

Supported by the
UNDCP Global Assessment Programme on Drug Abuse
Conducted in partnership with
the Narcotics Control Division, Anti-Narcotics Force
Government of Pakistan

DRUG ABUSE IN PAKISTAN

Results from the year 2000 National Assessment

Supported by the
**UNDCP Global Assessment
Programme on Drug Abuse**

Conducted in partnership with
the Pakistan Anti-Narcotics Force



The Global Assessment Programme on Drug Abuse (GAP) improves the global information base on patterns and trends in drug consumption through supporting Member States to build the systems necessary for collecting reliable data to inform policy and action; encouraging sharing of experiences and technical developments through regional partnerships; and encouraging the adoption of sound methods to collect comparable data.

UNITED NATIONS OFFICE FOR DRUG CONTROL AND CRIME PREVENTION

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The National Drug Abuse Assessment Study in Pakistan

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Executive summary

The Pakistan National Assessment Study comprises of a set of surveys that each in its own right provides vital information on drug use in Pakistan; and which, when taken together, also provides a prevalence estimate of drug abuse. The surveys consist of (a) a national contour mapping exercise—to produce an overview of patterns and trends, (b) Four provincial city studies of the hard-core heroin using and injecting population, (c) An audit and update of the information on drug treatment facilities in Pakistan, (d) An estimation exercise (based on data collected in (a)-(c)) for the number of hard-core heroin abusers and drug injectors in Pakistan.

Key informants

Key informants were asked to report on drug abuse patterns and trends in their local areas. A total of 36 sampling sites (locales) were selected to allow a broadly representative national picture of the drug abuse. The sample was structured to include 18 matched pairs of rural and urban areas. In total, 283 key informants were interviewed for this study. Key informants were selected on the basis that they had an informed understanding of drug abuse patterns in their particular locale.

Cannabis type drugs (hashish and charas) were the drug type most often reported to “be commonly used” in the locales. Only 5% of respondents reported hashish or charas to be “rarely” used in their locales. These data indicate that in terms of the number of consumers, cannabis represents the major illicit drug abused in Pakistan. This is in contrast with the findings of the 1993 survey, which suggested that heroin was the most commonly used drug. Heroin and alcohol are reported, after cannabis, as the next two most commonly used substances. Both drugs receive high “commonly used” ratings (46% and 45%), suggesting that the consumption of both substances is relatively widespread in Pakistan.

The high reported use of cannabis, heroin, and alcohol should not distract from the fact that worryingly high levels of other types of drug abuse were also reported. In particular, it is a cause for concern that 9% of respondents are reporting the use of “other opiates” as common, that 20% report psychotropics as “commonly used”, and 12% report drug injection as “common” in their locale.

When hashish and charas are considered, little variation is found across Pakistan either in terms of rural versus urban comparisons or with respect to a provincial breakdown. Rural areas do report slightly higher overall figures, as do the provinces of Balochistan, and North-West Frontier Province (NWFP); lowest provincial figures were from Sindh.

Heroin abuse is reported as a more urban phenomenon (54% of those in urban locales reporting common use as opposed to 32% of those in rural areas). Distinct provincial differences are also observable, with heroin abuse most commonly reported in Balochistan, then Punjab. NWFP had the lowest rating for reported heroin use with only 12% of key informants reporting use that was “common” in their locale. Drug injection appears least common in NWFP, where no key informants report injection as common in their locale.

When long-term trends (last 5 years) for heroin use are considered, provincial differences are observable. Data from Punjab, the province with the highest population and high reported heroin prevalence, suggest a stable or even slightly decreasing trend. This can be contrasted with data from Sindh and

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Balochistan, which suggest an increase in heroin abuse over this period. In NWFP, little change is reported and, abuse levels are reported as low. These data would fit with the tentative suggestion that heroin use is still diffusing in Pakistan to new areas, including more rural areas, whilst at the same time stabilizing, or even declining, in some of the larger urban centres where use has been longest established.

An upward trend in injecting is reported in all provinces although the increase in NWFP is marginal. However, Sindh, Balochistan and Punjab all report a strong upward trend. Injecting is reported to be increasing more strongly in urban rather than rural locales, but for both the overall trends are up.

In all provinces, in both urban and rural locales, and regardless of the relative prevalence rate, heroin was the drug most associated with causing problems. Eighty-one per cent of respondents reported that heroin caused "major problems" in their locales. In Punjab province, 88% of respondents reported "major problems" in their communities resulting from heroin abuse.

After heroin, alcohol received the second highest overall problem score in all provinces with the exception of Balochistan, where hashish and charas problems received a higher rating. In Punjab, nearly half (48%) of all key informants reported that alcohol use was causing "major problems" in their community.

Overall, the key informant data suggest that whilst drug abuse remains a more urban phenomena this difference is not as pronounced as expected. Even in rural areas worrying levels of drug problems were reported. That said, if hashish and charas are excluded, NWFP, appears to be the province least affected by drug problems.

This study cannot report comprehensively on the abuse of drugs by women in Pakistan. Key informant data suggest that, with the exception of psychotropics, for all drug types abuse levels among women are far lower than those found among men. However, assessing drug abuse among women in Pakistan is a particularly difficult objective and problems may remain hidden. Many key informants did not feel able to comment on this question. Even if prevalence levels are much lower the difficulties experienced by women who abuse are likely to be particularly pronounced and their options for obtaining assistance limited. The problems that accrue from psychotropic use among women remain unknown. For all these reasons, a conclusion of this study is that a further research exercise that focuses on substance abuse among women is required. In any such exercise considerable attention will need to be played to selecting the appropriate methods to collect information in this particularly sensitive area.

Addict interviews

Samples of regular heroin users and/or injectors were interviewed in four cities; Karachi, Lahore, Quetta, and Peshawar. In each city, a sample of drug abusers were recruited in street settings, in treatment facilities and in prisons. One thousand and forty-nine interviews were conducted in total. All but 12 of those interviewed were men. Subsequent analysis is restricted to the 1,037, male respondents only.

The heroin abusers interviewed were older than in the 1993 exercise. This suggest that the demographics of the heroin abusing population in Pakistan has changed and is now more similar to age pattern found elsewhere. The mean age of respondents was between 31 and 33, with 40% aged 25-35 years old. The age distribution of the sample was similar regardless of the setting in which the interview took place. Only 5% of respondents were aged between 15 and 20 years old and less than half the sample (41%) were aged under 30 years old. This contrast with the earlier study, where nearly a quarter of those interviewed were under 20 years old and nearly two thirds, under thirty years old.

Of the three sample groups street addicts were the most socially marginalized; they had lower levels of education, higher levels of homelessness, lower levels of employment and less family contact. They also reported more previous prison experience than the treatment sample. Addicts interviewed in treatment were the most affluent, likely to be in employment and well educated. However, across the samples overall, addicts appeared poorer and more socially marginalized than in the 1993 exercise.

About half of those interviewed in the streets (52%) and just over a third of those in prison (37%) had at some stage received treatment for a drug problem. For almost all this was for a heroin problem. The mean age of first treatment contact for the sample as a whole was 26 years—this did not vary significantly between groups. Although, many of the sample had had contact with treatment agencies usually this contact was brief, for nearly half of subjects 10 days or less. Similar findings emerged from the interviews with current treatment attendees. This suggests the need to review the provision of community based services to supplement the inpatient detoxification provision currently provided.

On average respondents had been using heroin for nearly five years (4.6) before entering treatment. Over half (66%) of subjects reported that at some time they had not been able to access treatment when they had needed help. The reason for this was usually financial—with 80% of respondents reporting that they had failed to receive help in the past because of financial constraints. Most (80% of those interviewed on the streets and 72% of those interviewed in prison), reported that they were in current need of treatment for a drug problem. This study strongly supports the need for enhanced and affordable treatment provision to be made available for those with drug problems in Pakistan.

Overall, patterns of drug taking were remarkably similar across the three groups. The drug users interviewed overwhelmingly report daily and chronic patterns of heroin abuse. Dependence measures suggested a highly dependent population who would be appropriate for entry into a drug treatment programme. Poly-drug abuse patterns were common across the samples although heroin was the drug consumed most frequently, followed by hashish/charas and alcohol. The mean age of first heroin use was 22. This figure was lower for hashish/charas (18) and alcohol (19).

Fourteen per cent of respondents had used synthetic opiate drugs, 11% in the year prior to interview. The age of first use, 27 was also higher than that found for all other drug types. Although only a minority of those interviewed were using synthetic opiates, those that did, appeared to be doing so on a regular basis. Most (80%), were also injecting their drugs. This is a worrying observation and supports anecdotal reports that a synthetic opiate injecting subculture had developed among a small proportion of the longer-term users—possibly as a reaction to poor quality street heroin.

Injecting

Nearly three-quarters of respondents reported “smoking” as their usual route of heroin administration (usually by “chasing the dragon”). However, a worryingly high 15% of respondents reported that they usually injected the drug. Those using synthetic opiates and morphine commonly reported injection as a usual mode of administration. This level of prevalence in injecting practice represents a marked increase from the results found in the 1993 study, where injection was reported by less than 2% of the heroin-using sample.

On a lifetime measure of injecting 31% respondents reported “ever injecting” and 27% “injecting in the last year”. Injecting rates varied by city with over half (55%) of those interviewed in Karachi reporting lifetime injecting prevalence as opposed to only 12% in Peshawar.

On average respondents would inject four times on a typical injecting day. Only 31% reported always using a new syringe and needle for each injection. Injecting risk behaviour was high, and this was especially true for the street recruited sample. Over half of all those who had ever injected (51%) reported using a syringe after others had already used it. For many this was a regular occurrence. More worryingly still, 42% of respondents reportedly regularly passing on a syringe to be used by others. These data suggest that among the increasing numbers of drug injectors in Pakistan the potential for a dramatic increase in the infection rate for blood borne viruses, such as HIV, is considerable. Interventions that target drug injectors should therefore be considered a priority need for Pakistan. It is also highly desirable to monitor the HIV status of drug injectors and related behavioural information, to better understand the dynamics of any future epidemic and monitor the impact of any interventions with this group.

Treatment

Seventy-three specialist treatment services for drug abusers were located during the update of the 1994 register. This was considered to represent the majority of current treatment capacity in the country. The provision offered may have diversified slightly. In the 2000 audit, all services reported providing detoxification, 59% offered both in and out patient facilities and over half (51%) reported some form of out-reach provision.

In terms of the number of services identified there was a decline in all sectors (government, private and NGO), from the number identified in the 1994/95 audit.

The mean number of admissions in the last year before the survey was 264 admissions per facility. The total number of admissions in this period for all facilities audited was calculated as 17,425. Young people and women are less commonly found in treatment facilities. Of the current treatment caseload only 30% of patients were aged 25 or less and only 3% of patients were women. All treatment agencies except one reported they kept records on their patients that included demographic and drug taking data. Considerable potential therefore exists for the future development of a treatment-based reporting system as a drug use indicator for Pakistan. Such a system would provide a longitudinal data set to allow consideration of changes in drug abuse patterns over time.

Prevalence estimation

The work to estimate the number of heroin abusers in Pakistan builds on previous national assessment studies, (1982, 1986, 1993). These earlier surveys have been used to estimate a growth rate for the prevalence of drug use in Pakistan by updating the prevalence rate obtained in the immediately previous survey (using the 1982 data as a base). Over time the estimates formed in this way are likely to drift away from the true position. In order to avoid this problem the present survey adopts an alternative method for calculating heroin prevalence. In doing so, the study benefits from some of the recent advances in statistical methods for addressing the problem of estimating drug prevalence levels.

The prevalence estimation exercise relates only to the chronic and regular use of heroin or drugs by injection. In this respect the definition is more restricted than that used for other national estimates in Pakistan, although it reflects common practice for this kind of calculation. Therefore, the estimate could be revised upwards if occasional or non-chronic users were included.

The best estimates are likely to be for those areas where the most detailed information has been obtained, that is, in the four cities of Karachi, Lahore, Peshawar and Quetta. Information on other urban areas and the rural areas that was collected in the other sections of the study in conjunction with national census data was then used to produce a national estimate.

The upper estimate of approaching 500,000 was calculated as the number of chronic heroin abusers (including drug injectors) for Pakistan. Given impact of the exclusion criteria in the methods used taking this upper estimate is appropriate for policy and planning purposes. This figure is lower than previous estimates but still represents an extremely serious heroin abuse problem in the country. When an analysis of population levels and the demographics of heroin use in Pakistan is conducted, it is extremely difficult to see how higher levels than this would be credible. In particular, estimates that are many times this number would appear extremely unlikely, given the overall population characteristics of the country.

It should be noted that some less populous geographic areas have been excluded from the prevalence estimates for a number of technical reasons. For example, Balochistan province outside the Quetta district proved too difficult to estimate by the present methods. Prevalence rates quoted in the provisional figures are for males aged in the target age-band of 15 to 45 years of age, which according to this research and to previous government figures covers the vast majority of the heroin users in the population. Heroin use by women is not therefore included in this figure. Future studies that provided information

on these groups could allow them to be included in the estimated total. Similarly, relaxation of the target population definition to include less intensive patterns of use would result in an increased figure. A number of factors, among them the possibility of a reporting bias in favour of treatment attendance, suggest that selecting the higher multiplier estimates was more appropriate than selecting the medium value.

Within some cities the prevalence rate is estimated to be very high, possibly as great as 4%, compared with about 0.5% in some rural areas, *for males in the target age-band*. These figures—up to 1 male in every 25 in the age-band—by most countries' standards would be considered unrealistically high, but it should be borne in mind that these are likely maximum figures that are being quoted for the worst affected Pakistan cities. Even so, previous reports of levels of heroin addiction in Pakistan were considerably higher again, and as a result fell a long way short of achieving international credibility.

The prevalence of cannabis abuse in Pakistan has not been a primary focus of this study. There were good methodological reasons for this approach as no single research strategy would be likely to deliver a robust estimate across these drug types. However, the data do strongly suggest that cannabis prevalence is considerably greater than that of heroin and therefore the overall number of consumers of any type of drug in Pakistan is considerably greater. However, it is not possible to give a credible estimate of the magnitude of abuse at this time. Further studies would be needed to address cannabis consumption issues in detail and attention is required into the sampling strategies most likely to pay dividends in this area.

The overall prevalence expressed in terms of the whole population of Pakistan is around one third of one per cent and is not out of line with other countries expressing prevalence rates of one quarter or one half of one per cent. There are various special considerations relating to Pakistan in terms of the country's age structure that make such international comparisons difficult to interpret, but the provisional figures suggest that, in the international setting, and taking account the population characteristics of the country, Pakistan has one of the highest rates of heroin abuse documented.

The following should be noted when considering the difference between the estimate provided here and those derived from previous studies. For all countries prevalence estimation is a challenge and estimates are refined over time. The estimate given here is no exception and suggestions are given in the technical annex of how further improvements in the precision of this figure can be made in the future. It should also be remembered that this study provides an estimate for male regular/chronic heroin abuse only. Thus, the estimate does not take into account use among women, use in the tribal areas or use among the refugee population. The previous study used less rigorous criteria for defining heroin use and it may also be that heroin abuse has fallen, or patterns of use changed, in the intervening years. Certainly the methods used in the previous studies raise the possibility of considerable upward drift in errors over time. When comparing prevalence rates between countries it is important to remember that not all the community are at equal risk. Crude prevalence figures can therefore be misleading. When account is taken for the demographics of Pakistan (a very young population, the sex ratio and geographical factors) the new estimate can be viewed as exceedingly high by international standards. The credibility of estimates greatly in excess of this is questionable especially if they are placed in the context of the total number of males in Pakistan in the most affected age bands.

Part of the purpose of this study was to provide the basis for the further development of an enhanced capacity to monitor patterns and trends in illicit drug consumption in Pakistan. To this end a number of suggestions for future activities can be found in chapter 9 of this report. These include, the development of a four city drug surveillance network, developing the routine collecting of drug treatment data to provide an ongoing register, and the incorporation of forensic/drug market data into ongoing surveillance activities.

A number of research topics were also identified as meriting further study. These include solvent use and other drug problems among vulnerable young people such as street children, patterns of drug abuse and service needs of women, and the relative prevalence and patterns of use of hashish and charas in different communities in Pakistan.

Introduction

Developing effective response to the problem of drug abuse requires a sound understanding of the nature of the problem. This fundamental conclusion is enshrined in the Declaration of the Guiding Principles of Drug Demand Reduction, which accompanied the United Nations General Assembly Special Session (UNGASS). At this historically important meeting it was also acknowledged that success in the fight against drug abuse requires a balanced approach that combines both supply and demand reduction measures. Today it is recognized that drug problems have the potential to affect all countries and therefore national governments have a corresponding responsibility to develop sound responses. This assessment study is intended to help assemble the knowledge base necessary for informing the development and targeting of drug demand reduction measures in Pakistan.

