of persons involved. In London, few individuals are admitted more than once in a year. In other cities, the degree of double-counting is unknown.

## 2. Availability, accessibility and rapidity

Data are available in all cities, but to a varying degree. Thus only in Amsterdam, Dublin, and London are routine data available from both general and psychiatric hospitals. In Stockholm routine data are available for psychiatric hospitals only, In Hamburg information is available on addicts admitted to the special detoxification unit only. In Paris, data are available from a survey of cases seen by institutions in the last quarter of each year. In Rome, only a few data can be obtained, compared to those available from public (special) facilities.

With the possible exception of Dublin, data are not directly or easily accessible in the relevant form. It is usually necessary to request the relevant authorities to make a special analysis to extract the data. In London and Stockholm, for example, this involves separating city data from larger areas (and in the case of London, also aggregating them from four separate regions).

With the exception of two London regions, routine hospital data are not available within 12 months. In Amsterdam, Dublin, and other London regions, data for 1984 were not available until the middle of 1986. In Stockholm and Paris (last quarter survey), the delay is several years. This is too long for the information to be useful.

Data from special hospital-based drug treatment units are available more easily and rapidly. Thus in Hamburg and Stockholm, data for 1985 were available in the first half of 1986.

### 3. Reliability

This is unknown. The reliability of hospital diagnostic data in general is not high on account of errors both in diagnosis and in coding and reporting procedures. It is reasonable that data on drug misuse should be viewed cautiously as a measure of the numbers and diagnoses of drug misusers admitted to hospital.

### 4. Validity

On their own, hospital admissions are limited as an indicator of the pattern of drug use in a city. They represent an unknown, usually small fraction of all misusers. Changes in the number and characteristics of patients admitted are influenced by the wider situation, but they are also determined by the availability of beds, the availability of other resources for diagnosis and treatment, by public attitudes to hospitalisation, and by the use made of hospital by other medical or social welfare agencies.

It is likely that the validity of this indicator varies between cities. It appears that existing data on hospital admissions may have some validity as an indicator of broad trends in Amsterdam, London and Stockholm. It seems that, compared to general hospitals, psychiatric admissions are more dependent on the attitudes of both professionals and addicts towards hospitalisation.

### Conclusions

The data can only be used and compared in the light of the referral and admission policies and health care delivery systems in each city. Furthermore, the reliability of the data, especially from routine hospital statistics, is questionable. However, whilst there are limitations, the data could, if better collected, be useful for: (a) monitoring the use made by drug users of inpatient facilities compared to other treatment facilities; (b) estimating the cost to health care systems of drug misuse, and (c) comparing the role of inpatient treatment between cities.

- (a) The usefulness of the data would be improved through more direct, rapid and routine channels for aggregating the data.
- (b) Data from both general and psychiatric hospitals should be collected and reported separately.
- (c) Data on secondary diagnoses involving drug dependence would give a fuller picture of the total number of addicts hospitalised and the range of reasons for their admission.
- (d) ICD 9 criteria should be employed.
- (e) Special studies of hospital admissions are necessary to help to improve the reliability of the data. ,-

### 2.3 Viral hepatitis

Hepatitis is sometimes used as an indicator of the incidence of intravenous drug use, because sharing of syringes is an important way in which the disease is transmitted. It is of no significance regarding other methods of drug taking (smoking, sniffing etc.). However it is only hepatitis types B and nonAr-nonB which are relevant. The more common hepatitis type A is not specifically related to drug misuse. Moreover, the role of other important risk factors, such as homosexual contact, must be taken into account.

#### 1. Comparability of definitions

In theory, case definitions should be comparable, since there are established chemico-clinical diagnostics procedures. In practice the data are not comparable.

Amsterdam: Cases of hepatitis B notified to the public health authorities by general practitioners, by source of infection.

Dublin: Positive tests for hepatitis B amongst addicts admitted to hospital, or seen at the Jervis Street Centre.

Hamburg: Hepatitis cases reported by doctors to the city health authority, by type but not by source of infection.

London            Hospital inpatient discharge diagnoses of hepatitis B (ICD 9) but not by source of infection; positive tests for hepatitis B reported to the central public health laboratory by local laboratories, by source of infection; notifications of hepatitis to local public health authorities, but not by source of infection.

Paris;            No data

Home:            Positive tests for hepatitis in patients admitted to hospital for infectious diseases, by type and source of infection; notifications of hepatitis to the public health authorities, but not by type or source of infection; voluntary reports of hepatitis to Institute of Health, by type but not source of infection.

Stockholm:      Hepatitis B and NonA-nonB notified to the public health authorities, by type but not by source of infection.

Apart from Paris, all cities report data that distinguish hepatitis B (and sometimes nonA-nonB). Of these six cities, all but Dublin report data on notifications to the public health authorities, but only Amsterdam and London include information on whether cases are drug-related. Dublin and Rome report data based on serological tests on hospitalised addicts.

## 2. Availability, accessibility and rapidity

Data are available in all cities except Paris. However, routine data are very basic and often incomplete. They are easily accessible in Amsterdam, Dublin, Hamburg and Stockholm, and relatively accessible in London and Rome. Data are available rapidly in Dublin, Hamburg, London (notifications) and Rome (voluntary reporting to Institute of Health).

## 3. Reliability

The data from notifications of hepatitis B to public health facilities cannot be considered a reliable measure of drug-related hepatitis in the cities, since (a) the degree of under-reporting is unknown, and (b) information on the source of infection is not recorded in most cities. Even in Amsterdam and London, where drug misuse is distinguished from other risk factors, much information is missing.

Data from serological screening in Dublin and Rome are reliable measures of hepatitis B amongst hospitalised addicts. Additionally, in Rome, they are reliable measures of the proportion of addicts amongst patients hospitalised for hepatitis.

#### 4. Validity

In most cities, it is not clear whether the incidence of hepatitis B (and nonA-nonB) can be used as a valid indicator of the incidence of intravenous drug use. In the cities where notifications to public health facilities do not distinguish drug-taking from other risk factors (Hamburg, Rome and Stockholm) it cannot be assumed that variations in hepatitis B reflect changes in drug use. However in Hamburg and Stockholm, there is a correlation between this and other indicators, suggesting that it may be a valid indicator. In the cities where notifications to public health facilities do distinguish drug-related cases (Amsterdam and London) the unreliability of the data makes it hard to draw conclusions, although in London, there is some correlation with other indicators.

In Dublin, serological screening of hospitalised addicts is considered to be a valid indicator that pointed to an increase in drug misuse earlier than other indicators. In Rome, the data points to an increasing number and proportion of addicts amongst patients hospitalised for hepatitis over the period when intravenous drug use was increasing.

#### Conclusions

Hepatitis data may potentially be a useful indicator of drug use by injection. However, in most cities the quality of the data must be improved before its epidemiological value can be properly assessed. The information is in any case useful for improving health care and health education for people already known to be at risk, and for evaluating efforts to reduce the incidence of hepatitis.

#### Recommendations

- (a) Routine notification of hepatitis to public health facilities should specify both the type of hepatitis and the likely source of infection.
- (b) The extent to which doctors report cases, and the accuracy of the information, should be checked from time to time.
- (c) Serological screening of hospitalised addicts, and possibly of other treatment and institutional groups, should be routine.
- (d) Data on risk factors should be systematically recorded for patients treated for hepatitis.
- (e) Data (anonymous) should be routinely available to the agency responsible for collating information on drug misuse.

## 2.4 Drug-related deaths

This is an important indicator, both because it concerns dramatic and serious events, and because the number of deaths is often taken as an indicator of the true situation.

### 1. Comparability of definitions

- Amsterdam: Unnatural deaths of drug " takers by overdose; deaths indirectly caused by drug misuse (drug-related diseases, homicides, accidents).
- Dublin: Deaths of drug users known to the police or to Jervis Street treatment centre.
- Hamburg: Deaths by overdose of narcotic drugs (accidental or suicide), deaths of chronic drug takers by overdose of other drugs, and deaths indirectly caused by drug misuse (suicides by other means and accidents under the influence of illicit drugs, and deaths from drug use related diseases).
- London: Deaths by poisoning (ICD 9); deaths of addicts identified through search of Coroners' records.
- Paris: Deaths by overdose of illicit drugs recorded by the police and subsequently confirmed by medical diagnosis.
- Rome: Deaths by overdose of narcotics, deaths in circumstances indicative of drug addiction, irrespective of whether or not the persons are known to be addicts.
- Stockholm Deaths due to drug addiction (ICD 9)

Deaths in which drug addiction is diagnosed as the underlying cause on the basis of ICD 9 codes are not considered satisfactory in any of the cities. This is because of uncertainties over the basis on which the death certificates are completed and evidence that they indicate only a minority of drug-related deaths.

Deaths of addicts known to the police are not adequate since the criteria for such data are likely to vary and deaths indirectly arising from drug use are likely to be missed.

Deaths of addicts who have been registered or notified by treatment systems omit drug takers who have not been in contact with the treatment system and include deaths that may have occurred for reasons unrelated to drug use.

Deaths by overdose exclude drug-related deaths that occur for other reasons and include suicides by individuals who are not otherwise 'drug misusers'. In any case, an overdose is not a clearly defined event.

## 2. Availability, accessibility, rapidity

Data are available in all cities and are presented in the Appendix (Table V). Where there are arrangements for reporting certain categories of drug-related deaths separately from routine mortality statistics, then the data are easily and rapidly accessible. Examples are Amsterdam, Dublin, Hamburg, Rome and, for a limited category of deaths, Paris.

## 3. Reliability

The reliability of the data varies, and is affected by (a) the extent to which all unnatural or suspicious deaths are investigated (in terms of medical, toxicological, circumstantial and other evidence regarding the known drug-using status of the deceased) and (b) whether drug-related deaths are specially recorded using explicit criteria.

Thus in Amsterdam, data on overdoses are considered reliable, but not data on deaths indirectly related to drug-taking. In Dublin, data on deaths of addicts known to the police or to Jervis Street are reliable, but are likely to miss other drug-related deaths. In London, Paris and Stockholm, the data are unreliable, apart from those produced by special searches of death records. The most reliable system for identification appears to that used in Hamburg, where any death in which drugs are suspected or the cause of (youthful) death is unclear is referred for a bio-chemical investigation of hair roots, which can demonstrate recent morphine intake. The results are considered along with other information before a drug-related death is recorded.

## 4. Validity

Even if data on drug-related deaths were reliable, it would still be difficult to draw a direct relationship between the number of deaths and the prevalence of drug misuse or addiction. Whilst large changes in the number and characteristics of drug-related deaths probably indicate a real change in the situation, it is necessary to examine a range of other factors that might be involved. Thus the death rate may be affected by variations in the potency of the drug, the nature of the adulterants, the characteristics of the drug users, and whether the drugs are injected or not.

## Conclusions

No single criterion is adequate for defining a drug-related death. Data on deaths are not comparable between all cities, though there are similarities between some. The expert group are unanimous in urging caution regarding significance of crude death statistics as an indicator of the prevalence of drug misuse, especially in terms of international comparison. The reasons lie in problems of definition, in differences in how data are recorded, and in the fact that death rates are affected by factors other than the prevalence of drug misuse. Some of the group consider that it is possible to take other factors into account and to use death rates, in conjunction with other indicators, to assess and monitor patterns of drug misuse. This is an area which requires further exploration and, above all, better data-

## Recommendations

- (a) It is necessary to distinguish between direct and indirect drug-related deaths. The following criteria are put forward for further discussion.

deaths arising directly from poisoning by illicit drugs (overdose), whether accidental or suicidal;

deaths from poisoning with other drugs, if these were used by a drug misuser as a substitute to bridge a supply gap?

suicides (by other means) which are a consequence of having taken illicit drugs when other information indicates that the person is an active user;

accidents that result from the effects of illicit drugs;

deaths from illnesses resulting from drug misuse (eg infections, hepatitis, AIDS);

drug-related homicides.