The need for this enhanced understating was recognized by the government of Pakistan who through the offices of the Pakistan Anti-Narcotics Force (ANF) took a lead role in instigating the study and in its implementation. Part of UNDCP's role is to work in partnership with national governments to help facilitate the development of responses to drug abuse problems. This work is guided by the mandates given to UNDCP by the international community and by declarations agreed by member States coming together at the Commission on Narcotic Drugs. It is therefore particularly appropriate for UNDCP to work in partnership with the government of Pakistan on this exercise that demonstrates Pakistan's commitment to both the challenge and the vision expressed at UNGASS.

This study takes place against a background of considerable political and public concerns about the problems that drug abuse are causing within Pakistan. The widespread recognition of the issue of drug abuse in the country is, by international standards, a relatively recent phenomenon. For example, heroin abuse was largely unknown in the 1970s but became recognized as a major social problem during the early and mid 1980s. Similarly, until quite recently there was no history of injecting drug use in the country. Today it is accepted by all that Pakistan has a serious drug problem to address. However, the information available to understand, and therefore to respond to the problem is poor. A number of national assessments have been undertaken in the past that provided valuable insights. In addition, a number of more localized research projects have also been conducted. Despite this no good picture exists of current patterns and trends in drug abuse in the country. The last national assessment dates from 1993. We know today that drug abuse problems have the ability to develop and change with alarming speed. There is therefore a clear need for a contemporary understanding of the current drug abuse problem in Pakistan.

No one-research exercise can answer all questions about the nature, scale and dynamics in patterns of drug abuse in any country. Nonetheless, the objectives of this study were considerable. Understanding the nature of drug problems is a complex task and the resources available are always limited. It is also important that the methods used are sound if the resulting

data are to be accepted as credible. This study does not therefore attempt to address in detail all the important questions that relate to drug problems in Pakistan. Rather, a more realistic perspective has been adopted to focus on those areas of major importance. The key objective of this study was to produce a broad overview of current patterns and trends in drug abuse. In addition it has been possible to look at a smaller number of issues in detail. In so doing, important questions for further consideration are identified. This research exercise is therefore configured in line with the UNDCP approach to helping countries develop a sustainable capacity to monitor the drug abuse situation, and it is hoped that this study can form the baseline for future and on-going drug abuse surveillance activities. Pakistan is one of the priority countries included in the first phase of UNDCP's Global Assessment Programme (GAP) which assists countries in improving data collection capacity. The weakness of one-off assessments is that they soon become out-dated and are always partial in their coverage of drug problems. What is required is the establishment of expert networks within countries that can collect and analyse data on a regular basis and help identify the current important policy-relevant questions. Policy makers can then be informed by an on-going debate on how trends in patterns of drug abuse are developing and on the impact of their interventions. Such networks have to be sustainable within the resources available and have practical and realistic objectives.

One further aim of the current research exercise was to identify those areas of data collection that may prove fruitful for incorporation in an on-going surveillance system for drug abuse in Pakistan. As such the Pakistan National Assessment Study should be seen as constituting the initial steps in a longer and more ambitious journey. This study is intended not only to provide valuable information about today's drug problem in Pakistan but also to provide a baseline for future assessments and therefore a resource for considering ongoing trends.

Furthermore, collecting data on drug abuse is not an end in itself. The information is required for informing the debate on how best to develop and target interventions designed to reduce drug abuse problems. In the concluding section of this study those issues that emerge for developing demand reduction activities are elaborated.

In summary, the Pakistan National Assessment Study is intended to provide an enhanced understanding of patterns of drug abuse in Pakistan. The objectives of this project were ambitious. The research aims to:

- ❑ Provide an overview of patterns of the drug abuse;
- ❑ Describe perceived abuse problems and recent trends in consumption;
- ❑ Improve the understanding of the scale of the problem of chronic drug-abusing;
- ❑ Make recommendations for the establishment of an on-going surveillance capacity;
- ❑ Identify the key areas and questions for further research activity;
- ❑ Review treatment provision in Pakistan; and
- ❑ Identify knowledge gaps and key development issues for demand reduction activities.

The fact that such a broad agenda could be addressed is a result of the support and hard work of a large number of people without whose efforts the study would not have been possible. Acknowledgements can be found at the end of this document. This study arose out of concern by the Government of Pakistan to ensure that it had the information available to develop effective drug control policies. As such it represents an important step forward in the endeavour to address the considerable health, social and other problems that the country faces as a result of the abuse of illicit drugs.

Background

The surveys of drug use in Pakistan preceding the present assessment (1993, 1986) used the opportunity to estimate a growth rate for the prevalence of drug use, with the prevalence rate obtained in the immediately previous survey being used as the basis for the next survey's estimates. The base figures for this procedure are those obtained from the 1982 drug use survey. Over time the estimates detailed in this way are likely to deviate away from the true position, partly because any discrepancies that may have occurred in the base figures will be magnified and partly also because the growth rates themselves are established through key informant data that can only give a rough idea of the growth that may actually be taking place. In order not to be held hostage to previous methods and past estimates, the present survey therefore deliberately seeks to start anew rather than continue to build on the existing figures for drug use prevalence.

The 1982 survey base figures were essentially obtained by a combination of area sampling to establish geographical units, and a case-finding technique within these units that was based on key informant information. Since that time, international research in the area has seen the development of other techniques beyond simple case-finding for accessing "hidden" populations that are hard to contact. These newer methods are intended to overcome a recognizable bias in case-finding techniques that tends to give too low a prevalence rate—although the performance of this technique when used with key informant identification procedures has not been documented. The indirect estimation techniques in general centre on types of estimation that in part use other existing data sources as secondary information; this secondary information is used in combination with new survey data to give a more reliable picture. These methods are often termed benchmark/multiplier techniques in this context, and it is one of these techniques that is implemented in the Pakistan 2000 survey.

The method of benchmark/multiplier estimation that is used therefore attempts a fresh estimate of drug use prevalence in order not to compound further any possible drift that has occurred in the latest available estimates. It further tries to move beyond the case-finding methods to attempt to make use of other data sources that are available.

Pakistan in context

In 1998, the population of Pakistan was estimated to be 135 million inhabitants, ranging from densely populated urban districts to sparsely populated mountain villages. The territory of Pakistan comprises the provinces of North West Frontier, Balochistan, Sindh and the Punjab together with the Federally Administered Tribal Areas (FATAs) and the Federal Capital Area of Islamabad. The main ethnic groupings are the Punjabis, Sindhis, Balochis and Pathans plus a number of smaller tribes in the remote northern areas. The Mohajirs, or refugees from India

at the time of independence, are sometimes considered an ethnic group. A recent addition to the overall population are Afghan refugees, estimated in 1997 to total about 1.75 million, who are mainly concentrated along the tribal areas near the border.

Drug cultivation and production

Pakistan has been a producer of opium for export and traditional domestic consumption since the time of Muslim rule and the later British Empire. In 1979, the Government of Pakistan responded to the problem of increased illicit opium production and trade by the enforcement of the Hadd Ordinance. The Hadd Ordinance brought existing law into line with Islamic injunctions and prohibits trafficking, financing or possession of more than 10 grams of heroin or 1 kg of opium. In 1979, all poppy cultivation (licit and illicit) was banned and all Government controlled processing plants and retail outlets for licit opium were closed. As a result of the Hadd Ordinance and partly because of massive stock piling of opium following a bumper harvest in 1979, opium cultivation and production sharply declined in the 1980s. The Government's commitment to make Pakistan poppy free, increased efforts in law enforcement, the impact of alternative development assistance from the international community, and a drop in retail prices for opium gum due to the massive increase in production in Afghanistan, are major factors that contributed to a further decline in opium cultivation since the mid 1990s. An analysis of poppy harvesting trends at the national level reveals a decline in the amount harvested from 9,441 ha in 1992 to less than 284 ha in 1999. Of the three main poppy growing areas, Dir district where UNDCP has been active since 1985, accounted for approximately 60% of the opium harvested in the country. Over this period, UNDCP spent US\$ 34 million on alternative development projects in Dir District. Alternative development interventions coupled with demonstrated Government commitment led to a decrease in opium poppy cultivation in Dir District from over 3,500 ha in 1992 to near zero in 2000, making the Dir project one of UNDCP's most successful alternative development projects.

The drug abuse problem

Pakistan is confronted with a significant drug abuse problem. Trends in drug use patterns indicate a marked increase in heroin consumption that emerged during the 1980s. The 1993 National Survey on Drug Abuse, whose results remain by no means undisputed, estimated the number of drug users at 3 million of which approximately 50% were addicted to heroin. Other estimates have suggested that the total number of drug abusers may have reached 4 million by 2000.

Recent trends suggest a shift from inhaling and smoking heroin to injection of drugs, in particular pharmaceutical drugs, bearing the high risk of an HIV/AIDS epidemic and the spread of other blood borne diseases. Injecting drug use has been reported from all major cities and some Afghan refugee camps around Peshawar and Quetta. Results from a study commissioned by UNDCP/UNAIDS in 1999, indicated that sharing and multiple use of injection needles is common practice. Some evidence exists that "shooting galleries" have become established in Lahore and in Karachi. No cases of HIV/AIDS have been detected in that study, but the high prevalence of Hepatitis-C (180 out of 200 cases) indicates the enormous potential of an HIV/AIDS epidemic and other transmittable diseases among the injecting drug users.

The above study has prompted the undertaking of two joint UNDCP/UNAIDS pilot projects in Lahore (launched in March 2000) and Karachi (estimated start January 2001) aiming at HIV/AIDS prevention among injecting drug users.

In order to enhance the knowledge base on women and drug abuse in Pakistan, UNDCP commissioned a study targeted at drug abusing women in 1998. In total, 98 drug addicted women from Karachi and Lahore were surveyed. Questionnaire results were complemented by interviews and focus group discussions. Approximately one-third (32) of the women who participated in the study regularly took heroin. Tranquilizers (26) were the second most preferred drug, followed by hashish (16), alcohol (11) and opium (5). Heroin is mainly taken in the form of prepared cigarettes or by inhaling the fumes. No

injection of heroin was reported. The heroin addicts came from various backgrounds ranging from workers with post-graduate qualifications to illiterate women. Women were introduced to heroin at an average age of 22 years mainly through friends, husbands and relatives. Peer pressure and a stressful life were frequently mentioned as causes for heroin abuse. Five out of the 32 heroin using women had been arrested at least once. Women mentioned that they found it difficult to receive treatment or counselling on drug abuse as none of the established treatment centres provide specialized services for women.

Overall, drug addicts have little access to effective treatment. With a few exceptions the services provided by government-run drug treatment facilities are limited to the management of acute withdrawal symptoms of 7-10 days duration. Most of the drug treatment facilities in the public sector are situated within the departments of psychiatry in teaching or district headquarters hospitals. The staff within these facilities are trained in psychiatry and therefore largely view addictive behaviour from this perspective. Specialist training in the management of substance misuse problems is rare. NGOs differ in levels of development and capacity in terms of providing drug treatment. Generally, NGOs are more receptive to developing new broader treatment responses and providing a range of services beyond medical interventions to their clients. However, again staff often are not specially trained and there is a need to develop a better understanding of the issues in offering interventions such as social and vocational rehabilitation. Only very few well established NGO and private clinics offer comprehensive treatment packages including rehabilitation and social reintegration services, but these services often are too expensive for the average street addict to access. Whilst no systematic follow-up is done on the success of treatment, readmission of relapse cases in public institutions are reported to be as high as 90%.

It is estimated that approximately 20% of Pakistan's prison population has been incarcerated because of drug abuse, possession of drugs and other drug-related offences. Many young drug addicts find themselves in prison because their family members

were unable to cope with their addiction and arranged for their imprisonment. Treatment services in prisons, if available, are limited to medical intervention to bring relief from acute withdrawal symptoms. Prison authorities admit that they do not have the capacity to properly deal with the problem of drug addicts.

Relatively little research has been done on the consequences of drug abuse in the country. There are no official statistics or reliable reports available on the socio-economic impact of drug abuse, drug-related deaths or drug-related violence. Very recent reports indicate the availability of high purity heroin in some of Pakistan's drug-markets, which has caused several deaths among drug users. Generally, however, the purity of heroin available to street addicts in Pakistan is believed to be quite low. However considerable geographical and temporal variation may exist in the composition of heroin available on the illicit market. As this factor may directly influence the nature of drug abuse problems Pakistan is faced with, there is a need to develop methods for monitoring the composition of drugs on the illicit market. This topic is returned to in a later part of this report.

Status of convention adherence

Pakistan is a signatory to the United Nations Single Convention on Narcotic Drugs, 1961, the 1971 Convention on Psychotropic Substances and the 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. In February 1999, the Government agreed to ratify the 1972 Protocol, which amends the 1961 Convention.

Legislation

The Control of Narcotic Substances (CNS) Act, 1997, arising from an ordinance bearing the same name and promulgated in 1995, effectively covers all aspects of Pakistan's drug control efforts. It deals with cultivation, manufacture, production, trafficking and possession offences as well as with treatment and rehabilitation of drug addicts (see below). The

Act also allows the Government to set up Special Courts with exclusive jurisdiction in drug matters and to establish a National Fund for the Control of Drug Abuse to be partially funded from assets forfeited under the legislation. Provision is also made for the mandatory reporting by banks and financial institutions of suspicious financial transactions.

Chapter VI of the CNS Act 1997 deals with treatment and rehabilitation of addicts:

Article 52 stipulates that Provincial Governments shall register all drug addicts for the purpose of treatment and rehabilitation while the Federal Government is held responsible to bear the cost for first-time compulsory detoxification or de-addiction of an addict.

Article 53 requests the Provincial Governments to establish as many treatment centres as necessary for detoxification, de-addiction, education, after-care, rehabilitation, social integration of addicts and for supply of such medicines as are considered necessary for the detoxification of the addicts.

In 1998, the CNS Act was extended to the Federal and Provincial Administered Tribal Areas, but overall implementation of the Act has progressed rather slowly. Up till the present time, no provincial registration of addicts has taken place and the provincial treatment centres referred to in Article 53 are yet to be established.

National drug control policies, priorities and plans

In 1995/96, the Government of Pakistan with assistance from UNDCP prepared a comprehensive Master Plan for Drug Abuse Control: 1998-2003. In 1998, UNDCP revitalized this plan and advocated at the highest level for its speedy approval. Following minor amendments, the Master Plan was approved by the Prime Minister's Cabinet in February 1999.

The Master Plan is structured around six objectives and related strategies, outputs and activities. Three of the objectives aim at strengthening law

enforcement, two refer to demand reduction and one to supply reduction. The financial requirements for the five-year duration of the plan have been estimated at Rs 2,832 million (approx. US\$ 56 million). Federal and Provincial Governments, United Nations agencies, multi- and bilateral donors have been indicated as possible sources of funding.

National institutional framework and capacity

The Narcotics Control Division: Pakistan's drug control policy making and planning is the responsibility of the Narcotics Control Division which forms part of the Ministry of Interior and Narcotics Control which was created in 1989. The Narcotics Control Division is headed by a Secretary who is UNDCP's designated government counterpart.

In the Anti Narcotics Force Act 1997, the Anti Narcotics Force (ANF) has been given primary responsibility for interdicting the production, smuggling, trafficking and abuse of narcotics substances and illicit psychotropic substances. Although the Anti Narcotics Force Act does not make direct reference to demand reduction activities, ANF continued to implement demand reduction projects which had been previously implemented by the Pakistan Narcotics Control Boards (PNCB). The Drug Abuse Prevention Resource Centre (DAPRC) that was established under the PNCB with significant assistance from USAID, has been maintained by the ANF and has been quite active as long as assistance from donors, mainly from the United States and the European Commission, was forthcoming. Currently, there are two departments within ANF that deal with demand reduction: DAPRC and the Planning and Development Department. Both Departments are headed by a Director who report to the Deputy Director-General of ANF.

Socio-economic characteristics of Pakistan

Poor social and economic conditions in Pakistan have a broad impact on Pakistan's overall health situation and increase vulnerability of the general

population to drug problems. Recent estimates indicate that 34% of the population live below the poverty line, and this percentage is even higher for those in rural areas. Poverty is inextricably linked to an array of difficulties that reduce the life chances of individuals and overall health and well being of households and communities. For example, those who are poor often have the least access to education and social services, and therefore least access to the information and tools which might help them protect themselves from drug abuse and other health and social threats. In addition, poverty sometimes influences people to make choices that make them more vulnerable to infections, for example, the frustrations related to poverty can drive people to abuse

drugs. A number of socio-economic factors such as youth, unemployment, large disparities between income groups, poverty, urbanization are known to be linked to drug abuse and crime. But as yet, little is known about the relationship of these factors to drug abuse problems in Pakistan. Furthermore, no ongoing surveillance information is available to monitor trends over time. For example drug related overdoses or deaths are also not recorded in the country nor is there a centralized register on the behaviour of treatment attendees. The involvement of drug addicts in criminal activity is also not measured. A high level of poverty and other pressing needs on the public purse makes it difficult to invest in prevention and treatment activities.

Rationale, methods and sampling

Rationale of the Pakistan national assessment exercise 2000

As the first national assessment exercise since 1993, the range of possible topics for inclusion in this study was considerable. Drug abuse impacts on many aspects of society and the information needed to inform a policy response is correspondingly diverse. However, successful studies require sound methods that reflect reasonable objectives. It was therefore important that the aspiration for a comprehensive and detailed coverage of all aspects of the drug abuse phenomenon be balanced against a careful consideration of what can be realistically achieved within the resources available.

Technical decisions on the design of the study were based on the initial set of important policy questions identified by the Government of Pakistan in their discussions with UNDCP. From these discussions it was clear that the study design would have to both address general questions about patterns and trends in abuse across the country and at the same time focus on a number of more specific research questions. These two requirements placed against the available budget dictated the research strategy. An initial decision was taken that the study would consist of three distinct, but interrelated, research exercises. In addition, each of these exercises would collect information that could be subsequently combined to produce an estimate of the hard-core heroin abusing and injecting population.

The study would therefore comprise of the following elements:

- (a) *A national contour mapping exercise*—to produce an overview of patterns and trends. For this exercise a national drawn sample of key informants were interviewed.
- (b) *Provincial city studies of the hard-core heroin using and injecting population*. For this aspect of the study samples of heroin (or other opioid users) and/or drug injectors were interviewed in a major city in each of the four provinces. The cities were Karachi, Lahore, Quetta and Peshawar. Three samples were drawn in each city. The groups sampled were drug abusers in treatment, drug abusers in prison and drug abusers contacted on street settings.
- (c) *An audit and update of the information on drug treatment facilities in Pakistan*.
- (d) *An estimation exercise* (based on data collected in (a)-(c) on the number of hard-core heroin abusers and drug injectors in Pakistan).

In summary: the method of the national assessment exercise is to carry out a set of surveys on particular aspects of the drug problem that each in its own right provides vital information on drug use in Pakistan; and which when taken together also can provide a prevalence estimate of drug use. For a full discussion of the methodological issues relating to this study please refer to annex I.

Mapping the national contours of drug abuse: the key informant interviews

Key informant interviews sample description

In this section data are presented from the national mapping exercise. Key informants were asked to report on drug abuse patterns and trends in their local areas. A total of 36 sampling sites (locales) were selected to allow a broadly representative national picture of the drug abuse situation to be produced. The sample was structured to include 18 matched pairs of rural and urban areas.

The tables referred to in this section are numbered sequentially. Those tables (tables A.II to A.II.9) where the table number is preceded with the letter “A” can be found in annex II of this report.

A key informant approach was selected as the most appropriate method for generating a national picture of patterns and trends in drug abuse. In total, 283 key informants were interviewed for this study (on average seven respondents per locale). This corresponds to the study design that aimed for a minimum of five key informant interviews per locale, but allowed extra interviews to be conducted where other particularly appropriate individuals could be located. The sampling strategy was designed to ensure that a range of respondents, who had knowledge of drug abuse from different perspectives, were included in the sample. By including such diverse occupational groups as teachers, medical workers and police in the sample, it was hoped that a fuller picture of the local drug scene would be produced—as each group would have a different perspective on patterns of local drug abuse. Key informants were not simply selected by occupational group. Interviewers were instructed to identify key informants in each locale who were most likely to have had contacts with drug abusers and therefore be best placed to describe the local situation.

The vast majority of respondents were male (94%), with only 17 females being interviewed in total. Whilst the sampling strategy matched rural and urban locales in practice more suitable individuals were, perhaps unsurprisingly, located in urban sites. In the final sample 64% (181) of respondents were classified as reporting from urban sites, and 36% (101) from rural ones. It was not possible to code one interview on the urban/rural dimension and it was therefore excluded. Urban-rural comparisons are therefore made here on an achieved sample size of 282 responses. This represents a mean of six interviews per rural site as opposed to 10 per urban location. In both cases, the minimum target sample of five interviews per locale was achieved. In the analysis that follows urban versus rural breakdowns are provided where this variable impacts on the interpretation of the data.

Sampling sites were drawn across the four provinces of Punjab, Sindh, Balochistan, and North-West Frontier (NWFP). In Punjab, 86 interviews were conducted in total (65, urban and 21, rural), in Sindh 64 interviews in total (49, urban and 15, rural), in Balochistan 30 interviews in total

(19 urban and 11 rural) and in NWFP 88 interviews were conducted in total (42 urban, and 46 rural). A small number of interviews (15) were conducted outside of these provinces or had coding problems and are therefore not included in a provincial analysis. The sub-sample total for all provincial comparisons is therefore 268. The reader should note that due to sporadic missing values or non-response to individual questions, the actual sub-sample numbers used in individual comparisons will vary. The reader should also note that due to rounding percentages may not always exactly sum to 100.

In summary: the overall number of key informants interviewed was 283,181 of whom were classified as reporting from urban locales, and 101, from rural locales, thereby giving a base of 282, for urban/rural comparisons. A provincial breakdown was possible for 268, interviews and provincial comparisons are correspondingly based on this number. Sporadic missing values, non-responses, and non-applicable questions result in some variation in individual sub-sample numbers used for comparisons.

In table 1 data are presented on the occupational classification of the key informants interviewed for this study. It was important to interview key informants with a range of occupational backgrounds. The study was successful in this respect. Furthermore, the mix of occupational groups is broadly comparable between the urban and rural samples. Some minor differences do exist in the samples. For example, more medical personnel (21% of urban sample versus 10% of the rural sample) were interviewed in urban settings, probably reflecting the disproportionate location of medical facilities in urban areas, and more religious leaders were interviewed in rural areas (9% of rural sample versus 3% of urban sample).

As key informants were expected to comment on trends over time it was desirable that they had long-term local knowledge. For the majority of respondents this was the case. On average, key informants had been living in their locale for 24 years (28 years for rural respondents and 21 for urban), with only a small minority of either sample having been resident in the locale for less than 5 years (13%). This allows for some confidence that the key informants could

Table 1. Key informants’ occupational groups

<i>List of occupational group</i>	<i>Local location</i>		
	<i>Urban</i>	<i>Rural</i>	<i>Total</i>
Medical	37 21%	10 10%	47 17%
NGO/Gov.	34 19%	7 7%	41 15%
Police	26 15%	11 11%	37 13%
Community leaders	5 3%	7 7%	12 4%
Ex-addict	17 10%	10 10%	27 10%
Teacher	10 6%	7 7%	17 6%
Welfare organization	13 7%	5 5%	18 7%
Local business	17 10%	25 26%	42 15%
Religious leader	6 3%	9 9%	15 5%
Other qualified workers	11 6%	4 4%	15 5%
Other	2 1%	2 2%	4 1%
Total	178 100%	97 100%	275 100%

comment with authority on longer-term changes in local patterns and trends in drug abuse.

To comment accurately on patterns of drug abuse within the locale, it was also desirable that key informants had come into contact in some way with drug abusers in their local community. As noted above, interviewers were instructed where possible to seek out such individuals for inclusion in the sample. Encouragingly, respondents reported considerable contact with drug abusers. This question was asked separately for all “drug abuse” and specifically for “heroin abuse and drug injection”. In the

Table 2. Number of contacts by respondents in the last year with drug abusers

	<i>Mean number of contacts Any drug</i>	<i>Mean number of contacts Heroin or IV only</i>
All	83	44
Urban locales	89	50
Rural locales	70	31
Punjab	86	61
Sindh	87	53
Balochistan	75	43
NWFP	77	13

12 months prior to interview, on average key informants reported contact with over 80 drug abusers of whom about half were heroin users. These data are given in table 2. Data provided in this table should be interpreted with caution as some occupational groups (for example the police or medical personnel) reported contact with extremely large numbers of drug users. However, two points are worth noting. Contact with drug abusers as a group, whilst varying, was high for the sample as a whole. Only four individuals (1.5% of the sample) reported no contact in the preceding year with the users of any drug, and only 11 (4%) individuals did not report any contact with “heroin abusers” in the preceding 12 months. Contact was rarely limited to just a few individual drug users. Ninety-two per cent of key informants reported contact with 10 or more “abusers of any drug” in the last year. Slightly less, but still over two-thirds (72%) of the sample, reported contact with 10 or more “heroin abusers” in the previous twelve months. These data suggest that drug abuse in general, and the use of heroin in particular, is both geographically widespread in Pakistan, and that significant numbers of individuals are involved. The data also suggest geographical differences exist in respect to consumption patterns.

Whilst the average number of abusers of “any drug” that the key informants had contact with did not vary significantly between locales, this is not the case when “heroin abusers” are considered. Those in rural locales reported less contact with “heroin abusers” than key informants in urban areas.

However, the most striking difference here relates to the provincial analysis. Respondents in NWFP reported on average approximately the same level of contact with “drug abusers in general”, but far lower contact with “heroin abusers”. This point is borne out further by noting that no key informants in Punjab or Balochistan, and only one respondent in Sindh, reported “no contact” with heroin users in the twelve months before interview, whilst in NWFP this figure was 13% of all the key informants interviewed.

Perceptions of drug use in the locale

Key informants were asked for each of the index drugs considered by the study how “commonly used” that drug was in the locale. Respondents had the opportunity to respond across the following scale: “commonly used”, “some use” “rarely used” or “don’t know”. The “don’t know” category was included as an active category (i.e. it was read out as part of the scale) so as not to encourage respondents to answer arbitrarily.

In table 3 data on the overall perception patterns of use can be found and in figure I the percentage of respondents reporting that a drug was commonly used in their locale is presented. Cannabis type drugs (hashish and charas) were most often reported to be commonly used in the locales. This is in accord with the general impressions of the research team after the field visits to Pakistan but in conflict with the picture produced by the 1993 research exercise. In this study only 5% of respondents reported hashish or charas were rarely used in their locale suggesting this drug type represented the major illicit drug consumed in Pakistan in respect to the total numbers of consumers.

After cannabis type drugs, heroin and alcohol are reported as the next two most commonly abused substances. Both drugs receive high “commonly used” rating (46% and 45%) suggesting that the consumption of both substances is relatively widespread in Pakistan. It is worrying to note that only 8% of respondents reported that heroin abuse was rare in their locale.

Table 3. Respondents’ perceptions of the scale of drug use in the locales

<i>Drug Type</i>	<i>Commonly used</i>	<i>Some use</i>	<i>Rarely used</i>	<i>Don't know</i>
Hashish and charas	194 (70%)	67 (24%)	13 (5%)	2 (>1%)
Heroin	127 (46%)	111 (40%)	21 (8%)	16 (6%)
Opium	28 (10%)	91 (34%)	121 (45%)	31 (11%)
Other opiates	24 (9%)	34 (13%)	75 (29%)	130 (49%)
Cough syrups (for intoxication)	31 (11%)	24 (10%)	73 (28%)	136 (52%)
Psychotropics	54 (20%)	88 (33%)	80 (30%)	48 (18%)
Drug injection	30 (12%)	73 (28%)	63 (24%)	95 (36%)
Solvents (glue, etc)	10 (4%)	36 (14%)	61 (24%)	147 (58%)
Alcohol	121 (45%)	92 (34%)	54 (20%)	3 (1%)

The high perception of the use of cannabis, heroin, and alcohol should not distract from the fact that high levels of other types of drug abuse are also reported. In particular, although relatively low, it is still a cause for concern that 9% of respondents are reporting the use of “other opiates” as common, that 20% report psychotropics as “commonly used”, and 12% report drug injection as common in their locale. However, caution should be exercised when interpreting these figures because the “don’t know” rate increases dramatically for these drug types. For example, nearly half the sample (49%) cannot comment on the use of “other opiates” and over-half (52%) cannot comment on the use of cough syrups for the purposes of intoxication. To a large extent it may be that these responses indicate that this pattern of use is uncommon in the locale. However, it is also probable that some abuse patterns, such as the use of psychotropic substances by women (for example benzodiazepine use), is more hidden than the use of some of the other drug types listed.

It is also important to note that distinct geographical differences are often observable in patterns of drug abuse and that drug consumption does not therefore have to be a national phenomenon to cause acute local problems. This is one reason that many drug information systems are configured to collect data at city or local level, thereby informing the delivery of local responses, as well as providing information for national estimates. To explore differences in abuse patterns in Pakistan, in this study it is possible to make both rural versus urban and provincial comparisons.

In interpreting the provincial comparisons it is important to bear in mind that these data relate to areas with distinctly different population totals. Thus the relative implications for the scale of the drug abuse problem in terms of the number of individuals affected is likely to correspondingly vary. For example, Balochistan has a population of 6,511,000 as compared to 72,585,000 for Punjab. Therefore, the reported “common use” of any substance in Balochistan will affect far fewer individuals than will its “common use” in Punjab. The population totals for NWFP and Sindh are 17,555,000 and 29,991,000 respectively (all figures based on 1998 census).

In annex table A.II.1, key informant’s perceptions of local consumption patterns are compared by the urban versus rural classification of the locale. In annex table A.II.2, data is presented separately for each province. As visually comparing tabulated data of this type across tables is difficult, in table 4 an overall rating score has been calculated that combines all the information from the table. Comparing ratings scores in this table allows the relative responses to be compared across drug type and locale classification. “Don’t know” responses have been included in this analysis. The higher the overall rating the more the index drug was reported as used in the locale.

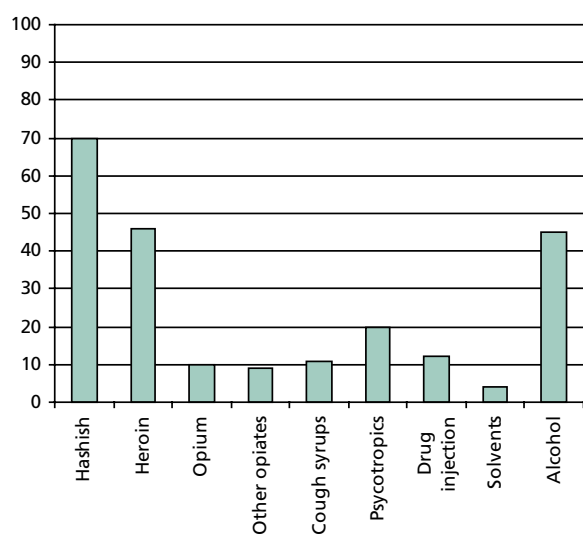
When hashish and charas are considered, little variation is found across Pakistan either with respect to a comparison of rural versus urban areas or with respect to a provincial breakdown. In urban areas, 71% of respondents report use is “common”

Table 4. Respondents’ perceptions of the scale of drug use in the locales: overall ratings

Drug type	All	Urban	Rural	Punjab	Sindh	Balochistan	NWFP
Hashish and charas	16	17	16	16	15	19	17
Heroin	13	15	11	16	15	18	9
Opium	5	5	6	6	4	9	5
Other opiates	3	4	1	7	2	1	1
Cough syrups (for intoxication)	3	3	3	8	1	1	2
Psychotropics	7	8	5	10	8	3	5
Drug injection	5	6	4	9	5	7	1
Solvents (glue, etc)	2	2	2	6	1	1	0
Alcohol	12	13	11	16	12	13	8

Note: Higher values indicate that use is reported to be more common.

Figure I. Percentage of key informants that reported drug abuse as common in their locale



compared to 69% of those in rural locales. Similarly, provincial levels of reported use are also high, although some differences are observable. Use is reported to be most common in Balochistan, where 90% of respondents report hashish or charas as “commonly used” closely followed by NWFP, where the figure is 75% of responses. Lowest use is reported in Sindh (overall rating of 15), but here still nearly two-thirds of key informants report the drug type is “commonly used”.

When heroin is considered, urban and rural differences are more apparent, as indicated by overall rating scores of 15, and 11, respectively. Heroin abuse is thus reported as a more urban phenomenon with 54% of those in urban locales reporting common use as opposed to 32% of those in rural areas. Distinct provincial differences are also observable. Heroin use is reported to be most common in Balochistan, where 77% of respondents report use as “common”. However, sample sizes are disproportionately lower from this province reflecting its lower population total (only 30 key informants interviews conducted), so some caution is necessary in making comparisons between Balochistan and other provinces. Rates are also high in Punjab where 58% of key informants report “common use” and this is supported by a correspondingly high overall rating figure of 16. It is important to look at this overall rating figure, in addition to individual scores, as this measure takes into account information from all responses to the question (i.e. “commonly used,” “some use”, “rarely used” and “don’t know”). NWFP has the lowest rating for reported heroin use with only 12% of key informants reporting use was common in their locale.

Drug injection is the route of administration most associated with health and other problems. As such, even the existence of a relatively small injecting population can have considerable impact on the overall costs (health, social and criminal justice)

associated with drug problems. Historically, in Pakistan drug injecting has not been common although, as noted earlier in this report, some evidence exists to suggest this now may be changing. At least for some parts of the country the data presented here support this view. Drug injecting is reported to be common in urban rather than rural locales and in the province of Punjab. Drug injection appears least common in NWFP, where no key informants report injection as common in their locale.

Opium has a long history of use in Pakistan and has in the past been widely used by traditional medical practitioners (Hakim) to treat a range of minor ailments. However, anecdotal accounts suggest that the use of the drug as an intoxicant has declined in recent years. In the current research exercise in Balochistan, opium was the drug most often reported to be commonly used, although once more the small sample sizes suggest this result should be interpreted with caution.