- (b) In all cases, the classification of a drug-related death should be supported by objective evidence - toxicological, clinical and circumstantial.
- (c) Data on drug-related deaths should be routinely collated through a single centre using the above criteria.

## 2.5 Police arrests

Police arrests are often used as a direct indicator of trends in illicit drug misuse. However, they also reflect police activity.

### 1. Comparability of definitions

Two types of data are reported. The first refer to arrests for offences against the drug laws. The second refer to addicts identified through arrest, regardless of the offence.

#### Offences against the drug laws

Amsterdam: Number of persons arrested by police (first stage of the procedure for bringing charges for specific offences). Only a minority are subsequently charged.

Dublin: Number of persons charged for a specific offence. Excludes persons arrested but not charged.

Hamburg: Number of detected cases of violations against the drug laws; number of persons suspected of specific offences against the drug laws.



London: Number of arrests by the police (first stage of the procedure for bringing charges for specific offences). Most are subsequently charged.

Paris: Number of police arrests for offences involving heroin (data available for other illegal drugs).

Rome: Number of persons charged with drug trafficking; number of people mentioned for possession of small quantity.

Stockholm: Number of reported crimes against the drug laws; number of persons suspected of crimes against the drug laws.

Whilst all cities report data on offences against the drug laws, they do not all refer to the same point in the legal process. Thus Hamburg and Stockholm both report the number of detected violations of the drug laws and the number of persons suspected, regardless of whether this is followed by formal arrest and subsequently criminal charges. In Amsterdam, London and Paris, the data refer to arrests, and in Dublin and Rome to the number of people charged. This can make a considerable difference to attempts to compare cities. For example, in Amsterdam in 1985, only 20 percent of those arrested were charged, whereas in London, most drug arrests are followed by a formal charge.

A further difficulty is that some cities report only the number of persons (Amsterdam, Dublin and Rome) and others only the number of events (London, Paris). Only Hamburg and Stockholm report both. In Hamburg the number of suspected persons and the number of known violations are about equal. In Stockholm, there are two known violations per person. The number of people arrested may be a better indicator, since increased police activity is more likely to affect drug misusers who are already known to the police.

All cities except Stockholm report data on the drugs involved, though Paris gives heroin arrests only. Data distinguishing possession from trafficking are presented only for Hamburg and Rome, though in Rome, the 'small amount' provision probably results in an underestimate of the number of people found in possession by the police. However, data on offence type are available in Dublin and London.

#### Arrested addicts

Only three cities report data on addicts who are arrested. In Amsterdam, this is done by the police on the basis of uncertain criteria. Data are also provided on arrested addicts provided with medical assistance. In Hamburg and Stockholm, the data are based on evidence of injection marks and additionally, in Hamburg, on the statement of the arrested person. It appears unlikely that similar data could currently be provided for the other cities.

## 2. Availability, accessibility and rapidity

Data on arrests for drug offences are available in all cities. Although they are easily and rapidly accessible to the police, they are not always readily available for epidemiological purposes. Data on addicts who are arrested are readily and rapidly available in those cities where the data are collected, since there are established systems for monitoring them.

## 3. Reliability

The reliability of the data as a measure of the number of known violations, arrests, or charges for drug offences is not certain. In principle, they should be reliable, though that is not thought to be so in Rome, and changes in reporting procedures in Paris confuse the picture. (In Paris, data on heroin arrests are more reliable than for other drugs.) Only special studies of reliability will clarify this.

The reliability of data on arrested addicts depends on the process for identifying addicts. In Amsterdam, it is the police who decide whether to list someone as an addict. Unreliability is likely to arise from mistaken classification by the police of 'drug users' as 'addicts', and from failure to identify those who are addicted. The use of injection marks as a criteria (Hamburg and Stockholm) should be reliable but only for injecting addicts, though in Hamburg, statements regarding opiate use made by arrestees are also taken into account.

## 4. Validity

The validity of arrests as an indicator of trends in drug misuse is not clearly established in all cities, but is thought to vary between cities. They are considered a valid indicator of trends in drug misuse in Hamburg and, more cautiously, in Dublin and London. In Amsterdam they show a parallel with other information. In Paris and Stockholm, they are thought to reflect police activity as much as trends in drug misuse, though in Paris, the trend for heroin reflects other indicators. It is suggested there that arrests could be a useful indicator if information were available on people arrested for the first time. The effect of changes in police resources and priorities is discussed further in the section on seizures. It is also suggested that middle-class drug users are under-represented by this indicator.

## Conclusions

Police arrests can be a useful indicator, but only if police practices and priorities are taken into account. Furthermore, arrest data reflect the differential vulnerability of various classes of drug users to arrest. However, they are more direct measures than later stages in the judicial process which, in addition, reflect prosecution and sentencing policies. In general, it is likely that large changes in the number of arrests and the profile of drugs involved do indeed reflect real changes, especially if there are no obvious changes in policy. There is some comparability between some cities, but further work is needed before firm conclusions can be drawn. Despite the above difficulties, this is an important indicator because it complements treatment indicators. It must be interpreted in the context of other information.

## Recommendations

- (a) Comparability would be improved if the data referred to similar points in the judicial process. At present, arrests are reported by the largest number of cities.
- (b) Data should be available on the number of known violations that result in arrest, and on the number of arrests that result in a charge. This would assist in comparing the significance of the data.
- (c) Both the number of arrests and the number of people should be recorded.
- (d) Data should be recorded per drug and offence type, and, if possible, by sex and age.
- (e) Data on persons arrested for drugs for the first time should be reported separately.
- (f) Information on police resources devoted to drug enforcement should be available (eg number of police on drugs work).

## 2.6 Imprisonment

Imprisonment has not been widely used as an indicator of the extent of drug misuse. It was included in order to examine whether it could provide useful data.

### 1. Comparability of definitions

There are two types of data that are reported. The first refers to court sentences of imprisonment for offences against the drug laws (which may involve people who are not drug users). The second refers to the number of addicts in prison (who may have been sentenced for other offences).

Imprisonment for offences against the drug laws.

Imprisonment itself is comparably defined. The legislation and sentencing policies that determine imprisonment rates are not. Only Hamburg and Paris report data. Thus it is not possible in this report to examine the degree of comparability in practice.

### Addicts in prison

Amsterdam: Addicts received into selected prisons during the year.

Dublin: Persons identified as addicts in surveys by *prison* medical services.

Hamburg: No data

London: Notifications of addicts by prison medical officers.  
Paris: Special survey of addicts in one prison.  
Rome: Annual census of addicts in two prisons on one day.  
Stockholm: Annual census of addicts in prison on one day; monitoring throughout the year of new inmates with sentences over two months (addicts, drug users, nonusers).

## 2. Availability, accessibility, rapidity

Although data on sentences of imprisonment are only provided by two cities, court data should be available in the other cities. Some, for example Stockholm, indicate that city data has to be specially extracted from national data. Thus for some cities, data are not easily or rapidly accessible.

Data on addicts in prison are available easily and routinely only in Rome and Stockholm. In London, they have to be specially extracted from national data. Only in Stockholm is information available rapidly. In the other cities, the data are not routinely recorded, but are derived from special surveys.

## 3. Reliability

It can be assumed that court data are reliable as measures of the number of drug offenders sent to prison. Apart from Stockholm, data on the number of addicts in prison are considered unreliable.

## 4. Validity

Neither data on sentences of imprisonment, nor the number of addicts in prison, are regarded as valid measures of the prevalence of drug misuse in the community. However, in Stockholm, the data do indicate changes in the drugs used.

Although of limited use for monitoring prevalence, court data on sentences would be useful for comparing sentencing policy. It would also be interesting to compare drug offences as a proportion of all offences in the cities. Data on addicts in prison would also be useful as a basis for comparing the treatment of addicts in prison.

## Recommendations

- (a) It would be interesting if future work focussed on sentencing and penal policy, and treatment and follow-up facilities, rather than strictly epidemiological issues.
- (b) The reliability of data on addicts in prison needs study.
- (c) Data for cities on sentences for drug offences need to be more easily accessible

## 2.7 Seizures of illicit drugs

The number of seizures and the total amount seized are commonly used to indicate the existence, and sometimes the dimensions, of a market in illicit drugs. This in turn is taken to reflect the level of use.

### 1. Comparability of definitions

There is a reasonable degree of comparability in terms of the categories of drugs reported (heroin, cocaine, amphetamines, cannabis etc.) the units of measurement (grammes or Kilogrammes); and the time periods concerned (per annum).

Amsterdam: Quantities seized by the police

Dublin: Number of seizures, and quantities seized, by national police and customs.

Hamburg: Quantities seized by police and customs. The number; of seizures is reflected in detected cases (see Arrests).

London: Number of seizures and quantities seized by police.

Paris: Quantities seized by the police.

Rome: Number and quantities seized by police and customs.

Stockholm: Number of seizures by the police.

### 2. Availability, accessibility and rapidity

Data are available from the police for all cities except Dublin, where information comes jointly from police and customs officials. Only in Dublin, Hamburg, London and Rome are data provided for both the number of seizures and the quantities seized. Further, it appears that in some cities (for example London and Paris) the data are not routinely available and that access depends either on personal contact with the police, or a formal process of requesting information. Despite this, in all cities except Dublin, data are available relatively rapidly (within six months).

### 3. Reliability

In principle, there should be a high level of reliability in terms of accurately recording what is seized. In practice, this is unknown since errors can arise where two or more authorities are involved (eg double-counting; the same seizure) or where data are collated through more than one channel. In Hamburg, all enforcement data are processed through one channel.

#### 4. Validity

The validity of seizures as an indicator of the availability of illicit drugs varies between cities and is affected by several considerations, in particular (a) whether the data reflect the activities of enforcement agencies rather than the state of the illicit market, and (b) whether the data used refer to quantities seized or to the number of seizures.

The total quantities seized are sometimes taken as an indicator of illicit supply. However, it is not possible to know, by just looking at the total quantities seized, whether the police have become more or less effective (or lucky), or whether the market really has changed. Thus one exceptional seizure can seriously distort the data for a given year. Repeated seizures of large quantities may indicate that a substantial market exists, but variations in the total amount cannot be assumed to be directly proportional to the size of the market.

It is also necessary to exclude seizures that are 'in transit' for another destination. Relevant intelligence may be known to some enforcement agencies, but it is not routinely available for interpreting the significance of the data. This is especially relevant to major cities, which may be transit points for other parts of the country as well as for other states. Perhaps the validity of the amounts seized should be examined as an indicator at a national rather than at a city level.

If the quantities seized are taken in conjunction with other information, then it becomes more possible to examine their validity as an indicator. For example, if the amounts seized increase markedly yet prices are unchanged or falling, and purity is rising, then it is more likely that the data indicate an expanding supply rather than more effective interception. If other indicators point in the same direction, then this interpretation is further confirmed. Information on police priorities and resources allocated to drugs is also needed.

The only cities where it is possible to set quantities seized against prices are Amsterdam, Hamburg and London. In Amsterdam, increases in the quantities of heroin seized coincide with falling prices (and rises in the number of people arrested). A similar pattern is found in London, where it is concluded that large changes are a valid indicator, especially regarding heroin. On the other hand, in Hamburg it is suggested that quantities seized are not necessarily a valid indicator, especially regarding cocaine. In Sweden as a whole, it is suggested that an increase in the quantities seized was correlated with increased enforcement rather than an increase in use.

At the 'user' level, the quantities seized are less significant than the number of individual seizures. In Hamburg, London Paris and possibly Dublin, the number of seizures of user amounts are considered a rough indicator of availability. However, data that routinely distinguish user quantities are not routinely available.

Substantial changes in the number of seizures, especially at street level, may be an indicator of availability. The significance of the quantities seized is more questionable, especially at a city level. However, seizure data become more useful when taken in conjunction with other market indicators and with information on enforcement policy and resources.

- (a) Data on the numbers of seizures and on the quantities seized should be routinely reported.
- (b) Seizures of 'user' quantities should be distinguished, as should exceptionally large seizures.
- (c) In the case of large seizures, it should be indicated whether they were destined for the domestic market or not (if known).
- (d) Information on the level of enforcement resources and on significant changes in policy is necessary for interpreting the data.
- (e) The system(s) through which seizure data are collected, collated and reported need further examination if they are to be of greater epidemiological value.

## 2.8 Price/purity of illicit drugs

Drug price and purity are sometimes used to indicate the availability of illicit drugs. A fall in price may indicate increased supply, especially if the purity is rising.

### 1. Comparability of definitions.

The data on prices presented in the Appendix (Table IX) refer to a price range per gramme at street level {except for cannabis, which is sold in ounces in Dublin and London}.' Some information on 'dealer' quantities is also available in London. Purity data, where available, also refer to street quantities. In Hamburg and London, the purity of small amounts (less than one gramme) are recorded separately.

### 2. Availability, accessibility, rapidity

Some data on prices are available in all cities except Stockholm. They will be available in the future in Stockholm. Apart from Paris, the data are recorded more or less routinely by the narcotics police. In Paris, and additionally in London, data are derived from ethnographic studies and from informal sources in touch with illicit drug users. Only Dublin, Hamburg and London report purity data (from police sources).

The data are available to the police easily and rapidly. As with other law enforcement indicators, the data, and the information needed to interpret them, are not always so accessible to others.

### 3. Reliability

Reliability varies between cities. The data on prices are thought to be a reasonable guide in Hamburg, London and Paris. In the other cities, the reliability is unknown.

One issue that affects reliability is whether prices refer to the money paid for a quantity that is sold as a gramme (or fraction of a gramme), or whether they refer to an estimate of the 'true' price per gramme when drugs are sold in small packets of unspecified weight. In the latter case, the price per gramme is likely to be much higher than the money paid when a user purchases a "gramme". This, seems to be the case in Dublin, where one gramme is usually divided into 30 packets which sell at €10 each.

Another issue is how the information on prices is obtained. Experienced narcotics police who are knowledgeable on how the illicit market works, are likely to provide reliable information. Interviews with arrested users by inexperienced police officers can produce misleading information on prices.

Prices reported by the police may also be affected by other pressures. For example, a wish to emphasise the significance of seizures or of drug-related crime can lead to inflated figures. Conversely, a wish to stress the problem of increasing availability can lead to selection of the lowest prices.

In both London and Paris, the value is stressed of information on prices obtained from ethnographic studies and informed sources close to the drug scene. The reliability of such data can be high if the persons concerned are themselves experienced and reliable.

Data on purity obtained by forensic analysis are assumed to be reliable.

### 4. Validity

Data on prices are considered to be a valid and sensitive indicator of trends in availability in Hamburg and London, and potentially in Paris. Thus in London the price of heroin fell sharply after 1978 (and continued to fall until 1984). Subsequently, over the early 1980s, all the other major heroin indicators increased. It is hard to draw conclusions about the other cities (apart from Hamburg) since this indicator has not been closely examined.

### Conclusions

When taken with other information, price/purity can be a sensitive indicator of the state of the illicit market, in some cities at least. However, it is essential that the data are carefully and consistently assembled.



## Recommendations

- (a) Both the price and the purity of illicit drugs should be routinely recorded.
- (b) The data should distinguish the price and purity of small amounts (one gramme or less). Ideally, they should also distinguish the price/purity of large quantities (over 1 kg.)
- (c) Estimates of the "true" price per gramme based on very small units of unspecified weight should be separated from data on prices paid for a gramme or fraction of a gramme.
- (d) Data on prices should be obtained from other reliable sources as well as from the police.

## 2.9 Survey data

Survey data have not been a focus of this study. This was partly so as not to duplicate the work of the school survey subgroup, and partly for methodological reasons in relation to the focus on heavy, problem use.

Population or school surveys are useful for assessing the extent of more common drug use (alcohol, tobacco, cannabis, medicines etc). They are less useful for rarer or more 'deviant' use since (a) large samples are required, (b) such use may be more likely to be concealed, and (c) random samples are particularly likely to miss truants from school, or important groups living in 'marginal' social settings. Surveys of conscripts, especially when supported by urine analysis, can provide prevalence data on males in a limited age range.

Intensive case-finding studies are a valuable tool, albeit expensive. They are useful for establishing a baseline from which to (a) monitor subsequent trends, and (b) validate the various indirect indicators.

Ethnographic studies of drug users can be extremely valuable for providing 'hard to get' data on the human dimensions of drug misuse,

## 2.10 Other indicators

Nonfatal drug-related emergencies seen in casualty departments have not been considered in detail. This is because routine data were available only in Amsterdam (on addicts taken to hospital by ambulance). In other cities, data are not available, though surveys have been conducted in Dublin and London.

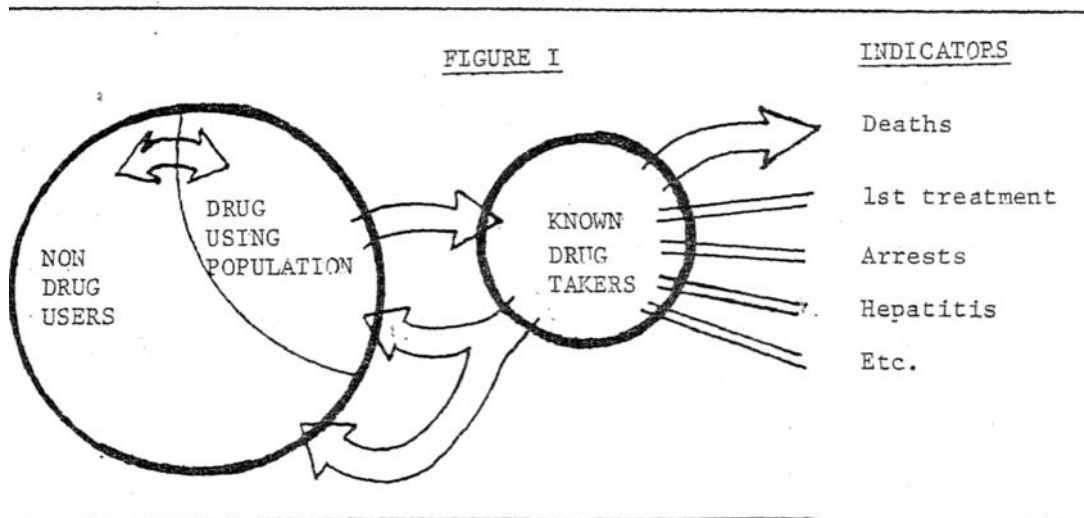
Very few data are available concerning AIDS and drug misuse. In several cities, research is under way or planned. Other indicators used include injection marks amongst arrestees (Stockholm).

### 3. AN INTEGRATED FRAMEWORK? POSSIBILITIES AND LIMITATIONS

Any attempt to develop a more integrated and comparable framework for monitoring drug misuse raises the central question of "How can integration of information from diverse sources best be achieved?". Section 3.1 describes a conceptual framework for examining indicators with regard to this question. Section 3.2 looks at some of the methods for combining indicators within a city, and section 3.3 at the levels at which comparisons can be drawn between cities. Section 3.4 discusses the administrative structures that are needed for integrating information within a city, and section 3.5 takes up this issue at a European level.

#### 3.1 Conceptual framework for indicators

The starting point for a conceptual framework is provided in Figure 1.



In Figure 1, "Indicators" refers to data that are available from reporting systems or routine statistics. "Known drug takers" refers to people with drug problems seen by one or more agencies. The "known" population may often be larger than is suggested by the indicator data, since it is unlikely that reporting systems receive information on all drug takers who come into contact with agencies. The "drug using population" refers to all those who use drugs in the time period concerned. This includes people with drug problems who have no contact with agencies (hidden drug problems), as well as those who are known to agencies. It also includes the larger number of people who use drugs in an occasional, 'recreational' or less risky fashion. Clearly the boundary between them and 'problematic users' is blurred. The figure also indicates that, with the exception of death, the status of individuals can vary over time.

This conceptual framework is not intended as a rigid 'iceberg' model. The visible portions of any indicator are not fixed and may vary for reasons other than changes in drug use (eg changes in reporting or in agency policies). Thus it cannot simply be assumed that changes in the 'visible' indicator are directly proportional to changes in drug misuse. Part of the task of the expert group has been to examine the validity of each indicator in regard to the total drug situation.

The rationales for using this broad framework are as follows.

- (a) It emphasises that the data available at an overall city (or national) level are the result of a filtering process:- not all drug users come into contact with agencies; of those who do, not all go to the same agencies; not all of those who contact an agency are recognised as drug users; and only some of those who are recognised as drug users are actually recorded or reported in the final statistics.
- (b) It emphasises that different indicators are selective, that is to say they reflect the phenomenon of drug, misuse from different positions.
- (c) At the same time, the framework suggests that there is some overlap between different indicators. Thus an important question is the way in which different indicators are (i) related to each other and (ii) collectively related to the drug situation.

This framework has three important implications.

- (a) A range of different indicators are required. Moreover, both statistical data and qualitative information are needed if the significance of the data is to be elicited, and it is important to include sources that are as close as possible to the drug using population (that is to say, data which has passed through less filtering).
- (b) The different indicators must be analysed and interpreted together as a package, rather than separately. This in turn requires a centre that can facilitate the use of consistent protocols for collecting data, and then collate and integrate the information obtained from different sources.
- (c) Since the validity of each indicator as a direct measure of drug misuse cannot be assumed, and may vary over time, it is essential to carry out independent evaluations of the indicators from time to time.

The next section examines various methods for combining information within a city.

### 3-2 Scientific aspects of integrating indicators within a city

Methods for combining information from different sources and different indicators include:

- multi-agency monitoring (registers etc.);
- concomitant indicator analysis;
- statistical projections from indicators;

Methods which are valuable for placing the statistical data in a wider context and for evaluating the indicators include casefinding studies, ethnographic studies, and school or population surveys.

The different ways of tying together information from different sources are described in more detail below.

#### Multi-agency monitoring

Amsterdam, Hamburg, London and Rome have some form of coordinated multi-agency data gathering. Some examples illustrate the value of this approach.

In Amsterdam, the methadone registration system covers a wide range of treatment settings, including addicts in police stations, prisons etc. This makes it possible to avoid the double-counting of individuals that, for example, is reported to have resulted in an overestimation of the number of addicts attending treatment centres in Rome. The same system makes it possible to monitor accurately the number of new cases (first treatment demand) who are seen by almost any (methadone) facility in the city. As well as providing a more accurate picture of trends in opiate addiction, this indicates which sort of facility addicts are most likely to approach first. It also shows, for example, that half of arrested addicts have never been notified "as receiving methadone. The system thus provides a valuable empirical basis for planning services. A disadvantage of the system is that since it monitors the supply of methadone, it is unlikely to provide information on other types of drug misuse.

In the UK, notification data were valuable in, for example, indicating the increasing (but unplanned) involvement of GPs in the treatment of addicts, and in showing changes in the age distribution of addicts notified for the first time. A disadvantage is that the more detailed (and more useful) data are only available nationally.

In Hamburg, studies based on the cumulative register of injecting opiate addicts illustrate how different indicators can be used to evaluate each other. Thus a retrospective study of addict deaths showed no correlation between length of (known) addiction and the likelihood of dying in any given year. This in turn suggested that drug-related deaths were not an indicator of the incidence of new addicts. Conversely, a study of drug-related deaths identified through screening death records, showed that 80 percent of addicts who died were already known. This suggested that the register was relatively comprehensive.

Of particular interest is a long term study of opiate addicts notified in the early to mid 1970 s which suggested that although 20% had died by the mid 1980 s, 50% had 'matured out' of their addiction.

Thus, depending on the agencies included, multi-agency monitoring can provide information on trends in 'known' prevalence and incidence, changes in the profiles of users, overlaps between different agencies and patterns of service utilisation. Apart from monitoring trends, such a database is of enormous value as a starting point for more thorough epidemiological evaluation of questions such as the long term consequences of drug misuse.