There was some tendency to report higher rates of alcohol use in urban as opposed to rural areas although this difference was not particularly pronounced—in urban and rural areas a significant number of key informants reported that alcohol was commonly used. Alcohol use was less often reported as commonly used in NWFP than in other provinces, with only 19% of key informants reporting use was common in their locale. This is a marked contrast with Punjab where 71% of key informants report the use of alcohol as common and only 3% that its use was “rare” in their locale.

Overall, the key informants reports would suggest that drug abuse, with the exception of opium, is more a feature of urban rather than rural life in Pakistan. That being said, this difference is not as pronounced as expected, and abuse of other drugs in many rural locales was reported at worryingly high levels. Similarly, provincial differences in reporting rates are clearly observable, with the Punjab, the largest province in population terms, having amongst the highest levels of reported common use. No province appeared to be free of drug abuse problems. However, if hashish and charas are excluded, NWFP overall reported that use was less common than elsewhere in Pakistan.

Drug abuse patterns are commonly known to vary across demographic dimensions. In this study, to explore variations by sex and age, key informants were asked to separately rate the drug “most commonly used” by “men”, “women” and “young people”, (the last defined for the purposes of this study as less than 25 years of age). These data can be found in table 5.

Table 5. Respondents’ perceptions of the differences in the drugs most commonly used by men, women and young people

<i>Drug type</i>	<i>Men</i>	<i>Women</i>	<i>Young people</i>
Hashish and charas	140 (51%)	12 (10%)	177 (65%)
Heroin	74 (27%)	33 (27%)	46 (17%)
Opium	5 (2%)	16 (13%)	—
Other opiates	—	1 (>1%)	—
Cough syrups (for intoxication)	—	—	1 (>1%)
Psychotropics	3 (1%)	45 (37%)	4 (1%)
Drug injection	7 (3%)	7 (6%)	7 (3%)
Alcohol	47 (17%)	8 (7%)	39 (14%)

Note: Sample N’s (men 276, women 122, young people 274).

As would be expected, male drug use in terms of most commonly used substance broadly reflects the overall pattern discussed above. Differences from the overall picture are evident when women or young people are considered. It should be noted that the number of respondents falls to 122 for the question on women’s drug use. This is because many key informants did not feel competent to answer this question. This is probably due to both the facts that drug abuse among women is a lower frequency activity than male drug abuse, and that drug use among women is a more hidden behaviour. Psychotropic drugs were the type most commonly reported to be used by women, followed by heroin. It should be remembered that this question does not relate to the overall numbers of abusers, but rather to the drug most commonly used amongst those who do abuse drugs in the locale. It is therefore debatable what this result implies about the overall prevalence

of heroin use among women in Pakistan. Interestingly, unlike the male pattern of use, hashish or charas is not commonly reported as the main drug type used by women in most locales.

Among young people, hashish or charas is reported to be the most common drug used by 65% of key informants, followed by heroin and alcohol (17% and 14% respectively). The abuse of solvents, which is elsewhere commonly associated with younger ages groups, or street children, was not reported as the main drug used by young people by any informant.

Trends in drug abuse

Key informants were asked to reflect on trends in drug abuse in their locales. Two time periods were used for these questions. For each index drug, respondents were asked whether use had “decreased a lot”, “decreased a little”, “not changed”, “increased a little”, or “increased a lot” in their locale. The first time period respondents were asked to assess changes over was “the last five years” (i.e. from 1995). This is long term measure approximating the period since the last national assessment exercise was conducted (1993). “Five years” was selected as the maximum reasonable long-term recall period. The second set of questions covered the same topic but asked for short-term trends. In this case a standard “last year” reporting period was adopted.

Data on long term trends for the whole sample can be found in table 6. In annex table A.II.3. urban versus rural comparisons are given and in table A.II.4

a provincial breakdown is provided. As an aid to considering the data as a whole an overall rating has been computed, which can be found in table 7. In the overall measure, negative values have been placed in brackets and indicate that key informants are reporting a decrease in use.

Some caution is required when reflecting on perceived trends over time, especially long time intervals, as memory effects and other factors may influence perceived changes. It can be argued that when social problems such as drug abuse or crime are considered, respondents are often more inclined to report negative rather than positive changes. Nonetheless, these data do provide a useful overview of observed trends and have been used in the previous national assessment exercises for quantifying annual increases in prevalence rates. In interpreting the data it is also important to look closely at the provincial breakdown. Trends must be viewed with respect to their population base. For example, a small upwards or downwards trend in an area of high prevalence will have far more impact, in terms of the number of individuals affected, than a similar trend in an area of low prevalence.

With this in mind data on heroin trends in Punjab is particular interesting as this province contains some of the large cities where heroin problems are most apparent and where the highest provincial population rates are found. The overall rating is 0 for this province indicating overall that responses suggesting increases in use are balanced with those suggesting decreases.

Table 6. Perceptions of long-term trends in drug use in the locales (last 5 years)

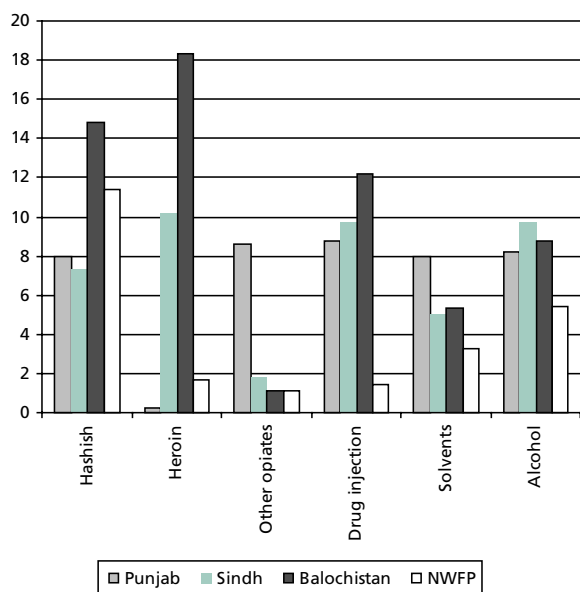
<i>Drug type</i>	<i>Decreased a lot</i>	<i>Decreased a little</i>	<i>No change</i>	<i>Increased a little</i>	<i>Increased a lot</i>	<i>Don't know</i>
Hashish and charas	7 (3%)	32 (12%)	34 (12%)	97 (35%)	102 (37%)	4 (1%)
Heroin	19 (7%)	57 (21%)	28 (10%)	77 (28%)	78 (29%)	13 (5%)
Opium	15 (6%)	38 (14%)	132 (50%)	36 (14%)	19 (7%)	25 (9%)
Other opiates	7 (3%)	8 (3%)	43 (17%)	41 (17%)	19 (8%)	128 (52%)
Cough syrups	7 (3%)	16 (7%)	27 (11%)	34 (14%)	26 (11%)	134 (55%)
Psychotropics	4 (2%)	12 (5%)	31 (12%)	101 (39%)	68 (26%)	44 (17%)
Drug injection	3 (1%)	11 (4%)	31 (12%)	75 (30%)	37 (15%)	96 (38%)
Solvents	2 (1%)	5 (2%)	30 (13%)	59 (25%)	11 (5%)	130 (55%)
Alcohol	7 (3%)	26 (10%)	71 (26%)	85 (31%)	73 (27%)	9 (3%)

Table 7. Perceptions of long-term trends in drug abuse (last 5 years): overall ratings

Drug type	All	Urban	Rural	Punjab	Sindh	Balochistan	NWFP
Hashish and charas	9.4	9.0	10.1	8.0	7.3	14.8	11.4
Heroin	5.3	4.9	6.1	0.0	10.2	18.3	1.7
Opium	0.3	(-0.3)	1.3	0.0	(-1.1)	9.2	(-1.3)
Other opiates	4.8	5.6	2.2	8.6	1.8	1.1	1.1
Cough syrups (for intoxication)	5.1	4.6	6.7	10.2	(-3.0)	5.0	1.4
Psychotropics	10.0	10.0	10.2	10.9	10.4	7.9	9.2
Drug injection	8.4	9.0	6.7	8.8	9.7	12.2	1.4
Solvents (glue, etc)	6.7	6.8	6.7	8.0	5.0	5.3	3.3
Alcohol	7.3	7.8	6.4	8.2	9.7	8.8	5.4

Note: Positive values indicate reports of overall increases in abuse levels and negative values decreases in abuse.

Figure II. Cumulative long term trend index



Note: high scores indicate increased reports that drug abuse has increased in the last five years.

This compares to ratings of 10 and 18 for Sindh and Balochistan, respectively, and 1.7 in NWFP. This point is illustrated in figure II. Overall, the data suggest that in Punjab heroin prevalence may have been stable or even in possible decline over the last five years. Elsewhere, it would indicate no great change in NWFP, where reported heroin use is low in any respect, and indicate increases in Sindh and

Balochistan. This analysis would fit with the tentative suggestion that heroin use is still diffusing in Pakistan to new areas, including more rural areas, whilst at the same time stabilizing, or even possibly slightly declining, in some of the urban centres where use has been longest established. This picture remains preliminary and requires further investigation before any firm conclusion should be drawn. However, the “last-year” overall trend measure indicates a small decline in heroin use in the province of Punjab (-0.9) (see table 9).

If a mixed picture is found for heroin use this is not the case for drug injection where data give cause for considerable concern. Increased injecting is reported in all provinces although the increase in NWFP is marginal. However Sindh, Balochistan, and Punjab all report strong upward trends. Injecting is reported to be increasing more strongly in urban rather than rural locales, but for both the trend is upwards.

Key informants’ perception of long term trends in hashish and charas abuse appear uniformly up with some the highest overall ratings in Balochistan and NWFP. Opium abuse on the other hand was reported to be stable or in decline in all provinces with the exception of Balochistan. Trends in alcohol use were reported to be up, as was the abuse of solvents (glue, etc), with the locales in the province of Punjab reporting the greatest overall increase.

Table 8. Perceptions of short-term trends in drug use in the locales (last year)

<i>Drug type</i>	<i>Decreased a lot</i>	<i>Decreased a little</i>	<i>No change</i>	<i>Increased a little</i>	<i>Increased a lot</i>	<i>Don't know</i>
Hashish and charas	9 (3%)	24 (9%)	58 (21%)	90 (33%)	91 (33%)	4 (1%)
Heroin	22 (8%)	62 (23%)	50 (18%)	73 (27%)	53 (19%)	12 (4%)
Opium	14 (5%)	33 (13%)	143 (55%)	38 (15%)	8 (3%)	26 (10%)
Other opiates	3 (1%)	9 (4%)	51 (21%)	30 (12%)	20 (8%)	130 (54%)
Cough syrups	5 (2%)	11 (5%)	40 (17%)	32 (13%)	23 (10%)	128 (54%)
Psychotropics	2 (1%)	6 (2%)	42 (16%)	99 (38%)	61 (24%)	49 (19%)
Drug injection	1 (>1%)	10 (4%)	38 (15%)	75 (30%)	27 (11%)	97 (39%)
Solvents	2 (>1%)	3 (1%)	39 (16%)	48 (20%)	17 (7%)	133 (55%)
Alcohol	4 (>1%)	23 (8%)	95 (35%)	78 (29%)	64 (24%)	7 (3%)

Table 9. Perceptions of short-term trends in drug abuse (last year): overall ratings

<i>Drug type</i>	<i>All</i>	<i>Urban</i>	<i>Rural</i>	<i>Punjab</i>	<i>Sindh</i>	<i>Balochistan</i>	<i>NWFP</i>
Hashish and charas	8.5	8.2	9.1	6.7	7.8	8.3	11.1
Heroin	2.8	2.5	3.5	(-0.9)	5.6	13.1	0.8
Opium	(-0.3)	(-0.6)	0.4	0.3	(-0.4)	4.8	(-2.5)
Other opiates	4.9	6.0	0.8	8.5	2.9	0.0	0.8
Cough syrups (for intoxication)	5.1	5.2	4.8	10.2	(-2.9)	0.0	1.9
Psychotropics	10.0	10.2	9.7	11.7	12.2	3.3	8.4
Drug injection	7.7	8.3	6.1	9.0	8.5	8.6	0.0
Solvents (glue, etc)	6.9	6.8	7.0	9.4	4.3	1.2	5.0
Alcohol	6.6	7.6	4.8	7.8	10.0	4.6	4.5

Note: Positive values indicate reports of overall increases in abuse levels and negative values decreases in abuse.

High overall scores were also found for upward trends in the use of psychotropic drugs. Given the earlier findings that these drugs are reported as the most commonly used drug type by women this may imply that drug abuse among women in Pakistan is increasing. Data in this report do not explore the use of psychoactive substance by women in any great detail. However, data do suggest that this is a topic that merits further attention.

Perceptions of trends in drug abuse over the last year were also explored. This is a topic included in the UNDCP annual reports questionnaire (ARQ). Drug information systems often report on yearly trends so these data may have utility for any future on-going drug abuse monitoring activity in Pakistan.

Data from the whole sample can be found in table 8, urban versus rural comparisons in annex table A.II.5 and provincial breakdowns in annex table A.II.6. Once more, an overall rating has been calculated to summarize these data and this can be found in annex table A.II.9.

The overall picture of perceived short-term trends broadly corresponds to the data for trends over the longer time period. As noted above, trends in heroin abuse, with the exception of Balochistan, appear flat or even down slightly (Punjab). Drug injection is regarded as increasing, as is hashish and charas abuse and again psychotropic drugs receive a particularly high score on the overall rating for a rising short-term trend.

Perceptions of problems arising from drug abuse

Different patterns and levels of drug abuse are known to impact differently on society. To gauge the key informant’s perception of the extent to which the drug abuse patterns described impact on their communities, they were asked to assess the amount of problems each index drug was causing. A standard question format was used in which each drug type was read out and respondents reported if it caused “major problems” “some problems” “few problems” or “no problems” in their locale.

Data for the whole sample can be found in table 10, a rural versus urban breakdown in annex table A.II.7, and provincial comparisons in table A.II.8. Again, an overall rating has been calculated and is included in

table 10 for the whole sample, and in table 11, for the sub-sample comparisons.

The perceived problems different drugs types were causing were not simply related to their reported prevalence levels. In all provinces, and in both urban and rural locales, heroin was the drug most associated with problems, regardless of the relative prevalence rate. Eighty-one per cent of respondents reported that heroin caused major problems in their locales. This figure was slightly higher for urban rather than rural areas, but in both types of locale substantially high levels of problems resulting from heroin abuse were reported. In Punjab province, 88% of respondents reported major problems in their communities resulting from heroin. Those locales with injecting populations also reported that these were causing major problems locally.

Table 10. Perceptions of problems caused by drugs in the locales

<i>Drug type</i>	<i>Major problems</i>	<i>Some problems</i>	<i>Few problems</i>	<i>No problems</i>	<i>Don't know</i>	<i>Overall rating</i>
Hashish and charas	46 (17%)	130 (47%)	73 (26%)	28 (10%)	—	17
Heroin	222 (81%)	29 (11%)	6 (2%)	4 (1%)	12 (4%)	27
Opium	22 (8%)	56 (21%)	88 (33%)	82 (31%)	18 (7%)	10
Other opiates	14 (6%)	31 (12%)	45 (18%)	40 (16%)	120 (48%)	6
Cough syrups	22 (9%)	24 (10%)	26 (11%)	40 (16%)	134 (54%)	6
Psychotropics	20 (8%)	40 (15%)	85 (33%)	65 (25%)	50 (19%)	9
Drug injection	58 (23%)	55 (22%)	28 (11%)	25 (10%)	88 (35%)	12
Solvents	20 (8%)	30 (13%)	45 (19%)	27 (11%)	118 (49%)	7
Alcohol	85 (31%)	90 (33%)	71 (26%)	18 (7%)	6 (2%)	19

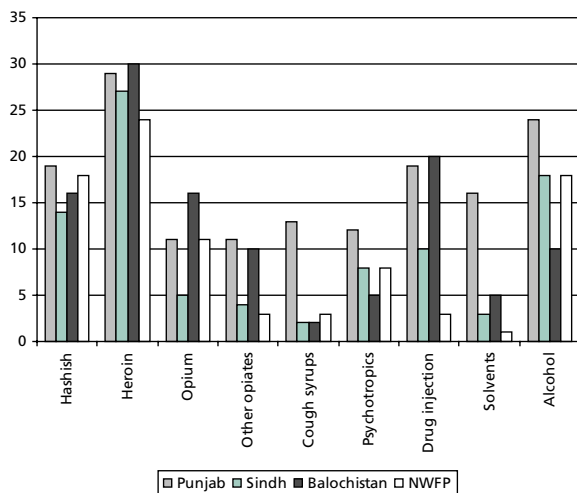
Table 11. Perceptions of problems caused, overall-rating scores: urban/rural and provincial comparisons

<i>Drug type</i>	<i>Urban</i>	<i>Rural</i>	<i>Punjab</i>	<i>Sindh</i>	<i>Balochistan</i>	<i>NWFP</i>
Hashish and charas	17	16	19	14	16	18
Heroin	28	24	29	27	30	24
Opium	10	10	11	5	16	11
Other opiates	7	3	11	4	10	3
Cough syrups	7	4	13	2	2	3
Psychotropics	10	6	12	8	5	8
Drug injection	14	9	19	10	20	3
Solvents	8	5	16	3	5	1
Alcohol	19	19	24	18	10	18
Overall average	12	9.6	15.4	9.1	11.4	8.9

After heroin, alcohol received the second highest overall problem score in all provinces with the exception of Balochistan, where hashish and charas problems received a higher rating. In Punjab nearly half (48%) of all key informants reported that alcohol caused major problems in their community and none reported that there were no local problems due to alcohol abuse. In Balochistan alcohol problems were not widely recognized—with only one key informant reporting major problems resulting from the use of alcohol and nearly half (47%) reporting only few alcohol related problems in their area.