#### Concomitant indicator analysis

An example of this approach was given earlier when discussing the validity of seizures as an indicator *of* supply (2.8). It was suggested that when seizures are examined along with price, then they are more valid than when taken alone. This principle can be applied more generally to include a wider range of indicators. Examples are provided in the reports for Dublin, Hamburg and London.

Two general points emerge from the city reports. Firstly, many indicators show short-term fluctuations. Variations from one year to the next cannot be taken as a reliable sign of change. Consistent trends over several years are much more significant. Secondly, the significance of trends observed in a package of indicators must still be interpreted in terms of independent, often qualitative information about the agencies and about the drug scene itself.

#### Statistical projections from indicators

A number of statistical techniques are available that allow projections from existing indicators or data sets to the 'hidden' population of drug misusers. These include capture-recapture, nomination methods, small area synthetic estimates, and so on.

The capture-recapture technique has been applied in London and Stockholm. It is based on the overlap *of* cases recorded by two or more different sorts of agency or indicator. It operates on the principle that the smaller the overlap, the larger is the total number of addicts. There are a variety of statistical applications of this principle that allow total prevalence and incidence to be estimated.

Another technique used in London was nomination, which aims to ascertain, through interviews with addicts, what proportion of their addict friends have, or have not attended specified agencies. If a sufficiently broad sample are interviewed, it is possible to arrive at an approximate ratio of the number attending agencies to the 'hidden' population. If the numbers at the agency are known, it is possible to estimate total prevalence.

Although these and other, *more* sophisticated statistical techniques allow projections to be made beyond existing indicators, they all depend on the foundation of a good database.

### 3.3 Levels of comparison between cities

A review of the reports provided by the experts suggests the following comments on which aspects of the situations in the cities can, or cannot, be meaningfully compared at present.

#### 1. ?\$\$2riE5i:Y\$ comparison

As is shown in Section One of this report, the value of careful descriptive comparisons should not be underestimated.

#### 2- Prevalence of drug misuse

At present, comparison between cities regarding the level of drug misuse is only feasible- on a crude and speculative basis. Given the uncertainties of prevalence estimation, even in a single city, progress in this area is likely to be slow. The following examples illustrate the lack of direct and equivalent estimates.

Amsterdam (total population 676,500)

6,657 opiate addicts were registered by the CMR at some point during 1985. Thus 'registered' prevalence (over 12 months) was 22.5 per 1,000 population aged 15-39. The total number of opiate addicts in Amsterdam in that year is not known, though it would have been greater than the registered figure. However, it is likely that a substantial proportion of addicts were registered at some point, since the CMR covers a large range of methadone dispensing facilities that are widely spread and easily accessible. A high proportion of addict visitors/nonresidents would overstate prevalence amongst Amsterdam residents.

Greater Dublin (total population 915,000)

798 opiate addicts treated at the Dublin treatment centre during 1985. Thus 'treated' prevalence (over 12 months) was 2.2 per 1,000 population aged 15-39. This figure excludes addicts treated by GPs, hospitals and in prison, and includes a few who lived outside Dublin. The total number of opiate addicts is not known, but one estimate suggests that in 1985 there may have been about 1,700 opiate misusers in Dublin. This would imply a 'true' prevalence rate of about 4.5 per 1,000 population aged 15-39.

Hamburg (total population 1,694,000)

1,764 injecting opiate addicts were known to central register by December 1985. Thus 'known' prevalence rate was 3 per 1,000 population aged 15-39. Cases were largely identified through the legal system (police and courts). The number of addicts treated in a year is about 200, giving a 'treated' prevalence (over 12 months) of 0.1 per 1,000 population. The total number of addicts has not been assessed precisely, but it is thought that the majority are 'known'.

Greater London (total population 6,609,000)

5,637 addicts (mostly opiates) were notified to the Home Office during 1984. Thus 'notified' prevalence (over 12 months) was 2.0 per 1,000 population aged 15-39. The 1985 figure will be somewhat higher. The total number of opiate addicts in London is not known, but it has been suggested that perhaps 25-30,000 people used opiates on a daily basis at some stage during 1985. This would imply a 'true' period prevalence rate for 1985 of about 8 to 10 per 1,000 population aged 15-39.

Paris (total population about 6,000,000)

There are no prevalence figures for 'treated' or 'known' addicts.

Rome (total population 3,696,000)

2,168 addicts under treatment in public health facilities in 1985. Thus 'treated' prevalence was 1.6 per 1,000 population aged 15-39. Surveys, based on urine analysis, of young men at first interview for military conscription suggested a prevalence rate for Rome (1982) of 14.1 regular opiate users per 1,000 males aged 17-25 (equivalent to 4,200 male opiate users in that age range). A tentative projection, taking account of females and users aged over 25, might give a figure of around 10,000 regular opiate users. If reasonable, this would imply a prevalence rate of about 7 per 1,000 population aged 15-39.

Stockholm County (total population 1,545,000)

A case-finding study in 1984 suggested that there were about 3,000 intravenous users of amphetamines or heroin in Stockholm County, giving a prevalence rate of about 5 per 1,000 population aged 15-39. Since the study included corrections for errors and unreported cases, this represents an estimate of the 'true' prevalence (of use by injection).

The prevalence rates outlined above cannot be directly compared since they are based on different sources and different methods of estimating prevalence rates.

### 3. Rates of change in drug misuse

It is more feasible to make broad comparisons of relative trends in drug misuse on the basis of existing indicators, but there are substantial areas of uncertainty. However, this is an area where the group believe progress can be made. The broad trends in drug misuse are not reviewed here, since they were contained in the first volume of this report.

### 4. Characteristics of drug misusers

These too can be compared in a rough and ready fashion, but only on fairly basic items such as age and sex, and in most cases only for selected subgroups of drug misusers. Progress in this area would be useful and should be feasible.

5. Patterns of agency contact

It is possible to compare most cities in terms of which agencies are most commonly in contact with drug misusers. The point is not to compare numbers, but the profiles of drug misuse as they are presented through the indicators available in the respective cities. The assumption here is that since the indicators are based on data from agencies concerning their contact with drug misusers, the profile of indicators reflects the pattern of responses in the cities concerned. This provides an empirical basis from which to start to compare the operation of policies in the cities. Whether this is a fair assumption depends in turn on the extent to which the data actually cover the main agencies that see drug misusers.

A preliminary example of this sort of comparison is provided in Figure 2. For each city, the columns on the left refer to treatment and law enforcement indicators; the columns on the right to hepatitis and deaths (the scale for these is ten times greater than for the indicators on the right). The cross-hatched areas refer to opiates only (or in the case of Stockholm, to addicts).

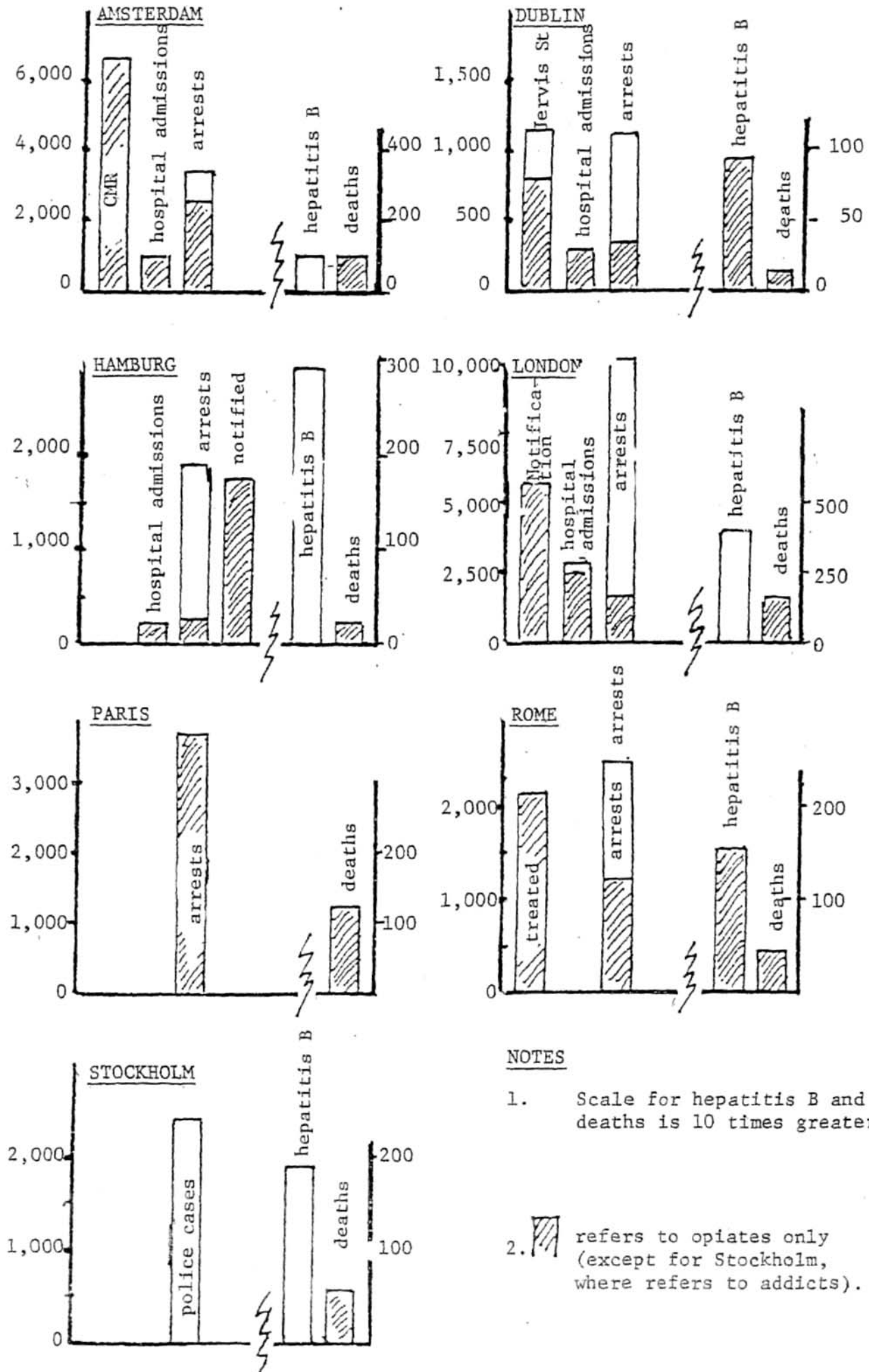
It can be seen that in Hamburg, the register of addicts (mostly identified through the police or the courts) is the primary indicator and that treatment data is relatively unimportant. Similarly, in Paris and Stockholm, the lack of treatment information leaves police data (and deaths or hepatitis) the primary indicator. By contrast, in Amsterdam, Dublin, London and Rome, the most prominent indicators are derived from treatment systems.

In Amsterdam, Rome, and perhaps Paris, the number of arrests for opiate offences under drug legislation account for a majority of all recorded offences, whereas in Dublin, Hamburg, London and probably Stockholm, cannabis accounts for most arrests.


This example is oversimplistic and contains many shortcomings, not least because of the difficulties described earlier regarding definitions and the quality of the data. Furthermore, the profiles reflect the availability of data as well as the actual pattern of agency contact. For example, a London study showed that many addicts are seen by probation officers (for nondrug offences), suggesting that a larger number of addicts pass through the legal process than are reflected in arrest statistics. The numbers seen by voluntary agencies also correct the picture suggested in the London data, that treatment is only carried out by clinics and GPs. However, this sort of comparison points to more interesting questions than mere comparison of numbers. It should be feasible and valuable to develop this approach in more detailed and valid form as the comparability and quality of the data improves.



FIGURE 2



NOTES

1. Scale for hepatitis B and deaths is 10 times greater.
2.  refers to opiates only (except for Stockholm, where refers to addicts).

6. Social and economic costs of drug related problems

It is not yet possible to make quantified comparisons in terms of broad problems such as illegal supply, drug-related crime, or the social/economic costs of drug misuse, though the city reports allow for some comparison at a descriptive level. It is possible, however, to illustrate how comparisons on one aspect of the illicit market might be made, the price of illicit drugs. The data currently available are limited by the problems of reliability described earlier and should not be assumed to be comparable. However, they suggest that there may be large differences between cities, and that the pattern of differences may vary for different drugs.

Street prices of *illicit* drugs per gramme, in ECUS, 1985

	Heroin	Cocaine	Hashish
Amsterdam	30 - 60	50 - 70	1.9 - 3.0
Dublin	260 - 400	260 - 340	3.7 - 4.8
Hamburg	160 - 190	120	9.2
London	120 - 140	70 - 90	3.6 - 5.8
Paris	70 - 170	60 - 90	3.6 - 8.7
Rome	100 - 400		

7. Causes of drug misuse and impact of interventions

This report does not compare either the relative importance of different aetiological factors, or the impact of different policies and interventions. This is a key area to which epidemiology can make a major contribution. The issues are complex and would probably require a special study. A necessary foundation for any attempt to consider these questions, is a comparable and continuous information base concerning the trends and characteristics of drug misuse in different cities or countries.

### 3.4 Administrative monitoring structures

A major problem encountered by all participants in this study was the time and trouble that was required to collate information from different sources that were not already covered by a city-based routine reporting system. In some cases, the information requested had to be specially extracted from existing routine sources. In other cases, it took months before even the most basic data were supplied. Often, information was obtained only because of personal contacts within particular authorities. If the contact person changed job, then the information became more difficult to get. Where data came from different agencies, it was usually difficult to compare, even between similar agencies with similar clients.

Thus a fundamental requirement of improved monitoring within the cities is an administrative structure for coordinating the collection and collation of information.

The collection of consistent, standard information from different sources, at whatever level, requires the following.

- (1) A centre, with sufficient resources, to routinely collate information, both statistical data and the more qualitative information and intelligence<sup>1</sup> needed to interpret the data.
- (2) Standard guidelines and protocols for collecting and reporting data to the collating centre.
- (3) A consistent format for producing reports of the results and a mechanism for disseminating the information to planners and services on a regular basis.

There are elements of such centres in some of the cities. Thus in Amsterdam, the CMR collects data relating to methadone provision. However other data (from hospitals, drug free agencies and especially law enforcement) are not covered.

In Hamburg, the reverse is found. The monitoring system is administered by the drug commissioner, in collaboration with the narcotics division of the police. Whilst collection of data on addicts coming to the attention of the police and on other aspects of law enforcement are coordinated, a similarly comprehensive collection of treatment data is somewhat difficult.

In Rome, monitoring is part of a three tier system coordinated nationally by the Ministry of the Interior. This collates basic (aggregated) data from local health units. It also collates data on deaths and seizures. The regional health authorities collate more detailed data from local health units and produce six monthly reports. Both the national and the regional reports provide data that refer to Rome- However, there is no structure in Rome itself for relating those data to other local information about the situation in the city.

In Stockholm, the Swedish Council for Information on Alcohol and Other Drugs is developing a regional reporting system to coordinate the collection of information from key persons together with the various statistics and surveys. It is not intended to develop a register of known users, for ethical reasons, and because it is not considered necessary.

In the other cities (Dublin, London and Paris), there are no structures for bringing data from different indicators together with other relevant information. This poses particular problems in London and Paris, perhaps because of their size and the number and diversity of agencies.

#### Possible models

It was suggested in the original proposal, "Overview of a multi-city Study of drug misuse" (1), that the outcome of this study should serve as a model for future developments. However, it is clear that even between just seven cities, there are major differences in terms of what sort of administrative monitoring systems are feasible. With this in mind, it is not possible to present a single blueprint. The important element of any system is that data from all the different indicators are routinely brought together in one place.

The actual form of any centre will depend on the local context. Similarly, whether the centre is associated with the public health service, the criminal justice system, the local government structure, an interdepartmental arrangement or an independent institution will depend on the historical and political traditions in each city. If the aim is to collate information on medical, legal and social aspects of drug misuse, then it may be preferable that any centre is not too closely identified with the interests of one particular section.

The two basic models that have been put forward are:

a case reporting system to which different agencies notify individuals;

an 'intelligence' collating forum which brings together statistical data and other information from all sources.

Examples of case reporting systems have been described above. From an epidemiological point of view, they can be most valuable. However, as indicated above, they all serve functions for particular administrative purposes (health, enforcement etc), and therefore do not cover areas that fall outside those purposes.

From a purely epidemiological point of view, the 'ideal' is a comprehensive register of all drug misusers known to all agencies (treatment, police, social services etc.). However, this is not proposed in this report. In most cities, it would be impossible, both for reasons of confidentiality, and for reasons of cost, lack of cooperation from agencies, and the fact that it would deter drug users from seeking help.

(1) Pompidou Group meeting of epidemiology experts in drug problems, Paris, 13-15 June 1984

An alternative form of reporting system is one in which anonymity is preserved. Thus it is not individuals who are reported, but events (demands for treatment etc.). This avoids problems of confidentiality, but not the size of the administrative task, nor the cost. In addition, it is not possible to study the overlap between agencies nor to follow up cohorts of drug users through the various treatment/control services. In some cities, the problem of double-counting is minimised by using anonymous identifiers, such as date of birth, sex and combination of initials, but this too is not always acceptable.

It is in any case unlikely that comprehensive case reporting, whether totally anonymous or not, would work across all medical, social and enforcement services. This is partly because of the sheer coalexity of administrating such a system, and partly because different services and administrations require different information for different purposes. It would be counter-productive to attempt to develop a system that was all things to all people. There are also important sorts of information which do not refer to individuals at all (seizures, price and purity, ethnographic studies and other qualitative 'intelligence').

Thus, in addition to the various separate reporting systems (where they exist)• there remains a need for an 'intelligence' collating centre or forum. A schematic outline of such a monitoring system is given below, followed by an account of what it might involve.

Schematic representation of monitoring\_system

Sources	Input	Centre
Reporting systems (methadone registration, notifications, etc.)	-> -> -> routine reporting (aggregated data)	Coordination of data collation
Individual indicators (1st treatment demand seizures, hepatitis etc.)	-> -> routine reporting (aggregated data)	Reporting protocols  Receive data
Surveys (school, household, agencies, case finding, ethnographic etc.)	-> -> -> -> -> -> results as available	Integrate and interpret information  Regular reports
Key individuals	-> -> -> -> regular reports	Liaison and feedback
'Intelligence' (other research, miscellaneous)	-> -> -> -> as available	

It would also be important that continuing attempts were made to improve the quality of the individual indicators as recommended in Chapter 2, and that the information from the monitoring system were supplemented by epidemiological research (ethnographic studies, surveys, follow-up studies etc.) The formulation of such a monitoring system would involve a development phase before it became functional.

#### Development phase

- (1) Review the situation in the city and list a wide range of sources of information, with particular attention to key people who work in relevant agencies and administrative structures or who are well informed about the drug scene. κ
- (2) Define a set of ideal indicators, together with core data of particular epidemiological significance. The indicators covered in this report should all be included at this stage.

The multi-city study provides some of the groundwork for this in the cities concerned.

- (3) Negotiate with the agencies and administrations whether, how and in what form data can be reported to the centre rapidly and on a routine basis that is mutually acceptable. This is time consuming.
- (4) Develop protocols and guidelines for data reporting.
- (5) Set up a database. Whether this is associated with a case-reporting system (as in Amsterdam) or just stores statistical data collected by other structures (as is planned in Stockholm) will depend on local circumstances.
- (6) Pilot procedures and modify accordingly.

#### Functional phase

- (7) Collate data on a routine basis. This requires regular contact with the various agencies and administrations.
- (8) Keep in regular contact with key persons and record significant 'intelligence' information, research reports etc.
- (8) Analyse data and write brief reports (every 3 or 6 months?). '
- (9) Organise a meeting (every 6 months?) of all key persons to exchange information, report local events and discuss the significance of the various indicators. '.
- (10} Disseminate reports (every 5 months?) on recent developments to all parties involved.
- (11) Provide information in response to particular requests\* from policy makers, agencies etc.

The resource implications of such a centre would depend on its terms of reference and on the degree to which a structure already exists. However, any centre requires (a) full-time core staff, with epidemiological expertise, administrative support and adequate computer facilities, and (b) sufficient institutional support at a senior level in the structures concerned (health, police etc) to ensure that the centre has the authority to operate without the need to continually negotiate access to data.

#### Comment on national information systems

National data gathering is strictly outside the objectives of this study. However all countries are concerned to form a nationwide picture of drug misuse, whilst at the same time having information on variations within the country. A short comment is thus in order concerning the balance between national and local monitoring.

All countries have national indicators, but it is not clear whether they provide an accurate picture. An example of a more extensive national monitoring system is found in the United States. Until recently, it consisted of the following components.

DAWN (Drug Abuse Warning Network) - monitors drug-related incidents in emergency rooms and drug-related deaths.

CODAP (Client Oriented Drug Abuse Profile) - monitors admissions and discharges from federally funded treatment programmes)

Law enforcement indicators (arrests, seizures, price/purity)

Hepatitis B monitoring

National Household Survey (repeated)

National High School Survey (repeated)

The National Institute on Drug Abuse is the centre responsible for developing protocols for data reporting, and for collating and analysing data from different parts of the country. It also conducts and supports epidemiological research on particular issues. The results are made available through a regular series of publications.

The advantage of such a system is that it is standardised nationally for a range of indicators, whilst at the same time it can provide comparable information about specific areas within the country.

The disadvantages for many European countries are that this sort of comprehensive data system would be expensive, difficult to set up, and cumbersome to administer. This is partly because of the policies of decentralisation that are found in some countries. Furthermore, and this has also been a criticism of the US system, it is relatively insensitive to local circumstances, unless there is additional locally-relevant information available. This can result in poor quality data unless local agencies are motivated to participate.

In this context, the model from the U.S. that is of particular interest is the Community Epidemiology Work Group (ex Community Correspondents Group). This consists of experts from major cities who meet every six months to report local indicators in standard format, and to discuss the similarities and differences between different parts of the country. An executive summary provides a national picture with regional variations. These meetings also provide a forum for presenting reports on particular issues of current epidemiological concern (for example cocaine or AIDS).

In European countries, a national network of local centres, such as those recommended for the cities in this report, could fulfil the same function. Some central administrative support would be necessary, but not on the scale required by national data gathering systems. The development of regional reporting systems in Sweden appears to be a move in this direction. The balance between national and local monitoring would, of course, depend on the size and political structure of the various countries.

### 3.5 European CO-OPERATION and comparability

Improved comparability and integration of data in Europe requires that there is an appropriate political/administrative structure for ensuring that progress is made. As with the requirements for monitoring within a city or country, any attempt to monitor and compare the situation across Europe needs:

- (a) agreed guidelines on data gathering, and
- (b) a continuing mechanism or forum for receiving, synthesising, interpreting and disseminating information.

If the reservations expressed earlier about large, national monitoring systems are valid, then the possibilities of developing a pan-European monitoring system on the scale of the NIDA American model are even more distant, not least because of substantial differences in the whole organisation and function of the various societies' institutions.'

An alternative model for monitoring at a European level is the Community Correspondents Group described earlier. There are two ways of arranging such a model

- (1) The Pompidou Group institutionalises the epidemiological working party as the forum in which the experts meet every six months to (a) present an update, in a standard format, on national trends, and (b) produce, with the other experts, a brief report that summarises the major trends and differences across Europe.

Such a forum would also facilitate the continuing exchange of information on epidemiological methods and results of new studies.



(2) Set up a European epidemiological centre to:

liaise with national centres;

define, in consultation with national centres, basic protocols for reporting data (as comparable as possible);

synthesise the information on a regular basis;

hold regular meetings to discuss the significance of the information and to identify future needs in this field,

disseminate ( briefings on the European situation to national centres and other relevant national/European bodies.

This, effectively, is similar to the model proposed for monitoring in a city, but adapted to a European context. Such a centre could be under the umbrella of the Pompidou Group or it could be based elsewhere. It would, in any event, need full-time staffing.

Any move towards European coordination and comparability must take place with full consultation with other European bodies, notably the EEC and the European regional office of the WHO.