Whilst hashish/charas was the drug reported to be most commonly used in all locales it was not necessarily perceived to be causing major problems by respondents. Overall ratings suggest that its use was perceived as causing fewer problems than either heroin or alcohol. That being said, hashish and charas consumption was not regarded as non-problematic. Seventeen per cent of all key informants reported that major problems in their locale were caused by hashish or charas, and just under half (47%) that some problems were due to the use of this drug type.

Figure III. Cumulative problems arising from drug abuse index, reported by key informants in each state



Note: Higher score indicate more reports of problems.

Some provincial differences merit note. In Punjab, as many as 24% of respondents reported major local problems arising from solvent abuse, whereas this was not the case for the other provinces. The use of cough syrups for intoxication was also perceived as resulting in local problems in Punjab. In Balochistan, opium use was seen as resulting in major problems in 33% of locales, whereas elsewhere opium was not widely regarded as causing major problems.

Table 12. Difference in respondents' perceptions of differences in the drugs causing the most problems for men, women and young people in the locale

Drug type	Men	Women	Young people
Hashish and charas	27 (10%)	5 (5%)	113 (41%)
Heroin	206 (75%)	36 (37%)	112 (41%)
Opium	5 (2%)	14 (14%)	1 (>1%)
Other opiates	—	1 (1%)	—
Psychotropics	—	27 (28%)	1 (>1%)
Drug injection	6 (2%)	2 (2%)	4 (2%)
Alcohol	30 (11%)	12 (12%)	41 (15%)

Note: Sample numbers: 274, 97, 273 respectively.

Attitude questions

To explore some of the issues that emerged during the preparatory work for the study a set of attitude questions was prepared to which key informants were asked to give a standard attitudinal response ranging across a Likert scale from “strongly disagree” to “strongly agree”. These data can be found in annex table A.II.9. Key informants tended to agree with questions that suggested that many drug abusers were too poor to access treatment provision and were also responsible for considerable amounts of local crimes. Respondents were more equivocal in reply to a question on whether heroin use had

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declined in their area. Interestingly, those in Punjab and in urban areas were more likely to agree with this statement than those elsewhere, supporting the

suggestion that there has been a diffusion of heroin to new areas but that abuse rates have not risen in areas with an established problem.

Interviews with drug abusers

In this section data from the interviews with drug abusers are presented. As previously noted, in each of the four cities included in the study (Karachi, Lahore, Quetta, and Peshawar), three samples of interviews with drug abusers were collected. These were: drug-abusers in treatment (persons receiving treatment for an alcohol problem only were not included in the sample), drug-abusers in prison and drug-abusers recruited in street settings. For the purposes of brevity and convenience we have used the term “addict interviews” to refer to these samples. The reader should note that the sampling inclusion criterion used was that the respondents should be regular users of heroin or drug injectors, and in practice the sample did consist largely of apparently dependent opioid users. A formal measure of dependence itself was not used as a sampling criterion, however, although such a measure was made in the interview.

Data collection

The analysis presented here will consider the three groups of “addict interviews” in their totality and also make comparisons across the three groups. All interviews were conducted by trained members of the research team, and were carried out on a voluntary and confidential basis. As recruiting street samples of drug abusers is methodologically challenging members of the research team with previous experience of this kind of work or who had life experiences that allowed them to more easily access drug abusers were used to assist with this part of the study.

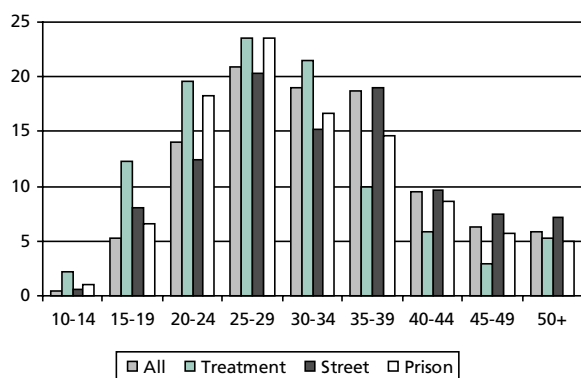
One thousand and fifty-five interviews were conducted for this study. After data cleaning and checking procedures, a small number of interviews (6) were excluded for reasons of the quality of the reporting. Thus 1,049 interviews were available for analysis and of these 12 were female and 1,037 male. This sample cannot be thought of as reflecting patterns of illicit drug use among Pakistani women. Whilst the abuse of heroin appears lower among women than for men, the relative levels cannot be estimated from data reported here. For a number of cultural reasons and other considerations, women appear disproportionately unlikely to appear in any of the samples collected for this study and the topic of drug abuse among women is taken up in the concluding part of this report. For the purposes of clarity and focus in reporting on the study, the following analyses are restricted to the sample of 1,037 male respondents. Slightly more of these interviews were conducted with treatment attendees (415), than with the street addict sample (321), or the prison addict sample (301).

Demographics—age distribution

The mean age of the three sample groups were remarkably similar, 33 years for respondents interviewed in both treatment and street samples, and 31 years for those respondents

interviewed in prison. The age of the sample ranged from 12 to 74 years of age, with 40% of subjects being between 25 and 34 years of age. Comparing the three samples, young respondents were least common among the treatment sample, where only 2% were under 20 years of age, as compared to 9% of street addict interviews and 8% of the prison sample; they comprise 6% of the whole combined sample. Similarly with older addicts, only 6% of respondents were over 50 years, comprised of 5% of the treatment and prison samples and 7% of the street sample. Some caution is merited in making direct comparisons with the 1993 survey because of the different sampling strategy used in each study and because full data on age characteristics were not available for the earlier exercise. Nonetheless, the current study does suggest a more mature population of heroin users than might have been previously identified, with less evidence of young heroin users. For example, in the 1993 exercise, 24% of heroin users were found to be (from 15 to) under 20 years old. In the 2000 study only 5% were within this age group. Similarly, 73% of heroin users were found to be less than 30 years of age in the 1993 exercise, whereas in this study the equivalent figure is 41%. An age breakdown is displayed in figure IV.

Figure IV. Age distribution of sample (percentage in 5 year groups)



Prison contact

All respondents in the study were asked about their experience of prison. Seven per cent of the treatment recruited sample and 18% of the street sample

reported some prison attendance as a result of a drug-related offence. Overall about a third of respondents (35%) in the treatment and street samples had spent time in prison for a drug related offence. Those in the street sample more commonly reported drug related prison attendance than in the treatment sample (44% as compared to 29%, respectively). This again suggests, as reflected in their treatment history and dependence, that the street addicts were a particularly disadvantaged group.

Prison history

The mean age of 26 for first prison attendance—amongst those who had been to prison—did not vary across the sample groups. For those with a prison history, 45% had only one experience of incarceration. However histories of multiple prison attendance were not uncommon and around 10% of subjects who had prison experience reported five or more incarcerations. Among those in the prison sample just under half (45%) reported they were in prison for an offence related to the possession of drugs and a quarter (26%) reported they were imprisoned because of an offence to do with the selling of drugs. A further 18% reported that they were in custody because of an offence associated with being intoxicated with drugs. Virtually all offences (93%) were reported to be associated with the respondents involvement with the use of heroin.

A similar picture emerges when data on living situation is examined. Perhaps not surprisingly, the street recruited sample is most likely to report having no fixed place of abode and living “on the street” (41%) than the treatment (6%) or the prison groups (13%). This figure was 18% for the entire sample, an increase on the 8% reported in the 1993 research exercise. Clinic and prison attendees are by the same token also more likely to report living with their parents (63% and 54% respectively) than the street recruited sample (28%). Overall, for the sample as a whole, half of all respondents report living with their parents. A minority of respondents (16%), were also living with their wife and this percentage did not vary greatly across the individual samples, although once again street addicts reported this less often than members of treatment or the prison samples (12% for street addicts, compared to 16% and

19% respectively for treatment and prison addicts). Street addicts were far more likely to report living alone (22%) than those in treatment (3%) or prison (9%).

Demographics—education and employment

On average, respondents reported having six years of education. However, this varied by sample group with the treatment attendees reporting considerably more time on average in education (7.7 years) as compared to the street group (4.8 years) and the prison sample (4.5 years). This finding is reflected in an analysis of those respondents that report no formal education, which represents only 14% of the treatment sample, but 28% of the street sample and 40% of the prison sample; the figure for no formal education in the sample as a whole is 26%. Overall, the treatment sample appears considerably better educated than the other two groups, with nearly half (46%) reporting 10 years in education compared with similar status reported by 17% of street addicts and 21% of the prison sample. The prison sample appears the least well educated but contains a significant minority, about a quarter of respondents, with a high educational level (in terms of years). The street sample, although closer to the prison sample in terms of overall exposure to education, is less polarized.

In table 13 data on “usual type” of employment are presented. The treatment group appears overall more affluent than the other two samples and is

more likely to report involvement in “business” and less likely to report “no usual employment” or “unskilled labouring”. When asked about actual employment over the preceding year (or, where relevant, the year before entering treatment or prison), nearly half the respondents (43%) reported they had been unemployed in this period. Street addicts were more likely to report this than members of the treatment or prison samples (56%, compared to 39% and 36% for treatment and prison samples respectively). Of the whole sample, 26% reported full time employment in this period. Treatment attendees reported this most often at 38%, compared with 27% of prison attendees and 11% of the street sample.

In the three months before interview (or, where relevant, entering treatment or prison), 66% of all respondents had been unemployed for some part of this period. Of these who were unemployed at some point in the three months, the majority (70%) had been unemployed for the whole period. Again the street sample most commonly reported unemployment in this period (83%) compared to 55% of treatment attendees and 66% of the prison sample.

Treatment contact

As an important part of this study was to look at the overlap between the different populations of drug users studied, all respondents were asked about their experience of treatment (and prison) attendance. Previous contact with drug treatment facilities was relatively high among the prison and street

Table 13. Usual type of employment (percentage by sample groups)

Category	Treatment	Street	Prison	All
Professional	11	10	1	8
Clerical	6	2	2	4
Business	25	9	12	16
Agriculture	9	3	3	5
Skilled labourer	24	29	34	28
Unskilled labourer	8	23	32	19
Student	2	1	2	3
None	8	18	7	11
Other	7	5	7	6

Table 14. Means of financial support in the 12 weeks before interview (percentage)

Category	Treatment	Street	Prison	All
Wages/salary	16	7	11	12
Casual work	14	27	27	22
Family	11	23	23	18
Begging	5	36	11	16
Selling drugs	6	14	20	13
Self employment	21	5	9	12
Pick pocketing/theft	7	10	16	11
Other	10	8	5	8

Note: Multi-response question—reflects period before entering treatment or prison for these groups.

samples with around 18% of both reporting contact in the 12 month prior to interview (or prior to entering prison in the case of the prison sample). It should be noted that the cities for this study where the interviewing took place have disproportionately more treatment facilities than other areas of Pakistan. As such, treatment contact figures are likely to be lower elsewhere. Lifetime contact with treatment services (of any sort) was even greater. Forty-four per-cent of respondents interviewed in a prison or street setting reported receiving treatment for a drug problem at some stage in their life, being just over half (52%) of those interviewed on the streets and just over a third (37%) of prison respondents reporting lifetime contact with treatment services.

The fact that many respondents had previously had some contact with treatment facilities does not necessarily imply that they had received intensive or sustained therapy. Contact with treatment facilities was often relatively brief. Respondents were asked about their most recent treatment contact (excluding the interview index treatment for the treatment sample). On average the contact lasted for 28 days, although there is considerable variation in range of the period of contact reported. A few individuals reported extended periods of therapeutic contact (maximum nearly one year), but for nearly half (49%) of the sample, the most recent treatment episode lasted 10 days or less. This finding was broadly consistent with the length of time subjects in the treatment sample had been attending the current treatment episode at the time of interview. The mean length of time subjects had been attending was

21 days (range 1 to 210); but again there was considerable variation, with two-thirds (66%) of subjects at the time of interview reporting having spent 10 days or less in this current episode of treatment.

A supplementary multi-response question asked all respondents for which drug(s) they had ever been treated (for a problem with that drug). Of those who had been treated, the vast majority (96%) reported that they had been treated for a heroin problem, with far lower numbers reporting treatment for the abuse of opium (7%), hashish (5%), synthetic opiates (5%), morphine (3%), cough syrups (3%), and tranquillizers (3%). No subject ever reported having been treated for a problem related to the use of amphetamine or barbiturate problems.

When respondents in the treatment sample were asked for which drug they were currently receiving treatment, again the data are consistent with the findings from the sample as a whole. On a multi-response question, 94% of current attendees were receiving help for problems related to their use of heroin, 6% for synthetic opiates, 4% hashish, 4% opium and 1% for morphine, tranquillizers and alcohol. In the treatment sample, 20% of subjects had injected a drug in the month before entering treatment.

First treatment

The data are remarkably constant across the sample in respect of the mean age of first treatment attendance, which is 26 years of age for both the

Table 15. Sample demographics and first treatment contact

	<i>Treatment</i>	<i>Street</i>	<i>Prison</i>	<i>All</i>
Mean age	33	33	31	32
Treatment contact				
Percentage last year	—	18	19	19
Percentage ever	—	52	37	44
Mean age first treatment	26	25	26	26
First treatment				
Percentage under 20 years old	18	21	15	18
Percentage 20-29 years old	56	55	55	55
Percentage 30-39 years old	21	20	23	21
Percentage 40 years old and above	6	4	7	6

treatment and prison sample and 25 years of age for the street sample. Summary data on sample demographics and age of first treatment episode can be found in table 15.

The mean age from first use of heroin to first treatment admission was calculated at 4.6 years. This is typical of many studies of heroin users conducted internationally, that generally find a lag of between three and six years after initiation of use before seeking assistance. However, there is considerable individual variation on this measure with some individuals rapidly developing problems that had led them to seek help and support. Others wait for considerable periods of time before they decide, or are able, to seek help.

Need for treatment

Respondents were asked whether it was difficult to get into treatment in their area. Most (64%) replied that this was the case, with 53% of treatment attendees, 62% of the street sample, and 80% of the prison sample reporting it was difficult for drug abusers to enter treatment in their area.

All respondents were asked whether they had ever wanted help for a drug problem but that they had been unable to receive it. Overall, 66% of those interviewed reported that this had been the case. Perhaps not surprisingly, those currently in treatment were significantly less likely to report a previous failure to access help than those in the street or prison

samples. In the treatment group, 48% of respondents reported an experience of not being able to access treatment as compared to 85% and 73%, respectively, in the street and prison groups. The reasons for failing to access treatment were explored in a follow-up question. The overwhelming majority response (80% of all respondents, 70% of treatment group, 84% of the street sample and 85% of the prison sample) was that they could not afford the financial cost of entering treatment. Other reasons reported were a lack of available places (23%), a lack of inpatient facilities in government hospitals, a dislike of the treatment regime on offer (7%), a dislike of the treatment agency (7%), and a dislike of treatment staff (5%).

Street and prison recruited respondents were also asked to rate their own current need for treatment. Eighty-one per cent of those interviewed on the streets and 72% of those interviewed in prison reported that they currently needed treatment for their drug problem. The finding that drug abusers who are not current in contact with treatment services recognize their need for them is not a universal one. Studies that interview drug users in community settings often find that there is a reluctance among drug using respondents to recognize themselves that they have a need for treatment, even where considerable evidence exists to suggest that this is the case. Considerable efforts have been invested in many countries in attracting drug abusers and particularly heroin abusers into services. It is therefore encouraging that in this study most subjects recognized that they had a need for help.

This suggests that whilst considerable difficulties may exist in respect to the provision of care for this group, should appropriate services be available many would seek to access them.

Drug abuse history

All respondents were asked about their history of using different types of illicit drugs and alcohol. These data can be found in table 16. Again the differences observed between the three samples were not great and drug consumption repertoires appeared remarkably constant across the three groups.

In terms of lifetime prevalence, heroin was the drug most commonly used by respondents, followed by hashish/charas, alcohol, opium, tranquillizers and synthetic opiates. The use of cough syrups (for the purposes of intoxication) inhalants, and morphine, was relatively low (9%, 5% and 3% respectively) and no significant use of barbiturate or amphetamine use was detected.

Current drug use

When recent drug use was considered the consumption patterns closely reflected patterns of lifetime use. The reader should note that this information applies to the month before entering prison or treatment for the samples contacted in those

settings. Again heroin was most commonly used, with virtually all respondents reporting using the drug in the last 30 days (96%). This was followed by hashish/charas and then alcohol. Other significant current drug use included opium and tranquillizers, which were currently being used by a quarter of all respondents.