## SUMMARY AND RECOMMENDATIONS

### General conclusions

- (1) It is important to improve the quality and comparability of data gathering because:
  - cities need information for planning and evaluation;
  - concerted action needs information on patterns of drug misuse across Europe;
  - individual countries can better benefit from the experience of others.
  
- (2) This study has focused on more serious, problematic drug misuse. It thus complements the pilot study of drug use being carried out in the school survey subgroup.
  
- (3) The expert group considers that it is possible to make meaningful comparisons and to improve the quality and value of those comparisons, as long as progress is made with regard to:
  - the comparability of the criteria;
  - the routine integration of data from different sources;
  - the continuing exchange of information concerning the wider contexts in which data are collected.

### Indicators

- (4) It is not possible to assume a direct correlation between an indicator and the prevalence of drug misuse. The indicators examined in this study are indirect and may be influenced by other factors such as changes in reporting or in the policies and activities of the agencies concerned. It is therefore vital to:
  - use a package of different indicators and examine their collective significance;
  - assess the empirical validity of indicators in terms of other information on the extent of drug misuse (eg independent research).

- (5) A number of indicators have been examined by the group. The significance of the data and the levels at which they can be compared varies, depending on the indicator concerned and on which cities are considered. In general, there is considerable room for improvement in terms of:

the consistency and comparability of the criteria;

the accessibility of the data and the rapidity with which they can be obtained;

the quality of the data in terms of reliability and validity.

Chapter 2 makes recommendations as to how individual indicators might be improved.

- (6) The two indicators that are considered of particular value in most cities are:

the demand for treatment from medical and social facilities, and in particular, first requests for treatment by previously unknown drug misusers;

police arrests for offences involving illegal drugs

- (7) Three other indicators that are important and that would, if improved, add substantially to the range and quality of epidemiological information are:

drug-related deaths;

illicit market indicators - drug seizures and price;

hepatitis

- (8) Data on hospital admissions and imprisonment are generally considered to be of less epidemiological significance.

- (9) In addition, several members of the expert group consider that it is essential to complement data derived from the agency-based indicators listed above with qualitative, first hand information from ethnographic (anthropological) studies of drug misuse in the community, and with other surveys such as *case finding* studies.

### Comparability between Cities

- (10) The expert group have examined several levels at which comparisons might be made between cities. In general, the degree of direct comparability is low. However it is possible to start to make rough comparisons between some cities at the levels of:

description (see volume one of this report);

- certain trends in drug misuse;

profiles of drug misusers reflected in some indicators;

the relative significance of different indicators;

the prices of illicit drugs.

It is not feasible at present to compare directly the true prevalence of drug misuse. However it is possible to compare some cities in terms of treated or known prevalence.

### Administrative monitoring systems

- (11) A major problem that was identified in most cities was the lack of a structure for collecting and integrating data from very different sources in a consistent and coherent fashion. In each city there is an urgent need to improve and formalise the channels for pulling together information on a centralised, systematic and continuing basis.

- (12.) Two basic models for monitoring systems have been considered. They are:

case reporting systems in which different agencies notify individuals to a central database (either by name or anonymously);

an intelligence gathering centre which brings together aggregated statistical data and other information from a wide range of source.

- (13) Case reporting systems are useful both for monitoring trends and for providing a sampling frame for more detailed studies. However, they are expensive, cumbersome to administrate, and limited by concerns over confidentiality. In particular, it is neither feasible nor desirable to develop a single database that records cases from health, social and legal agencies and administrative structures.

- (14) In all cities, there is a need for a centre which brings together, on a continuing and consistent basis:

aggregated data from the separate administrative reporting systems (public health, police, courts, etc.);

data on the individual indicators;

information from key individuals, research centres etc.;

any other relevant intelligence on drug misuse.

An important function of such a centre would be to interpret the collective significance of the information and produce regular reports on the situation. The need for a centre is discussed in section 3.4.

#### Future European epidemiological activities

- (15) There is a need for a continuing forum in Europe which would:

collate and compare epidemiological information on trends in drug misuse in different countries, and discuss their significance;

exchange information on different methods;

facilitate the use of more comparable criteria in indicators and monitoring systems centres in the various countries.

The model of the Community Epidemiology Work Group is put forward as one way in which this could be done. The epidemiology expert working party in the Pompidou Group could fulfil this function. An alternative is to establish a European epidemiological centre.

- (16) The work done on the multi-city study over the past three years is a basis only, not a completed solution to the problems of obtaining better and more comparable information on the nature and extent of drug misuse. It is important that future work builds on this study.

- (17) Other recommendations for future activities from the expert epidemiology working party as a whole are given in a separate document. Any future activities should have regard for epidemiological work that is being undertaken by other international bodies.



A P P E N D I X

REFERENCE DATA (\*)

Introduction

This paper contains population figures for the seven cities and data from eight indicators of drug misuse. The tables containing indicator data appear in the same order as they are discussed in the technical report on indicators of drug misuse. For each indicator the data from the different cities are presented in the alphabetical order of the cities.

The figures were selected from tables in the individual city reports or have been provided subsequently by the participating experts, and are presented here according to a standardised format per indicator, for the sake of ease of reference.

Ease of reference does not however constitute comparability of data. Comparability of data is not only dependent upon the comparability of definitions used but also on the framework within which particular sets of data have been collected. Specific care should therefore be taken as to any direct comparison of the presented data. It will be observed that where definitions differ the data should not be considered separately from the overview and synthesis of city reports (see Section 1 of the present publication) and the technical report on indicators of drug misuse in the seven cities (to which these data are appended).

The rates given are per 1,000 population aged 15-39 (except for Paris, where the rates refer to the age group 15-34).

(\*) compiled on the basis of a draft submitted by Ms A J de Roij-Motshagen

I. Population numbersAmsterdam

Year: 1983

Area: 207.60 km<sup>2</sup>

Population decrease: 12.22 (period 1975-83)

Age	M	F	T	%
-15	48,213	46,518	94,731	14.0
15-19	21,836	21,700	43,536	6.4
20-29	69,975	69,311	139,286	20.6
30-39	59,828	53,244	113,072	16.7
40-49	36,650	33,761	70,411	10.4
50+	90,297	125,191	215,488	31.9
Total	326,799	349,725	676,524	100.0

Greater Dublin Area

Year: 1981

Area: 504 km<sup>2</sup>

Population increase: 12.7% (period: 1971-81)

Age	M	F	T	%
-15	133,948	127,618	261,566	28.6
15-19	47,469	49,682	97,151	10.6
20-29	78,282	84,491	162,773	17.8
30-39	55,740	58,092	113,832	12.4
40-49	42,683	46,002	88,685	9.7
50+	79,736	111,192	190,928	20.9
Total	438,038	477,097	915,135	100.0

Hamburg

Year: 1982

Area: 754.70 km<sup>2</sup>

Population decrease: 8.9% (period: 1973-83)

Age	M	F	T	%
-15	107,682	104,307	211,989	12.5
15-19	62,207	60,007	122,214	7.2
20-29	121,755	116,384	238,139	14.1
30-39	119,228	106,764	225,992	13.3
40-49	199,738	122,999	322,737	19.0
50+	219,607	353,629	573,236	33.8
Total	830,217	864,090	1,694,307	99.9



Greater London Area

Year: 1984

Area: 1,976.4 km<sup>2</sup>

Population decrease: 7.0% (period: 1974-84)

Age	M	F		
-15	624,016	595,136	1,219,152	18.4
15-19	265,546	262,787	528,333	8.0
20-29	539,207	549,990	1,089,197	16.5
30-39	453,759	457,548	911,307	13.8
40-49	366,992	370,034	737,026	11.2
50+	933,042	1,190,541	2,123,583	32.1
Total	3,182,562	3,426,036	6,608,598	100.0

Paris (city)

Year: 1982

Area: 105 km<sup>2</sup>

Population decrease: 5.5% (period: 1975-82)

Age *	M	F	T	X
-15	153,720	143,940	297,660	13.6
15-24	144,160	162,440	306,600	14.0
25-34	212,940	211,000	423,940	19.4
35-44	150,180	143,740	293,920	13.4
45+	354,500	512,340	866,840	39.6
Total	1,015,500	1,173,460	2,188,960	100.0

\* The standardised age breakdown used in this paper is not available for Paris.

Rome (province)

Year: 1981

Area: 5,352 km<sup>2</sup>

Population increase: 5.9% (period: 1971-81)

Age	M	F		
-15	397,208	379,059	776,267	21.0
15-19	160,546	154,602	315,148	8.5
20-29	267,665	266,433	534,098	14.5
30-39	248,795	267,642	516,437	14.0
40-49	248,824	271,107	519,931	14.1
50+	460,081	573,999	1,034,080	28.0
Total	1,783,119	1,912,842	3,695,961	100.0

Stockholm County

Year: 1982

Area: 6,500 km<sup>2</sup>

Population increase: 3.4% (period: 1972-82)

Age	M	F	T	X
-15	142,425	136,007	278,432	18.0
15-19	53,876	52,476	106,352	6.9
20-29	115,786	117,121	232,907	15.1
30-39	134,412	131,390	265,802	17.2
40-49	93,467	89,484	182,951	11.8
50+	207,656	270,354	478,010	31.0
Total	747,622	796,832	1,544,454	100.0

|

## II. First treatment demand

## Amsterdam

Definition: Addicts registered for the first time by the Central Methadone Registration System following provision of methadone at any of a wide range of facilities

Method: Central collation per individual

Year	First contact (Rate)	Re-contact (Rate)	Total known (Rate)
1981	3,531 (11.9)		3,531 (11.9)
1982	2,143 (7.3)	2,267 (7.6)	4,410 (14.9)
1983	2,657 (9.0)	3,065 (10.3)	5,722 (19.3)
1984	2,901 (9.8)	3,718 (12.6)	6,619 (22.4)
1985	2,092 (7.1)	4,565 (15.4)	6,657 (22.5)

## Dublin

Definition: Drug users taken on for treatment for the first time by Jervis Street, the city's main treatment centre

Method: Central collation per individual

Year	First contact (Rate)	Re-contact (Rate)	Total known (Rate)
1979	114 (0.3)	180 (0.5)	294 (0.8)
1980	250 (0.7)	179 (0.5)	429 (1.2)
1981	410 (1.1)	233 (1.6)	643 (1.7)
1982	633 (1.7)	371 (1.0)	1,004 (2.7)
1983	650 (1.7)	664 (1.8)	1,314 (3.5)
1984	506 (1.4)	712 (1.9)	1,218 (3.3)
1985	387 (1.0)	763 (2.0)	1,150 (3.0)

Hamburg

Definition: Drug users requesting aid from drug counselling centres (who have not done so the previous year)

Few precise data on first requests are available at present.

Drug counselling centres report that on average 250 "new" drug-dependent persons make a request for aid each year.

According to reports, from 1980 to 1984 1,117 persons sought aid

London

Definition: Narcotic addicts notified for the first time to the Home Office

Method: Central collation per individual

Year	First contact (Rate)	Re-contact (Rate)	Total known (Rate)
1979	926 (0.3)	1,778 (0.7)	2,704 (1.0)
1980	778 (0.3)	1,871 (0.7)	2,649 (1.0)
1981	1,152 (0.4)	1,977 (0.7)	3,129 (1.1)
1982	1,202 (0.4)	2,603 (0.9)	3,805 (1.4)
1983	1,813 (0.7)	2,880 (1.0)	4,693 (1.7)
1984	2,407 (0.9)	3,266 (1.2)	5,673 (2.0)

Paris

Definition: Nev cases seen by individual treatment centres

No consistent data available. Data on first treatment demand are published yearly separately by each care centre.

Rome

Definition: First application for treatment by drug users to public health (PH) facilities and therapeutic communities (TC).

Method: Central collation per individual.