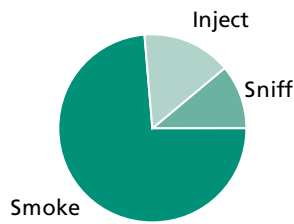
The data on use of drugs reveal a picture, which is fairly commonly found internationally, of multiple drug consumption amongst hard-core drug abusers. Whilst the main focus of this study was on the use of heroin, and this was the principal sample inclusion criterion, it can be observed that many heroin abusers are also regularly consuming a range of other psychoactive substances. This fact can complicate the development of effective interventions from both the supply and demand reduction perspective.

Although many respondents were consuming multiple drugs, the patterns of frequency of consumption varied for specific substances. A simple measure of specific drug consumption among individuals who had used the drug in the last month is the mean number of days on which they were consuming in the 30 days prior to interview (note: the terms “last month/30 days” refer to the month before entering prison or treatment for the sample groups contacted in those settings). Dependent drug use is typically characterized by daily or near daily consumption patterns.

Table 16. History of drug use (all respondents)

<i>Drug</i>	<i>Ever used (percentage)</i>	<i>Age first used</i>	<i>Used in past 12 months (percentage)</i>	<i>Mean number of days used in last 30 days</i>
Hashish/charas	86	18	77	19
Heroin	97	22	96	27
Opium	38	23	25	18
Synthetic opiates	14	27	11	20
Morphine	3	26	2	23
Cough syrups	9	22	3	14
Barbiturates	1	26	1	11
Tranquillizers	30	24	25	15
Amphetamines	1	24	>1	17
Alcohol	52	19	32	8.5
Inhalants	5	23	3	20

Figure V. Usual route of heroin administration



The mean number of days on which heroin was consumed (27) indicates that heroin use was being more intensively used by respondents than the other psychoactive substances listed. Most (77%) of those who were using heroin reported using the drug on a daily basis in the month prior to interview. This figure was highest for the street users where 86% reported daily use as compared to 75% of treatment attendees and 69% of the prison sample. Just over 6% of subjects were using heroin on a once per week basis or less. Overall these data suggest that a highly dependent, chronic heroin abusing population has been accessed by this study.

Far fewer individuals were using synthetic opiates but of these just over half (57%) were doing so on an intensive basis (four times a week or more). Intensive users of synthetic opiates were more common amongst the sample of street addicts. Although morphine was only consumed by a very small number of subjects, two-thirds of these were using the

drug on a daily basis. It appears that overall the users of these drugs are comprised of both a group of intensive users and a significant, but slightly smaller proportion, of occasional users.

Daily use of hashish was also common with 41% of those using this drug reporting daily use in the month prior to interview, a further 34% were using more occasionally and reported 10 days of use or less in this period. Of those consuming opium most (32%) were using the drug regularly on five days a week or more. The consumption of alcohol was more varied but nearly all respondents (76%) who drank were drinking on two or three days a week or less with only 10% five or more days a week.

In addition to intensity of use, the route of administration (the way the drug is taken by the consumer) can be an important factor in influencing the amount of morbidity and mortality that results from a given level of prevalence. Data on the usual route of administration for drugs data is presented in table 17. It should be noted that these data reflect the most common rather than an exclusive practice. For many drug types, including heroin, drug injection is the route of administration typically thought of as resulting in the greatest levels of morbidity and mortality. In particular, this method of use is associated with the transition of HIV and other blood borne diseases and has also been associated with the elevated risk of opioid overdose. The injection of drugs is therefore considered again in detail later in this section.

Table 17. Route of administration (selected drugs only—percentage of whole sample)

<i>Drug</i>	<i>Swallow</i>	<i>Snort/sniff</i>	<i>Smoke</i>	<i>Inject</i>
Hashish/charas	4		96	
Heroin	<1	11	73	15
Opium	98	<1	1	
Synthetic opiates	20			80
Morphine	12			88
Cough syrups	100			
Barbiturates	100			
Tranquillizers	92			8
Amphetamines	92			8
Alcohol	100			
Inhalants		100		

Respondents most commonly smoked heroin, with 73% reporting that this was their usual mode of administration. Eleven per cent usually sniffed the drug and 15% injected it. Patterns of heroin administration can change dramatically over relatively short periods of time. One of a number of important factors here is the nature of the available illicit heroin, both in terms of composition and purity. It would therefore appear important that any ongoing information system include monitoring of the usual route of administration of heroin abusers and heroin preparations available in the illicit marketplace. Some drugs are typically used in one particular fashion, so it not surprising that hashish and charas are largely smoked, inhalants sniffed and that cough syrup and alcohol are exclusively drunk by respondents. More worrying is the high level of injection for those using synthetic opiate and morphine. Whilst the use of synthetic opiate remains low at present, a concern exists that any increased use of this drug group is likely to be accompanied by an increase in injecting prevalence rates.

Dependence and problems

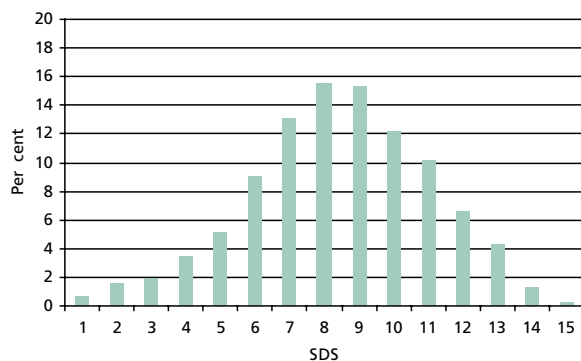
Respondents were asked to identify the drug that had caused them the most problems in the year prior to interview (or, when relevant, in the 12 months before entering prison or treatment). No differences were observable between the groups on this question. Overwhelmingly (94%), respondents reported that heroin was the drug that had caused them the most problems. Other drugs, such as; hashish, opium, morphine, cough syrup and tranquillizers were mentioned by 1% or less, of respondents as their major problem drug, and slightly more (3%) cited synthetic opiates. Again, whilst the numbers of individuals in this study using this type of drug was small, the potential for synthetic opiates to cause problems of a comparable nature to heroin, among those who abuse them, is worthy of note.

A standardized measure of self-reported drug dependence, the Severity of Dependence Scale (SDS), was administered to all respondents. This measure has been widely used with heroin and other drug abusers elsewhere, and is considered to have

adequate psychometric properties. The scale consists of 5 questions each scored on a continuum of 0-3 with a maximum score of 15. Higher, positive scores are associated with higher levels of dependence. Other research studies suggest that scores at around the 5 or 6 mark would be comparable with a population requiring drug treatment. The mean score on this measure in this present study is 8.4 across all subjects. This figure varies by sample group, with scores of 8.1 for treatment attendees, 7.9 for the prison group and a significantly higher figure of 9.4 for the street sample. Full data for each of the sample groups can be found in figure A.II.1 in annex II to this report and is presented for all subjects in figure VI. If a cut off point of 5.0 is taken as a simple indication of dependence, this measure would suggest that 87% of all respondents had levels of drug dependence that made them suitable for inclusion in a drug treatment programme. If a cut off point of 6.0 is taken then this figure falls to 78%. In either case this can be regarded as a high percentage requiring treatment. Whilst this can be expected for the treatment group, who almost by definition are likely to be dependent users, the street and prison recruited samples of drug abusers exhibited a broader continuum of dependence scores. In this study street users scored statistically significantly higher on this measure and the prison sample was statistically equivalent ($F = 31.27$ (df2,1032), $p < 0.001$).

These data support the results presented earlier that suggest that drug taking repertoires of the heroin

Figure VI. Severity of dependence (all respondents—per cent and SDS score)



abusing population are actually rather narrow. The group is characterized by individuals in their late 20's and early 30's with chronic and dependent drug habits, and of whom nearly all are appropriate for admission to formal drug treatment programmes. Whilst the sampling strategy employed for this study

was designed to access hard-core and regular heroin abusers, the homogeneity of the sample is still surprising. The street recruited sample, where arguably a wider range of behaviours could have been expected, is marginally more chronic and needy even than those currently in treatment.

Drug injecting

Drug injection among the sample

Traditionally drug-injection has not been a common route of administration for Pakistani heroin abusers. In the 1993 exercise, 92.5% of heroin users were smoking the drug, usually by “chasing the dragon”—where heroin is heated on aluminum foil and the fumes inhaled. It was noted with concern at this time that a small number (1.8%) of heroin users reported injecting, as were a small number of the users of synthetic opiates.

By comparison, in the present 2000 study, 15% of heroin users reported that injecting was their usual mode of heroin administration. Moreover, when asked if they had ever injected, a surprisingly high 31% of the total sample reported they had. Of those subjects who had ever injected a drug, 88% (27% of the entire sample) had done so in the year prior to interview (or, where relevant, in the year prior to entering treatment or prison). This mode of administration is associated with particularly deleterious consequences for the individual. It is therefore one of the most worrying findings of this study that injecting drug use is now a common practice among Pakistani heroin abusers. Data on injecting rates are summarized in table 18.

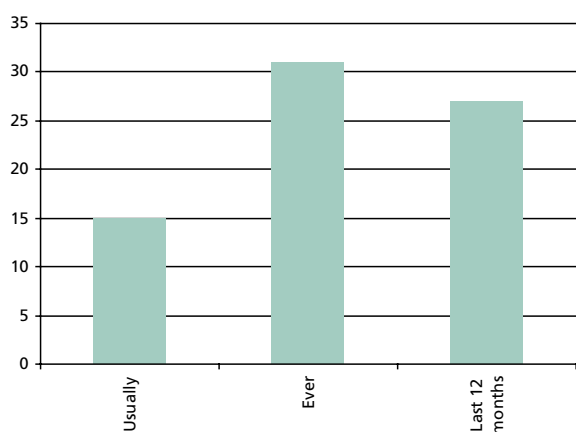
Table 18. Summary of injecting practices

	<i>Percentage</i>
Heroin users who usually injected as main route of administration	15
Whole sample who had ever injected	31
Treatment sample who had ever injected	30
Street sample who had ever injected	30
Prison sample who had ever injected	33
Karachi respondents who have ever injected	55
Lahore respondents who have ever injected	30
Quetta respondents who have ever injected	14
Peshawar respondents who have ever injected	12
Whole sample who had injected in the last year	27

Injecting use varied between the cities studied. The majority (65%) of those who had ever injected a drug were in Karachi, where they comprised more than half (55%) of all drug addicts interviewed in the city. In Lahore, 30% of all drug users interviewed had injected (24% of all injectors). This figure fell to 14% in Quetta (12% of the total injectors), and 12% in Peshawar (9% of all injectors). Previous recent research reports had identified drug injection in some areas of Pakistan, notably Karachi, but data from this study suggest that this behaviour is now widespread, be it at varying rates of prevalence. Injecting drug use is a behaviour that is known to diffuse quickly under certain conditions.

It is therefore desirable both to explore those factors that are associated with initiation into injecting drug use in Pakistan and to monitor the level of injecting among the heroin using population as a whole.

Figure VII. Percentage of sample who inject (lifetime, last 12 months, and usual route of administration)



Drug injecting amongst women

As noted earlier a very small number of women were interviewed for this study. For clarity of interpretation these interviews were excluded from the analysis presented earlier in this section. Of the total of 316 injectors interviewed two were female—these individuals were interviewed in Lahore. For the reasons discussed earlier this data tells us little about injecting practice among women in Pakistan. A preliminary conclusion may be that drug injection among women may not be common but does exist. However, comments made here on this topic are largely speculative as little hard data exist to inform the debate. The best conclusion that can be drawn from this study is that this remains an important topic for further investigation. However, women's drug use is likely to be a particularly hidden behaviour in Pakistan, and any future studies will have to be sensitive to the cultural factors that make discussing this topic with female respondents particularly challenging. Nonetheless this remains an important subject for future investigation.

Age, education and employment

The mean age of injectors in the sample was 32 years, with a minimum of 14 and maximum age of 74 years. There were no significant differences between the ages of those respondents who had injected a drug and non-injectors, nor between the average ages of the injectors in the four cities. Injectors had initiated heroin use at the same age as non-injectors.

In terms of education, the injectors reported more years of education than non-injectors. The mean years of education for injectors within the sample were 6.5, as compared to 5.6 years for non-injectors. Within the cities, the injectors in Lahore (7.42) and Quetta (7.39) had higher mean years of education than those in Peshawar (6.6) and Karachi (5.9).

With regard to usual type of employment, one observes major differences among employment categories of injectors within the cities. The percentage of injectors within each employment category however differs slightly from categories of non-injectors in all the cities. In Karachi the large majority of injectors consisted of skilled (36%) and unskilled (29%) workers. The other employment categories reported were business (10%), professionals and students (4% each). In Lahore the major categories for usual type of employment among injectors were skilled workers (24%) and those affiliated with business (22%). The other important employment categories in Lahore were unskilled workers (15%), and professionals (9%). The major employment categories for injectors in Quetta were professionals and business (15% each), skilled (12%) and unskilled workers (9%). The injectors in Peshawar matched more closely the injectors in Lahore with regard to their employment categories, but differed significantly from the categories of non-injectors in the city. The employment categories of injectors in Peshawar were skilled workers (24%), business (21%), professionals (10%) and unskilled workers (7%).

With regard to employment status in the preceding 12 months there was a similar pattern of employment observed among injecting drug users in Karachi and Peshawar and among injectors in Lahore and Quetta. More than half of drug injectors

in Karachi had been unemployed and another quarter doing part time work, while in Peshawar the majority (60%) of injectors were unemployed, 27% doing part time and 12% full time work. In Lahore the picture was slightly different, around 39% of injecting drug users were unemployed, whereas 32% were employed full time and 29% doing part time work. In Quetta around 36% of injectors were unemployed, while similar proportions of injectors were engaged in part time and 28% were working full time.

Patterns of use

Overall 88% of injectors had injected a drug in the 12 months prior to interview. This figure varied across the four cities. In Quetta all those who had ever injected had also injected in the last 12 months, this applied to 90% of injectors in Karachi, 87% in Lahore and over just over half (52%) of the injectors in Peshawar.

Of those who had injected in the last 12 months prior to interview, many had done so on multiple occasions. A four point scale was used on this measure which categorized injecting once or twice, injecting 10 times or fewer, injecting 11 to 24 times, and injecting 25 times or more. This variable was intended to distinguish experimental injectors from those for whom it was a regular occurrence. Over 85% of injectors reported injecting 25 times or more in the month prior to interview. However, on a city level major variations in this pattern were observable. An overwhelming majority (93%) of the injectors in Karachi had injected at least 25 times in this period, compared to 87% in Lahore, 60% in Quetta and just over half (54%) of injectors in Peshawar. A pattern is therefore discernable in which injecting is less common in some cities, both in terms of the number of heroin users who have engaged in the behaviour and also in terms of the intensity in which they engage in the behaviour.

With regard to the kind of drugs injected in the past twelve months, again different patterns of use are observable between the cities. Respondents were asked on a multi-response question to list all drugs they had injected in the 12 months before interview

or before entering treatment or prison. In Karachi heroin was the reported to be most commonly injected (87%), followed by synthetic opiates (23%), other drugs (14%) and tranquilizers (11%). Only one respondent in Karachi had injected barbiturates.

In contrast to other cities synthetic opiates were the most commonly reported injected drug (65%) in Lahore, followed by heroin (28%), morphine (22%), tranquilizers (17%), and other drugs (9%). The injecting drug use pattern in Quetta seems similar to Karachi, as heroin was the most commonly cited drug (89%) followed by synthetic opiates (14%) and tranquilizers being injected by just one respondent. In Peshawar heroin and synthetic opiates were reported equally as the most commonly injected drugs (40% each), followed by tranquilizers (27%), and other drugs (20%).

Injection risk behaviour

One of the major concerns about drug injecting is the risk of the transmission of HIV and other viral infections through the sharing of contaminated equipment. In many parts of the world injecting drug use is a major cause of new HIV infections. Among populations of injecting drug users where the sharing of equipment is commonplace, HIV infection rates can rise to epidemic levels in relatively short time periods. Understanding the risk behaviour associated with drug injecting, in combination with an assessment of the prevalence of this behaviour, is therefore a critical aspect of assessing the potential for increased HIV infections within a country. In this study the results are worrying, since considerable high risk behaviour was detected and the risk of widespread infection among drug injectors must now be considered a major public health issue for Pakistan.

On a typical injecting day an individual was injecting four times. A wide variation in the number of times injecting equipment was used before being replacing was reported. Only 31% of respondents reported that they used a clean needle/syringe on each occasion; 28% of injectors reported never or rarely cleaning a syringe before use; a further 22%

reported occasional cleaning and nearly half regularly cleaning their injecting equipment before use. Methods used for cleaning included the use of spirit (25%), bleach (3%), boiling water (22%), and cold water (49%). The actual efficacy of the procedures used is not known and is very probably questionable. The use of cold water in particular is not likely to be effective.