Year	First contact (Rate)	Re-contact (Rate)	Total known (Rate)
1984 PH:	750 (0.6)	275 (0.2)	1,025 (0.8)
TC:	290 (0.2)	3 (0.0)	293 (0.2)
Total:	1,040 (0.8)	278 (0.2)	1,318 (1.0)
1985 PH:			1,909 (1.4)
TC:			259 (0.2)
Total:			2,168 (1.6)

Stockholm

Definition: Drug users treated by therapeutic communities and other social and medical facilities

No routine data on treatment available. In general it is difficult to acquire very precise information on the total number of drug users who receive care through the various treatment centres. No distinguishing of new cases.

III. Hospital admissions/discharges

Amsterdam

Definitions: Primary and secondary discharge diagnoses at general hospitals (A)

Primary admission diagnoses at psychiatric hospitals (B)

A.

ICD-code/year	1981	1982	1983
292	9	19	10
304	206	200	200
305,2-9	25	295	327
Total	240	514	537
(Rate)	(0.8)	(1.1)	(1.1)

B.

ICD-code/year	1982	1983	1984
292	18	12	14
304	93	314	258
305,2-9		10	14
Total	111	336	286
(Rate)	(0.4)	(1.1)	(1.0)

Dublin

Definitions: Primary and secondary discharge diagnoses at general hospitals (A)

Primary and secondary admission diagnoses at psychiatric hospitals (B)

## A.

ICD-code/year	1981	1982	1983	1984
292	1	3	1	3
304	150	155	180	157
305,2-9	18	22	15	20
Total	169	180	196	180
(Rate)	(0.5)	(0.5)	(0.5)	(0.5)

## B.

ICD-code/year	1981	1982	1983
292	8	6	11
304	81	64	82
305,2-9	7	6	23
Total	96	76	116
(Rate)	(0.3)	(0.2)	(0.3)

Hamburg

Admission figures for drug addicts are reported only by the detoxification unit (A). Other hospitals do not accept drug addicts as patients, except in the case of emergency treatment for overdose.

Year	1980	1981	1982	1983	1984	1985
Number	147	182	206	199	202	185
(Rate)	(0.3)	(0.3)	(0.4)	(0.3)	(0.3)	(0.3)

London

Definitions: Discharge diagnoses at general hospitals (A)

Admission diagnoses at psychiatric hospitals (B)

A.

ICD-code/year	1981	1982	1983	1984
304	1,636	1,580	1,558	1,590
305,2-9	115	162	131	113
Total	1,751	1,742	1,689	1,703
(Rate)	(0.3)	(0.3)	(0.2)	(0.2)

B.

ICD-code/year	1981	1982	1983	1984
304	904	930	848	1,176
(Rate)	(0.1)	(0.1)	(0.1)	(0.2)

Paris

No routine collation.

Data available only from a survey of cases seen by institutions during the last quarter of each year.

Rome

No routine collation.

Hospital admissions of addicts refer almost entirely to emergencies related to critical episodes.

Stockholm

Information on hospital admissions is not available on a routine basis.

Statistics on discharges from psychiatric hospitals do include cases of drug addiction (ICD 9 classification). However, the time-lag for these data is approximately five years.

IV. HepatitisAmsterdam

Definition: Cases of hepatitis notified to the public health authorities by general practitioners, by source of infection

	Total	(Rate)	Source of infection	
			Drug use	Other
1983	113	(0.4)	19	94
1984	70	(0.2)	23	46

Dublin

Definition: Positive test for hepatitis B amongst addicts admitted to hospital, or attending Jervis Street Treatment Centre

Year	Number	(Rate)
1979	7	(0.0)
1980	35	(0.1)
1981	168	(0.5)
1982	123	(0.3)
1983	125	(0.3)
1984	98	(0.3)
1985	91	(0.2)

Hamburg

Definition: Hepatitis cases reported by doctors to the city health authority, by type

Year	Number	(Rate)*	B	non A non B
1983	414	(0.7)	277	137
1984	407	(0.7)	269	138
1985	374	(0.6)	291	83

\* The rates assume that all reported cases were found in the age group 15-39 years. This assumption might not be justified.



London

Definitions: Positive tests for hepatitis B reported to the central public health laboratory by local laboratories, by source of infection (A)

Hospital inpatient discharges diagnoses of hepatitis B (ICD 9) (B)

A.\*

Year	Number	(Rate)**	Known history of drug use	Other
1980	378		59	319
1981	479		87	392
1982	392		70	322
1983	415		90	325
1984	608		131	477

\* Area - London and Thames Health Regions

\*\* No rates are available as the original data are not broken down by age.

B.

Year	Number	(Rate)
1979	261	(0.06)
1980	299	(0.07)
1981	280	(0.07)
1982	279	(0.07)
1983	309	(0.06)
1984	429	(0.08)

Paris

Not used as an indicator

Rome

Definitions: Positive tests for hepatitis among patients admitted to hospital for infectious disease, by type and by source of infection (A)

Data are only available with some years' time-lag..

Notifications of hepatitis cases to the public health authority (B) ,

Only provisional data are available.

Voluntary reports of hepatitis cases to the Institute of Health, by type (C)

Data from survey studies (D) :

1. Viral hepatitis among addicts under treatment, by type (N = 778) ;
2. Trends in hepatitis B and non-A non-B and addicts involved treated in the main specialist hospital; total number of cases in Rome.

D1.

Year	Number	(Rate)	Type			
			A	B	non A non B	undetermined
1984	243	(0.2)	10	156	11	66

D2.

Year	Number	(Rate)	Type		Number of addicts involved		Total Rome
			B	non A non B	Number	%	
1973	837	(0.6)	238	599	17	2.0	2,308
1974	742	(0.5)	467	275	47	6.3	1,413
1975	774	(0.6)	519	255	49	6.3	1,337
1976	908	(0.7)	520	388	42	4.6	1,847
1977	749	(0.5)	484	265	85	11.3	1,497
1978	822	(0.6)	474	348	88	12.1	1,445
1979	789	(0.6)	535	254	172	21.8	1,401
1980	883	(0.6)	595	288	148	16.8	NA

NA: not available

Stockholm

Definition: Hepatitis B (and hepatitis non-A non-B) notified to the public health authorities

Year	Number	(Rate)
1977	268	(0,5)
1978	211	(0.4)
1979	187	(0.3)
1980	222	(0.4)
1981	222	(0.4)
1982	217	(0.4)
1983	193	(0.3)

Drug-related deaths

## Amsterdam

Definitions: Unnatural deaths of drug takers by overdose (A) and deaths indirectly caused by drug misuse (drug-related diseases, homicides, accidents) (B)

Year	A	(Rate)	B	(Rate)	Total	(Rate)
1978	18	(0.1)			18	(0.1)
1979	19	(0.1)			19	(0.1)
1980	44	(0.1)			44	(0.1)
1981	34	(0.1)			34	(0.1)
1982	33	(0.1)			33	(0.1)
1983	53	(0.1)	18	(0.1)	71	(0.2)
1984	73	(0.2)	41	(0.1)	114	(0.3)
1985	42	(0.1)	13	(0.1)	55	(0.2)

Dublin

Definition: Deaths of drug users known to the police or to the Jervis Street Centre

Year	Number	(Rate)
1982	9	(0.02)
1983	12	(0.03)
1984	13	(0.03)
1985	12	(0.03)

Hamburg

Definition: Deaths by overdose of narcotic drugs (accidental or suicide);

deaths of chronic drug takers by overdose of other drugs;

deaths indirectly caused by drug misuse (accidents under the influence of illicit drugs and suicides of known addicts);

deaths from drug-related diseases

Year	Number	Known as user	(Rate)
1975	8	8	(0.01)
1976	20	18	(0.03)
1977	15	13	(0.03)
1978	21	20	(0.03)
1979	27	20	(0.05)
1980	36	28	(0.06)
1981	18	14	(0.03)
1982	29	22	(0.05)
1983	23	21	(0.04)
1984	12	10	(0.02)
1985	18	11	(0.03)

London

Definitions: Deaths by poisoning (ICD-9: 960-989) (A)

Deaths of addicts identified through Coroners' records (B)

A.

Year	Number	(Rate) *
1980	178	
1981	374	
1982	336	
1983	278	
1984	236	

\* rates are not available as the original data are not broken down by age

B.

Year	Number	(Rate) **
1980	78	(0.01)
1981	107	(0.01)
1982	96	(0.01)
1983	87	(0.01)
1984	73	(0.01)

\*\* area: Inner London

Paris

Definition: Deaths by overdose of illicit drugs, recorded by the police and subsequently confirmed by medical diagnosis

Year	Number	(Rate) *
1975	22	(0.02)
1976	29	(0.03)
1977	32	(0.03)
1978	43	(0.04)
1979	45	(0.04)
1980	64	(0.06)
1981	72	(0.07)
1982	74	(0.07)
1983	99	(0.10)
1984	121	(0.12)
1985	85	(0.08)

\* rate per 1,000 population, aged 15-34

Rome

Definition: Deaths by overdose of narcotics;

deaths in circumstances indicative of drug addiction;

drug-related deaths of persons irrespective of whether the persons are known to be addicts

Year	Number	(Rate)
1977	7	(0.00)
1978	11	(0.01)
1979	20	(0.01)
1980	50	(0.04)
1981	52	(0.04)
1982	53	(0.04)
1983	30	(0.02)
1984	52	(0.04)
1985	45	(0.03)

Stockholm

Definition: Deaths due to drug addiction

Year	Number	(Rate)	Nature of death	
			Overdose	Other
1975	25	(0.04)	11	14
1976	46	(0.08)	18	28
1977	49	(0.08)	22	27
1978	60	(0.10)	38	22
1979	66	(0.11)	36	30
1980	55	(0.09)	26	29

VI. Police arrestsAmsterdam

Definition: Persons arrested by the police for offences against the drug legislation (first stage of the procedure for bringing charges for specific offences)

Only a minority are subsequently charged.

Tables A: Number of persons arrested; number of persons charged and medically examined

B: Number of persons arrested, by drug involved

A.

Year	Arrested	(Rate)	Charged		Medically examined	
			Number	%	Number	%
1976	1,618	(5.6)	906	56.0	653	47.5
1977	1,375	(4.6)	426	31.0	1,091	65.7
1978	1,660	(5.6)	390	23.5	1,053	59.5
1979	1,752	(5.9)	319	18.2	1,243	75.1
1980	1,655	(5.5)	314	19.0	1,549	54.3
1981	2,855	(9.5)	423	14.8	1,549	54.3
1982	3,024	(10.2)	546	18.1	1,656	54.7
1983	2,517	(8.5)	486	19.3	NA	
1984	3,351	(H.4)	853	25.5	2,321	69.3
1985	3,418	(U.6)	680	19.9	NA	

NA: not available

B.

Year	Cannabis	Opioid	Stimulants	Other
1977	367	880	100	28
1978	425	1,125	89	18
1979	579	990	167	16
1980	353	881	386	35
1981	661	1,572	553	69
1982	516	1,768	671	69
1983	297	1,540	634	46
1984	217	2,387	717	30
1985	686	2,558	145	29



Dublin

Definition: Number of persons charged for a specific offence against the drug legislation

Tables A: Total number of persons charged under the Misuse of Drugs Act 1977 and 1984

B: Total number charged, by drug involved; other offences against the drug legislation

Year	Number	(Rate)
1977	253	(0.7)
1982	1,025	(2.7)
1984	1,105	(3.0)

Year	Drugs				Other offences against the drug legislation
	Cannabis	Opioids	Stimulants	Other	
1977	123	11	9	110	
1982	613	209	46	90	67
1984	531	333	28	51	163

Hamburg

Definitions: Number of detected cases of offences against the drug legislation

Number of persons suspected of specific offences against the drug legislation

Tables A: Number of detected persons having committed offences against drug legislation and number of offences (= cases) against drug legislation

B: Number of offences (= cases) related to drug use by drug type

A.

Year	Number of offences	Number of detected persons	.. (Rate)
1981	2,392	2,053	(3.5)
1982	2,875	2,516	(4.2)
1983	2,712	2,004	(3.4)
1984	2,724	2,235	(3.8)
1985	2,489	2,046	(3.5)

B.