Most injectors (68%) reported that they usually used drugs with other injectors. In the 12 months prior to interview (or, where appropriate, entering prison or treatment) over half (53%) of injectors reported sharing a needle/syringe after someone else had used it. This figure rose to 69% for those in the street sample. For many, using others' equipment was not an isolated incident. Nearly a quarter reported (23%) that they had done so 20 times or more, and this figure was again higher (40%) for injectors in the street sample. Admitting sharing equipment after somebody else has used it is often difficult for drug injectors. A subsequent question therefore asked about the risk behaviour of other injectors by asking how often they had passed on a needle or syringe they had used to another injector. Worryingly, on this question sharing rates were higher yet. Under a third of the sample reported

never passing on a needle or syringe (28%), and slightly under half (42%) reporting doing so 20 times or more (the highest category on the scale used). These data can be found in table 19.

Karachi profile

Patterns of injection risk behaviour differed between the cities studied. In Karachi almost two thirds of injectors injected drugs in the company of others, and 80% did not use new needles every time they injected. Although 60% said they "very often" cleaned their needles before use, a significant minority of injectors (22%) had never cleaned equipment and 17% had only occasionally cleaned their needles before injecting. More than half (58%) of the injectors in Karachi cleaned their needles with cold or warm water whereas 26% cleaned them by boiling. With regard to needle and syringe sharing it is interesting to note that 45% said they never used others' needles while almost 31% said they had used needles used by others for more than 20 times in the past 12 months. On the other hand, more than half (57%) said that others had used their needles or syringes more than 20 times and only 22% said that other injectors had never used their needles.

Table 19. Sharing of needles and syringes in the last year (percentage)

<i>Using equipment after another injector</i>	<i>Treatment sample</i>	<i>Street sample</i>	<i>Prison sample</i>	<i>All injectors</i>
Never	54	31	53	47
Once or twice	20	9	4	11
3-5 times	3	7	10	7
6-10 times	2	7	15	8
11-20 times	3	6	4	4
20 times +	18	40	14	23
<i>Passing on equipment to another injector</i>				
Never	41	27	17	28
Once or twice	22	7	4	11
3-5 times	2	6	12	7
6-10 times	7	2	15	8
11-20 times	2	5	5	4
20 times +	26	53	47	42

Note: Percentages based on those reporting "ever injecting"—lifetime prevalence measure.

Lahore profile

In Lahore a little more than half (52%) of the injectors said they injected in groups, the remaining 48% said they injected alone. Sixty-three per cent did not use a new needle or syringe every time they injected. With regard to cleaning their syringes 35% said they had never cleaned them, 60% reportedly cleaned them very often and/or occasionally. In contrast with the other cities, the injectors in Lahore seem to use a wide range of methods for cleaning their needles and syringes from cold and warm water (32%), to boiling (23%), bleach (29%) and spirit (18%). It is worth noting that the injecting drug users in Lahore are the only group who reportedly were using bleach to clean their equipment. In respect to the sharing of needles and syringes more than half of the injectors said they had never used syringes used by others. Thirteen per cent reported using three to five times after others, and 15% had used more than 20 times after others. Similarly, 45% said others had never used their syringes, while 22% said others had used their syringes more than 20 times.

Quetta profile

In Quetta the highest percentage (84%) of all injectors used in groups of other users. However, 47% had never used others' syringes, while 25% said they had used once or twice and 14% had used more than 20 times syringes used by others. On the other hand 38% of injectors said others had used their syringes once or twice, 27% said more than 20 times and about 24% said other injectors had never used their syringes. Thirty-eight per cent of injectors in Quetta cleaned their syringes very often, while 34% of injectors cleaned them occasionally. About 29% of the injectors had either never or almost never cleaned their syringes. With regard to cleaning, 96% cleaned their syringes with cold or warm water and a mere 4% cleaned them by boiling.

Peshawar profile

The injectors in Peshawar seem to prefer injecting alone as indicated by 67% of the respondents. Similar percentage of injectors indicated that they used a new needle every time they injected.

Correspondingly, almost half of the injectors said they never cleaned their needles, while the other half either cleaned them very often or occasionally. More than half boiled their syringes to clean them, whereas one third cleaned them with cold or warm water. Some 17% cleaned their needles and syringes with spirit. Apparently the majority (64%) had never used others' needles and syringes, while 21% had used others' needles just once or twice. Similarly, 43% of the injectors said others had never used their needles and syringes while some 29% said this might have happened three to five times in the past 12 months.

Drug treatment history

The majority of injectors (63%) had undergone treatment for drug problems. The mean number of episodes of treatment for drug problems, excluding cannabis and alcohol, was 5.6 for the injectors, which is significantly higher than the mean times of 3.6 for non injectors. Within cities, the injecting drug users in Peshawar and Lahore had been treated more times (mean 7.89 and 7.71 respectively) than in Karachi (mean 4.96) and Quetta (mean 1.9).

The mean age for first treatment for drugs other than alcohol and cannabis for injecting drug users is 25 years, whereas the minimum age was 11 and maximum 48 years. The injectors' mean age for first treatment is lower than that of non-injectors, for whom the reported mean age is 26 years. Within cities the mean age for first treatment of any drug for injectors in Karachi and Lahore was reported around 25 years, whereas it was around 24 for Quetta and 23 years for injectors in Peshawar. The mean duration time of their last treatment was reported as 30 days ago for injectors—around 28 days in Karachi, 34 and 33 days in Lahore and Quetta respectively and around 20 days in Peshawar.

Arrest and imprisonment history

More than half of the injecting drug users interviewed had been imprisoned. The mean age for first imprisonment was 27 years whereas the mean time period between starting injecting drug use and first imprisonment was over 3 years, with over 2 times as

the mean number of times of imprisonment—these do not differ significantly from other drug users nor across cities, except for Peshawar where the mean number of times of imprisonment is around 5 for injectors. Similarly, the mean overall time served in jail does not differ significantly between injectors and other drug users, which is around 2 years.

The drug related offences for which injecting drug users were imprisoned vary by offences among the four cities. Except for Karachi, where only 22% of the injectors had been imprisoned for possession, the majority of injectors in the other three cities (Lahore 85%, Quetta 78%, and Peshawar 74%) had been imprisoned for possession of drugs along with other offences. There are no significant differences in proportion of injectors and other drug users imprisoned for possession of drugs in all the cities.

In Karachi, Lahore and Peshawar around 60% or more of the injectors had been imprisoned for selling drugs. The percentage of injecting drug users imprisoned for selling drugs in Quetta is 21% only. The proportion of injectors (61%) imprisoned for selling drugs in Peshawar is significantly higher from other drug users (24%) imprisoned for the same offence in the city.

A significantly higher proportion of injectors in Lahore (15% injectors vs. 5% other drug user) and in Peshawar (30% injectors vs. 6% other drug users) had been imprisoned for trafficking of drugs. In Karachi and Quetta this proportion was negligible. Except for Karachi where only a quarter of injectors had ever been imprisoned for intoxication, in the other cities nearly half of the injectors had been imprisoned for these offences as well. Over half of the injectors in Karachi had been imprisoned for other drug related offences whereas this proportion was 12% in Lahore, and 9% in Peshawar.

In the preceding 12 months, one third of the injectors in Lahore had been arrested for drug related offences, while in Karachi a significantly higher proportion (45%) of injectors as opposed to other drug users (26%) had been arrested for drug related offences. The same is true for Quetta where more than 60% of injectors as opposed to 30% of other drug users had been arrested. More than half of

injectors in Peshawar had been arrested in the preceding 12 months.

Whereas the mean number of times, injecting and other drug users had been arrested for drug related offences in the preceding 12 months does not differ in other cities, the injectors in Peshawar have been arrested significantly more times in the past twelve months than other drug users in the city (over four times versus around two times).

Living and support status

In Karachi, around one third of injecting drug users lived mostly on the street, whereas for Lahore and Peshawar this proportion was around a quarter of injectors. This proportion does not differ significantly among other drug users in these cities. However, in Quetta whereas the percentage of injecting drug users who lived on the street is lower than in the other cities, it was significantly higher than for non-injectors in the city—16% for injectors versus 5%.

Around 40% of injectors in Lahore lived mostly with their parents, 26% with friends, 13% with children and spouse and 10% alone. In Quetta, more than half (57%) of injectors lived mostly with their parents, 17% with children and spouse, 14% with other family members and around 5% lived alone and 4% with friends. A similar living pattern is observed among non-injectors in these cities.

In Karachi and Peshawar, there are significant differences in respect to the living status of drug injectors compared to non-injectors. While 42% of the injectors in Karachi lived with their parents, a lower percentage (9%) than non-injectors (22%) lived with their children and spouse. Similarly, while a quarter of injectors lived mostly with their friends, only 14% of non-injectors reported living with their friends in Karachi. Less than half (48%) of injectors in Peshawar lived with their parents compared to 60% of other drug users. Similar proportion of injectors (21%) and other drug users (16%) lived with their children and spouse in Peshawar.

In the preceding three months, more than 80% of injectors in Karachi and Peshawar had been

unemployed, compared to 62% in Lahore and 58% in Quetta. Around 11 weeks was the mean period that both injecting and non-injecting drug users remained unemployed.

During this period around one third of injectors in Karachi were supported by family and/or a partner, 24% supported themselves by begging, 18% by casual work, 10% by wages or salary, 6% by self employment, and 14% by other means. These percentages do not differ significantly among injectors and other drug users in Karachi. However, significantly higher proportions of injectors in Karachi supported themselves by selling drugs (27% of injectors vs. 9% of other drug users), were supported by their friends (24% of injectors vs. 10% of other drug users) and/or supported themselves by theft or pick pocketing (23% of injectors vs. 7% of other drug users).

In Lahore, more than a third of injectors were supported either by their families or partners. The other means by which the injectors supported themselves during this period of unemployment were by casual work (27%), friends (25%), self-employment

(22%), by begging (18%), wages and salary (13%), by selling drugs (12%), and by theft and pick pocketing (8%).

The main source of support for the majority (40%) of unemployed injectors in Quetta, as in other cities was either family or partner. The other means by which the injecting drug users supported themselves were casual work (24%), wages and salary (21%), by friends (18%), self-employment (12%), and selling drugs (9%). A similar proportion of non-injectors in Quetta supported themselves by these means. However significantly higher proportion (15%) of injectors supported themselves by theft and pick pocketing than other non-injectors (6%) in Quetta.

Family or partner supported almost half of the injecting drug users in Peshawar. The other means of support were by theft and pick pocketing (21%), friends (18%), begging (14%), casual work (14%), and self-employment (7%). Significantly higher proportion of injectors (21% injectors vs. 8% of other drug users) in Peshawar supported themselves by selling drugs.

Data on prisons activity in the four cities

Prison data collection

An audit of local prison and treatment activity data was conducted in the four selected cities. This information was needed to inform the prevalence estimation exercise and was also useful for exploring the impact that heroin abuse was having on the local prison services. Prison activity data were collected for the main prison dealing with drug offences for each of the four cities. This would audit a high proportion of total cases in each area and give some information on the kinds of offences that drug abusers were incarcerated for. The audit focused on collecting detailed information on prison occupancy by drug addicts and those involved in lower levels of selling drugs, specifically, the number of people sent to prison in the last year for drug use and drug-related offences for each city. This data is summarized in table 20 and 21.

Table 20. Data of four prisons (all inmates)

	<i>Total prison population</i>	<i>Under trial</i>	<i>Convicted</i>	<i>Drug related charges (Both under trial and convicted)</i>
Lahore				2 834
Peshawar	2 782	2 286	496	1 222
Karachi	3 500	Not available	Not available	545
Quetta	840	Not available	Not available	168
Total				4 769

Table 21. Prison data record (inmates who have drug related charges)

	<i>3/4 P.O</i>	<i>6/9 CNSA</i>	<i>Multiple charges</i>	<i>11 P.O</i>	<i>8 P.O</i>	<i>9c</i>	<i>9b</i>	<i>9/15</i>	<i>14/15</i>	<i>Total</i>
Lahore	1 090	589	1 063	32		8	1	51		2 834
Peshawar	912	150	83	68					1	1 222
Karachi	307	238								545
Quetta	22	146								168
Total	2 331	1 123	1 146	100		8	1	51	1	4 769

Notes: P.O = Haddod Ordinance (Islamic Injunctions), CNSA = Control of Narcotics Substance Ordinance. Multiple charges = drug charges + other charges, 9c, 9c,9/15, 14/15 are all Control of Narcotics Substance Ordinance.

In Pakistani prisons large numbers of drug addicts can be found and at any given time, the prison population of drug abusers represents the largest number of individuals to be found in any institution in the country. Many addicts spend prolonged periods in custody and drug rehabilitation and treatment facilities are extremely limited within the prison sector. Most of the drug addicts are incarcerated for charges of drug use, and/or the possession of small quantities of drugs. Interestingly, it appeared that many addicts were in prison through the involvement of their families, who having been frustrated by their behaviour and their addiction, had arranged for them to be incarcerated. Drug addicts are usually placed in a separate barracks and where care is available, usually this consists only of short-term symptomatic treatment for the relief of withdrawal distress. When medication is provided it is on a reduced dosage basis lasting for approximately three to four weeks. Although it was not the subject of this inquiry, it was suggested that, like many other countries, some limited abuse of drugs also occurred within the jail system.

Overview: drug charges in Pakistan

Drug offenders are charged under two main laws in Pakistan. These are: (a) Islamic Law (Haddood Ordinance) and (b) Control of Narcotics Substance Abuse (CNSA) Act of 1997. The most relevant sections of the 1997 legislation is Section 6: Prohibition of possession of narcotics drugs etc: (According to chapter II of the Control of Narcotics Substance Abuse (CNSA) Act of 1997). "No one shall produce, manufacture, extract, possess, offer for sale, sell,

purchase, distribute, deliver on any terms whatsoever, transport, dispatch, any narcotic drug, psychotropic substance or controlled substance, except for medical, scientific or industrial purposes in the manner and subject to such conditions as may be specified by or under this ordinance or any other law for time being in force."

The punishment for contravention of section 6 is: "Whoever contravenes the provision of section 6 shall be punishable with:

"(a) imprisonment which may extend to two years, or fine, or with both, if the quantity of the narcotic drug, psychotropic substance or controlled substance is ten grams or less;

"(b) imprisonment which may extend to seven years but shall be not less than three and shall be liable to fine, if the quantity of the narcotic drug, psychotropic substance or controlled substance exceeds ten grams but does not exceed:

"i) one hundred grams, in the case of heroin, cocaine, opium derivative or coca derivative, with whatever name or composition;

"ii) two hundred grams, in case of opium, coca leaf or psychotropic substance, with whatever name or composition; and

"iii) one kilogram or equivalent, in case of any other narcotic drug or controlled substance not specified in sub-clauses (i) and (ii); and

"(c) death or imprisonment for life, and shall also be liable to fine which shall not be less than one million rupees, if the quantity; of narcotic drug, psychotropic substance or controlled substance exceeds the limit specified in clause b."

Drug treatment in Pakistan: the national treatment register update

Updating the register of drug treatment in Pakistan

The provision of therapeutic interventions for individuals with drug problems is a core component of a comprehensive demand reduction approach and the provision of drug treatment is one of the central issues addressed in the Declaration on the Guiding Principles of Drug Demand Reduction. A number of studies have shown that drug treatment, when delivered appropriately, is a cost-effective component of a drug control strategy. One aspect of the 2000 assessment study was therefore to update an earlier register of agencies offering drug treatment in Pakistan. Such a register is a valuable resource for conducting future training, networking and development activities to improve the quality and delivery of services for those with drug problems in Pakistan. Furthermore, this information is important for considering the coverage and availability of services and also for beginning a debate on their most effective configuration. A wide range of activities and therapeutic regimes can fall under this general heading. The need exists in most countries to ensure that a range of appropriate interventions is available, that they reflect client needs, and that they are evaluated to demonstrate effectiveness. UNDCP is currently working with the Government of Pakistan to help ensure that services meet these objectives.

Data on treatment attendance, usually collected in an anonymous register, is also the central component in many ongoing drug abuse surveillance systems. This source of information can provide a valuable trend indicator. Treatment registers are also low cost, can provide useful information to those delivering services and can also inform government planning.

A special questionnaire was developed for the purpose of updating the earlier treatment agency list. As well as auditing what provisions existed, this form also collected information on current activities, patient mix, average occupancy rates and other services provided. This information is discussed below.

Overview and history of drug treatment in Pakistan

Drug treatment programmes in Pakistan formally began with the proclamation of Hadd (Religious Injunctions) in 1979, which saw scores of opium addicts who could not get their daily dosage of opium from the traditional opium vend system, coming to government hospitals for “help”. Most of the hospitals and the staff available at that time were ill equipped and did not have the necessary training to deal with such cases. Thus the onus of treating those with drug problems fell on the departments of Psychiatry within the Government hospitals. With the emergence of heroin epidemic in the early 1980s, again the demand for treatment services grew. At this time there was an increase in provision, with Government agencies, hospitals, NGOs and private facilities all expanding in size. The focus of much of this activity was detoxification

procedures for drug withdrawal which was viewed as a key first response to the increasing number of heroin addicts seeking help.