Year	Total	Drug			
		Cannabis	Heroin	Cocaine	Other
1981	1,614	1,210	249	25	130
1982	2,124	1,693	210	27	194
1983	1,934	1,549	247	54	85
1984	2,054	1,583	281	89	101
1985	1,905	1,498	270	63	74

London

Definition: Number of arrests by the police for offences against the drug legislation (first stage of the procedure for bringing charges for specific offences)

Table: Total number of arrested persons, by drug.

Year	Total	(Rate)	Drug			
			Cannabis	Opioids	Stimulants	Othe
1977	4,049	(1.52)	3,053	290	289	417
1978	4,865	(1.80)	3,805	372	246	442
1979	5,241	(1.92)	4,190	487	183	381
1980	6,582	(2.38)	5,299	656	212	415
1981	6,624	(2.38)	5,346	556	266	456
1982	8,110	(2.92)	6,853	567	229	461
1983	9,167	(3.29)	7,393	838	468	468
1984	9,928	(3.44)	7,573	1,339	614	402
1985	10,585	(3.73)	7,808	1,610	784	384

Paris

Definition: Number of police arrests for offences involving drug use and trafficking

Year	Number			
	Heroin	(Rate)	Cocaine	(Rate)
1981	1,776	(1.7)	1,996	(1.3)
1982	1,718	(1.7)	2,181	(2.1)
1983	2,144	(2.1)	4,584	(4.5)
1984	2,135	(2.1)	3,327	(3.2)
1985	3,701	(3.6)	2,473	(2.4)

Rome

Definitions: Number of persons charged with drug trafficking (A)

Number of persons notified for possession of small quantities (B)

A.

Year	Number			
	Reported	(Rate)	Charged	(Rate)
1982	1,745	(1.3)	1,213	(0.9)
1983	2,164	(1.6)	1,130	(0.8)
1984	2,373	(1.7)	1,435	(1.1)
1985	2,416	(1.8)	NA	

NA: not available

B.

Year	Number	(Rate)
1982	569	(0.4)
1983	510	(0.4)
1984	492	(0.4)
1985	652	(0.5)

Stockholm

Definitions: Number of reported offences against the drug legislation

Number of persons suspected of offences against the drug legislation

Number of persons arrested

Year	Reported offences	Persons suspected of: possession	other narcotic offences	Total	(Rate)
1979	1,871			983	(1.6)
1980	3,456			1,694	(2.8)
1981	3,784			1,869	(3.1)
1982	3,131			1,679	(2.8)
1983		2,940	1,573	4,513	(7.5)
1984		2,118	973	3,091	(5.1)
1985		1,671	484	2,155	(3.6)

VII. Imprisonment

Amsterdam

Definition: Addicts received into selected prisons during the year

No routine collection: no significant data available

Dublin

Definition: Persons identified as addicts in surveys by prison medical services

No routine collection of data

Hamburg

definitions: Persons sentenced for offences against drug legislation (A)

Number of imprisonments (B)

Number of persons whose sentence has been commuted to probation (C)

Year	A		B		C	
	Number	(Rate)	Number	(Rate)	Number	(Rate)
1980	483	(0.8)	161	(0.3)	220	(0.4)
1981	513	(0.8)	174	(0.3)	178	(0.3)
1982	347	(0.6)	87	(0.1)	88	(0.2)
1983	665	(1.1)	152	(0.3)	167	(0.3)
1984	628	(1.1)	156	(0.3)	144	(0.2)

London

Definition: Sentences for drug use offences

Year	Number	(Rate) *
1978	4,121	
1979	4,315	
1980	5,608	
1981	6,033	
1982	7,485	
1983	8,469	
1984	7,925	

\* rates are not available since the original data are not broken down by age

Paris

Only specific survey data available on addicts in prison

Rome

Definitions: Annual census of addicts in two prisons .

Imprisonment after being convicted of drug trafficking  
(B)

Data not suitable for epidemiological purposes

B.

Year	Number	(Rate)	% of number reported
1982	1,565	(1.1)	90
1983	1,925	(1.4)	89
1984	2,128	(1.6)	92
1985	2,128	(1.6)	88

Stockholm

Definition: Addicts in prison on one day: point prevalence on  
1 April each year.

Year	Number	(Rate)	%	of total prison population
1980	74	(0.1)		30
1983	110	(0.1)		40
1985	184	(0.3)		48

VIII. Seizures of illicit drugsAmsterdam

Definition: Quantities seized by the police (in kilogrammes, unless otherwise stated in brackets)

Drug/Year	1981	1982	1983	1984	1985
<u>Opioids</u>					
Opium	0.21	0.96	x	0.18	0.02
Morphine	5.89	0.45	x	0.09	x
Heroin	29.63	46.50	51.00	70.00	175.00
Other (opioids)	4.16	5.00	7.00	0.50	0
Other (opioids) (tablets)	9,508	5,395	5,763	5,503	4,350
<u>Stimulants</u>					
Cocaine	6.68	9.00	21.15	47.00	15.00
Amphetamines	24.20	11.60	45.00	0.38	125.00
Amphetamines (tablets)	1,190	2,500	60,000	0	0
Other (stimulants)	10.49	7.00	0	0	6.10
Other (stimulants) (tablets)	80	37	20	0	200
<u>Hallucinogens</u>					
Marijuana	2,216.00	2,200.00	200.00	5,924.00	740.00
Hashish	1,981.00*	869.00	1,775.00	6,750.00	1,150.00
Liquid hashish	0.40	1.95	0	0.60	0
LSD (units)	4,389	48,535	2,752	7,182	53,000

x: insignificant amount

\*: includes one case of 1,500 kg

Number of seizures not available.



Dublin

Definitions: Quantities seized (in kilogrammes, unless otherwise stated in brackets) (A) and number of seizures (B) by the national police and customs.

A.

Drug/Year	1979	1981	1982	1983	1984
<b>Opioids</b>					
Opium	0.05	x	0.01	0	0.12
Opium (tablets)	30	0	0	0	0
Opium (plants)	0	5	0	0	80
Morphine	0.04	0.02	1.53	x	0
Morphine (tablets)	80	320	17	0	124
Morphine (ampoules)	100	222	145	0	0
Morphine (ml)	260	3,500	0	0	0
Heroin	0.01	0.17	1.26	1.40	0.53
Other (opioids)					
(tablets)	1,632	5,389	1,808	821	0
Other (opioids)					
(ampoules)	146	30	0	0	0
Other (opioids) (ml)	0	0	0	0	850
<b>Stimulants</b>					
Cocaine	0.03	0.08	0.41	0.10	0.08
Amphetamines	x	0.10	0.12	0.11	x
Amphetamines					
(tablets)	135	331	500	0	0
<b>Hallucinogens</b>					
Cannabis	422.48	44.38	48.47	44.56	j 2.65
Cannabis resin	17.70	1,646.53	172.67	485.86	12.52
Cannabis (plants)	2,209	1,186	1,356	1,865	840
Liquid hashish	x	0.13	0.02	x	x
LSD (tablets)	211	1,604	2,445	415	579
Other (hallucinogens)	0	0.57	0.82	0.14	0.27
Barbiturates	0	0.05	0	0	0
Barbiturates					
(tablets)	14,199	9,265	8,259	100	1,047

x: insignificant amount •

B.

Year	Number
1979	NA
1981	1,204
1982	1,873
1983	2,278
1984	1,704

NA: not available

Hamburg

Definitions: Quantities seized (in kilogrammes unless otherwise stated in brackets) (A) and number of seizures (B) by police and customs

## A.

Drug/Year	1983	1984	1985
<u>Opioids</u>			
Opium	11.34	1.69	1.11
Heroin	8.03	20.01	9.61
<u>Stimulants</u>			
Cocaine	0.82	7.27	0.63
Amphetamines	0.02	0.01	2.07
<u>Hallucinogens</u>			
Marijuana	326.72	28.13	5.45
Hashish	153.76	40.39	43.27
LSD ( <u>units</u> )	396	60	922»

## B.

Specified data not available at present

London

Definitions: Quantities seized (in kilogrammes) (A) and number of seizures (B) by the police.

A.

Drug/Year	1980	1981	1982	1983	1984	1985
Opioids						
Heroin	5,78	4.41	3.81	7.63	24.92	16.19
Stimulants						
Cocaine	3.76	2.89	2.58	12.88	3.71	7.68
Amphetamines	NA	NA	3.17	3.73	12.96	12.98

B.

Year	Number
1978	3,421
1979	5,249
1980	5,437
1981	6,313
1982	7,335
1983	8,664
1984	9,412

NA: not available

Paris

Definition: Quantities seized (in kilogrammes) at street level by the police

Drug/Year	1984	1985
Heroin	5.9	8.9
Cocaine	0.1	1.1
Cannabis	298.5	79.8

Rome

Definitions: Quantities seized (in kilogrammes) (A) and number of seizures (B) by police and customs

Drug/Year	1983
Opioids	
Opium	2.21
Morphine	0.76
Heroin	65.74
Other	3.86
Total	72.57
Stimulants	
Cocaine	72.90
Amphetamines	49.46
Other	0.52
Total	122.88
Hallucinogens	
Marijuana	688.69
Hashish	196.49
Liquid hashish	4.87
Other	0.07
Total	890.12

B.

Year	Seizures	Persons charged
1983	4,115	1,419

Stockholm City and County

Definitions: Quantities seized (in kilogrammes) (A) and number of seizures (B) by police

A.

Specified data not available at present

B.

Year	Number
1983	2,949
1984	2,535
1985	2,149

IX. Price/purity of illicit drugs

## Amsterdam

Prices in ECUs per gramme  
1 ECU = 2.52 florins

Drug/Year	1982	1983	1984	1985
Heroin	67.3-96.2	51.9-69.2	51.9-57.7	28.8-38.5 (Chin.) 48.1-57.7 (other)
Cocaine	57.7-76.9	48.1-57.7	53.8-67.3	46.2-67.3
Amphetamines	5.8- 7.7	3.8- 5.8	2.9- 5.8	2.3- 4.8
Marijuana	1.2- 1.9	1.3- 2.9	1.3- 2.9	1.2- 1.9
Hashish	1.5- 2.3	1.9- 2.9	1.9- 3.8	1.9- 3,0

Purity in %: not available

Dublin

Prices in ECUs per gramme (unless otherwise stated)

1 ECU = &L0.76

Drug/Year	March 1986
Heroin	262.0-393.0
Cocaine	262.0-340.6
Amphetamines	131.0-196.5
Cannabis (per ounce)	104.8-131.0

Purity in X

Drug/Year	March 1986
Heroin	3-70
Cocaine	40-50
Amphetamines	80
Cannabis	dependent upon producer

Hamburg

Prices in ECUs per gramme  
1 ECU = DM 2.08

Drug/Year	1986
Heroin	168.3-192.3
Cocaine	average: 120.1
Cannabis	average: 9.6

Purity in %

Drug/Year	1984	1985	Range
Heroin	average: 32.7	25.5	3.1-60.0
Cocaine	average: 58.7	55.5	5.2-91.0

London

Prices in ECUs per gramme  
1 ECU = £0.72

Drug/Year	1982	1983	1984	1985	1986
Heroin	104.2-125.0	90.3-111.1	90.3-118.1	111.1-131.9	111.1-138.9
Cocaine	76.4- 97.2	76.4- 97.2	62.5- 90.3	69.4- 83.3	76.4- 90.3

Purity in %

Drug/Year	1984
Heroin	20-80
Cocaine	20-100

Paris

Prices in ECUs per gramme  
1 ECU = 6.86 Fr.

Drug/Year	1986
Heroin	72.9-174.9
Cocaine	58.1- 87.5
Hashish	3.6- 8.7

Purity in %

Heroin	25
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Rome

Prices in ECUs per gramme  
1 ECU = 1,444 Lire

Drug/Year	1985-86
Heroin	103.9-277.0

Purity in %:

	1985-86
Heroin per gramme	5-10

Stockholm

.No systematic collation of data on prices and purity at present  
These data will be available in the future.