With regard to institutional and capacity building for delivery of drug treatment and rehabilitation services, one can see two distinct phases in Pakistan. These were,

- ❑ Setting up of drug treatment facilities at selected locations with the support of UNFDAC (1982-1988)
- ❑ UNDCP funded Integrated Drug Demand Reduction Project (IDDRP) efforts at improving the service delivery of treatment programmes (1991-1996)

UNFDAC funded treatment facilities

The erstwhile UNFDAC provided the first financial and technical support in the 1980s (1982-1988) in setting up 32 model drug treatment centres in the country, most of them situated in government teaching hospitals (departments of psychiatry) and some within NGO run facilities. The financial support provided to these facilities by UNFDAC included provision for part salaries of the staff involved in the treatment, cost of medicines, and other operational costs related to running the treatment centres. The material support included provision of vehicles for bringing in clients for treatment or for their follow up, TLC (Thin Layer Chromatography) equipment for drug testing, beds, etc. Technical support was provided in training medical doctors not only from the supported treatment facilities, but also from other institutions as well as in treatment procedures, primarily symptomatic treatment of withdrawal symptoms.

The Pakistan Narcotics Control Board (PNCB) also published a booklet as a result of technical support in the project titled "Guidelines for Heroin Detoxification in Pakistan". As the name suggests, this publication provided broad guidelines for primary health care physicians for detoxification of people with heroin dependence. The project also introduced a "National Case Monitoring System" which looked at the profile of patients coming in for

treatment at the supported centres. Every month the drug treatment centres being financed in the project sent in forms filled in providing information on the social and demographic profile and drug use history of every patient that came for treatment. These were then compiled, analysed at intervals and finally printed as a PNCB publication with the same title. At the end of the project, the responsibility of running the treatment facilities was handed over to the Provincial Health Departments under whose administrative control fell the government run facilities. Over the years due to financial constraints and other factors, most of the treatment facilities had become dysfunctional and capacity appeared to decline, as did the availability of specialized and trained staff.

Integrated drug demand reduction project

The second distinct phase in improving the service delivery of treatment programmes was of the Integrated Drug Demand Reduction Project (IDDRP) supported by UNDCP. In its over five years of implementation the project developed materials and provided training to service providers with the objective of improving service delivery of treatment programmes beyond the short-term medical interventions. The concepts introduced focused on social rehabilitation and integration of drug dependent persons and included assessment of drug related problems, counselling, relapse prevention, and after-care. In all, through 23 workshops, over 600 health workers, psychologists, social workers, paramedics, and NGO workers were trained in the application of these approaches. The impact of this activity was most apparent in the non-governmental sector where some agencies were motivated and able to develop modern and comprehensive treatment regimes. However, such agencies are by no means common in Pakistan and rely on extremely limited resources. Impact on the Government run treatment sector has largely not been apparent and this sector appears to have declined in importance as a primary provider of care for those with drug problems. Where services exist they are usually limited in approach and it is unclear how successful they are in attracting and retaining patients.

Similarly, in the absence of inpatient rehabilitation, the IDDRP introduced the community based treatment approach through supporting community intervention teams (CIT). Each team consisting of two members and based within an NGO, were established, funded and monitored by the project. The teams were trained in social reintegration, rehabilitation and community development concepts, including concepts of community involvement and linkage of community resources for social reintegration of their clients. Each team worked in a defined geographical area making referrals for treatment, and applying the concepts they were trained in. These teams over the years proved a good model of providing effective community based rehabilitation and social reintegration services to the drug dependent persons. Again, with the termination of the project, most of the NGOs could not sustain the level of activities, the services provided, or the two member team and therefore in most of the places these became dysfunctional.

Around 1995, using the concept of Community Intervention Teams, two pilot projects were also launched to provide drug treatment and rehabilitation services to prison inmates with drug problems in Lahore and Rawalpindi jails. Again, these projects could not be sustained after the end of support from the project, mainly due to lack of interest and ownership by the concerned authorities. Only one programme that was started around 1998 with support from other donors continues to operate in the Peshawar Jail.

As an outcome, these efforts at improving the service delivery of drug treatment programmes in Pakistan produced not so significant results or changes in delivery of services in Pakistan.

Past assessments of drug treatment programmes

In the past two decades, prior to the current assessment, two main efforts were made to assess the quality and type of treatment services offered in Pakistan. The first one titled "Heroin Detoxification in Pakistan" was undertaken by PNCB with UNFDAC's support and compared three treatment

regimes used at the Rawalpindi General Hospital, Rawalpindi, Lady Reading Hospital, Peshawar, and Mayo Hospital, Lahore for their relative effectiveness in relieving withdrawal symptoms. All of three regimes proved more or less equally effective in helping a patient through heroin withdrawal.

National survey of drug treatment and rehabilitation services in Pakistan

This second study commissioned by IDDRP in 1994 looked at the extent and type of services available for drug treatment and rehabilitation all over the country. According to this survey, there were 203 organizations operating with varying capacities providing drug treatment services in some 89 cities and towns across the country. Of these, 47% were private clinics, 42% government hospitals and 11% were facilities run by NGOs. Eighty per cent of the organizations were providing inpatient care while 68% provided outpatient care only or in addition to the inpatient care. Concerning the duration of detoxification and total treatment stay more than 80% of those reporting provided one to two weeks for detoxification, whereas around 60% of facilities reported one to two weeks for total treatment stay. Only fewer than 2% reported a total stay of three to four weeks for their clients. More than 90% used symptomatic treatment of withdrawal symptoms as their preferred method of detoxification of clients. In 61% of the clinics, the head of the facility had no formal training in drug treatment and rehabilitation. The remaining 39% had some formal training. The survey teams had felt that detoxification was the process the respondents were most familiar with. Although the organizations were providing other services as well, some respondents appeared to lack a clear understanding of some of the services asked about in the survey.

This survey was a first ever effort in this area and as a result it was possible to develop a directory of drug treatment services available in Pakistan that could be used by those interested in knowing the location and types of services available in a particular area.

National treatment registry update 2000

As part of the current research exercise, the National Treatment Registry was updated. During this exercise the field workers visited 18 selected major urban centres in the country and identified 73 centres that were providing drug treatment and rehabilitation services on a regular basis. Out of the 73 centres, 38 facilities had been enlisted in the 1994/95 survey of drug treatment services, whereas 35 centres and facilities enlisted in the current exercise are either newly established facilities or that had not been enlisted in the previous exercise. Twenty-eight of these 73 facilities (38%) are government funded and administered hospitals, 25 (34%) are NGO run facilities and 20 (27%) are private (for profit) run drug treatment centres.

Forty-three (59%) of the 70 three facilities provide both in and outpatient services, whereas 27 (37%) provide only inpatient services and three (4%) provide only outpatient services. The mean capacity, i.e., number of clients treated at any given time, for inpatient clients in the centres is around 37 whereas for outpatients it is 59. The range for clients treated as inpatient was 1-1,000 (one facility only) and for outpatient 1-450 (one facility only) clients.

All services reported providing detoxification services. It should be noted that even within this narrow category of response considerable differences may exist in terms of therapeutic practices. Ninety per cent (66) of agencies reported providing counselling, and over half of all agencies (50/68%) also offered religious counselling. Forty-one (56%) reported that they had an outreach service. This kind of provision is regarded as an important component of an overall treatment approach as it can provide a conduit to more formal treatment or deliver services to drug abusers who are unable or unwilling to access other treatment options. Just over half (59 of the 73-80%) included a relapse prevention element in their after care facilities. A range of other treatment options were mentioned by 26 (35%) of facilities.

The mean number of admissions (at each centre) for drug treatment, in the 12 months prior to inter-

view, was 264. This ranged from between 7 and 3,000 clients being admitted during the relevant period and indicates that some services had considerably higher client contacts than others. The total number of admissions in the 73 centres was calculated as 17,425 in the 12 months prior to interview. This can be regarded as a proxy yearly total for client admissions. It should be noted that this figure excludes alcohol users, and includes repeat attendees. It should also be noted that this data does not allow one to comment on the level of double-counting between treatment facilities. If repeat attendees (those with more than one episode of treatment at the agency in the last 12 months) are excluded, the total estimate falls to 11,454 with the mean of 176 different patients per agency admitted in the previous 12 months.

Young people and women were less commonly seen in treatment. Only 30% of clients less were reported as being under 25 years of age and only 3% of clients were women. How far this reflects a disproportionate higher proportion of male drug use and how far it reflects reluctance or difficulties women have in accessing services is unclear. However, the social stigma on drug use among women in Pakistan is considerable. It would therefore appear highly likely that women with drug problems would be reluctant to enter mixed-sex services. Assessing the prevalence and nature of drug problems among women in Pakistan, and developing culturally appropriate treatment responses, remains an important challenge.

As treatment services have ongoing contact with drug abusers, they can be considered a useful source of information on trends over time. Around 40% of treatment centre staff interviewed thought that the proportion of well-off clients coming for treatment has lowered over the last five or six years although 20% considered that this proportion had increased. Some staff (26%) were also of the opinion that "sniffing drugs" (the use of inhalants) had increased especially among adolescents, that the use of other opiates and cough syrups had increased due to a decline in quality of illicit heroin (25% of the respondents) and that injecting drug use was increasing among treatment attendees.

No major changes are evident from earlier studies on the pattern of service provision in respect to Government and non-government facilities. NGO's appeared to be providing the broadest range of care and where Government treatment centres were providing services this tended to be only on a detoxification basis.

Some diversification and improvement is suggested in respect to the range of services offered by some private and NGO managed facilities. They have developed programmes that provide a range of treatment and rehabilitation services, and have made innovations in their interventions to meet the changing requirements of their clients. A few organizations have experimented with concepts of therapeutic communities as well as of community based rehabilitation of clients. This area is not addressed in detail by this current study but the results do suggest the need for a more in-depth assessment of the kinds of treatment provision available for those with drug problems in Pakistan, the development of good

practice standards, and the identification of training and other developmental needs.

All but one of the treatment facilities indicated that they kept records of age, gender, education, occupation, primary drug, injection status, marital status and treatment history of their clients for monitoring purposes. However, most of these records are not summarized in a form that would allow easy analysis and storage facilities often mean that data retrieval would be problematic. Currently some periodic reviews do take place within agencies but periodically, no actual analysis of trends over time is attempted. Nonetheless, the fact that agencies collect this information means that developing a treatment reporting system is a realistic aspiration. As the information currently collected is poorly utilized at present, such a system could supply the treatment services themselves with a useful review of their own clients. This data could also provide a valuable national indicator of patterns and trends in illicit drug abuse in Pakistan.

Table 22. Comparison of drug treatment services available in 1994/1995 and 2000

<i>1994/1995</i>	<i>2000</i>
Total provision identified	Total provision identified
Number of treatment centres identified was 203 in 89 cities and towns	Number of treatment centres identified was 73 from 18 major urban centres of the country. Thirty-eight of these facilities were also listed in the 1994/1995 survey whereas 35 facilities were newly established or not identified in the previous exercise.
Centres providing:	Centres providing:
Outpatient services only = 35 (17%)	Outpatient services only = 3 (4%)
Inpatient services only = 61 (30%)	Inpatient services only = 43 (59%)
Inpatient and outpatient services = 97 (48%)	Inpatient and outpatient services = 27 (37%)
Organization:	Organization:
Government hospitals = 67 (33%)*	Government hospitals = 28 (38%),
Private (for profit), = 93 (46%)	Private (for profit), = 20 (27%)
NGO = 43 (21%)	NGO = 25 (34%)
Almost all provide detoxification services, nearly all claimed to be providing counselling	All provide detoxification and over 90% counselling services
Over 66% reported to be providing relapse prevention therapy services	Relapse prevention and aftercare services provided by over 80% of services

*Government hospitals including teaching hospital, district headquarter hospitals or Tehsil headquarter hospitals.

National drug contour mapping: estimating the prevalence of hard-core heroin use in Pakistan

Data structures of the contour mapping exercise

The Pakistan National Survey consists of three component data collection studies, each of which is designed to stand alone as a separate research study. These component studies have been designed in a consistent way and carefully structured to allow a mapping of drug use patterns across the whole country, extrapolating from the actual geographical locales that have been studied in detail. This fourth exercise—the National Drug Contour Mapping—uses key data from the other three components to produce national prevalence estimates of drug abuse.

The component studies have been constructed to collect information in hierarchically increasing detail, but with increasingly restricted geographical coverage. The studies are:

- Key informant study component;
- Treatment register update component;
- Four cities study component.

The structure of the overall National Survey is shown below in table 23 and table 24. Table 23 gives the geographical locales selected, indicating the principal urban locale and the rural locale selected to pair it. This structure is intended to give adequate national coverage, balancing rural and urban populations.

Method of estimation: treatment multiplier method

The construction of overall prevalence rates for the country as a whole of hard drug addicts (heroin users and injectors) has never been an easy matter, as previous surveys attest. In this, Pakistan reflects the difficulties found in other countries, where identifying the extent of an illegal behaviour that is generally conducted out of contact with official information sources is recognized as requiring special techniques of estimation. These specialist techniques use “indirect estimation methods”, not attempting to count directly the number of addicts, but instead putting together different sources of information that allow the prevalence of drug abuse to be estimated indirectly.

In this exercise, the procedure selected is one of the principal indirect techniques used internationally, in the United States and in Europe, the Treatment Multiplier Method. It is a two-step procedure that requires in essence two separate figures to be produced:

- (a) information on the number of addicts that receive treatment during the year, and
- (b) an estimate of the proportion of the entire addict population that this represents.

Table 23. Locales used in the key informant study component

Province	Study ID No.	Key informant study (urban)		Key informant study (rural)	
		Urban locale (districts)	No. of key informant interviews	Rural pairing locale	No. of key informant interviews
Punjab	7	Lahore	22	Kanna	3
	6	Multan	10	Mattial	5
	10	Rawalpindi	12	Dahmial	3
	8	Sialkot	10	Rangpura	6
	9	Faislabad	11	Jaranwalla	4
Sindh	3	Karachi	20	Malir	5
	4	Hyderabad	14	Tando Allah Yar	5
	5	Sukkar	15	Abad Jageer	5
Balochistan	2	Quetta	13	Kachlaq	5
	1	Turbat	6	Godaan	6
NWFP	12	Peshawar	10	Bad Bair Village	5
	14	Bannu	5	Mandan	5
	13	Maradan	5	Tahkat Bai	2
	17	Chitral	5	Garrama Chasma	5
	15	Dir	7	Rural Timergrah	5
	16	Gilgit	3	Ghaok Gaza	5
	18	Haripur	7	Rehana	6
(FATA)*	20	Mohmand Agency			5
	21	Khyber Agency		Ladi Kotal	5
Totals			175		90

*For prevalence estimation purposes FATA is incorporated with NWFP.

In any given survey, deriving the requisite information requires methods suited to and adapted to the social and geographical structures of the country at that time. Precise operational definitions implemented in the survey need to be tailored to the available information and data collection possibilities. The immediate steps in providing a prevalence estimate in the Pakistan National Survey are therefore as follows.

Estimating the number of addicts in treatment

Data from the Treatment Register Update study were used to determine the number of addicts receiving treatment over the 12 months prior to the survey. This figure was restricted to those addicts undergoing inpatient treatment in specialist drug clinics,

and this decision was made for two reasons. Firstly, it provided a clearer focus for determining the nature of the drug addiction for which the person was being treated, and so allowed a more accurate definition of the target group of addicts to be implemented, than would be the case had broader general health settings for treatment been included. Secondly, the enumeration of all addicts treated at specialist units over the 12 months is more accurately and more easily carried out than could be the case in more broadly defined and more widespread health treatment settings.

Although therefore some addict treatment episodes are not included in the figure, this shortfall can be corrected at the second stage of the calculation. In determining the number of addicts so treated, the distinction has been made between the number of treatment *episodes* and the underlying number of

Table 24. Locales in the treatment register study and in the four cities study

Province	Study ID No.	Locales in overall study	Treatment register update study		Four cities
		Urban locale (districts)	Specialist treatment centres	No. of treatment centres	Addict interviews conducted
Punjab	7	Lahore	Lahore	14**	256*
	6	Multan	Multan	5	
	10	Rawalpindi	Rawalpindi	6	
	8	Sialkot	Sialkot	2	
	9	Faisalabad	Faisalabad	1	
Sindh	3	Karachi	Karachi	17**	264*
	4	Hyderabad	Hyderabad	6	
	5	Sukkar	Sukkar	2	
Balochistan	2	Quetta	Quetta	3	255*
	1	Turbat			
NWFP	12	Peshawar	Peshawar	7	262*
	14	Bannu	Bannu	1	
	13	Maradan	Maradan	1	
	17	Chitral	Chitral	2**	
	15	Dir	Dir	1	
	16	Gilgit			
	18	Haripur			
(FATA)***	20	Mohmand Agency			
	21	Khyber Agency			
Totals				68	1 037

*A total of six additional interviews with female addicts were conducted.

**Three locales reported a treatment centre with no inpatient facilities.

***For prevalence estimation purposes FATA is incorporated with NWFP.

people who generate the episode total through repeated treatment episodes during the same year.

The information from the Treatment Register Update study generated a profile of specialist drug treatment clinics across Pakistan. The information on numbers of inpatient beds and numbers of male hard drug users treated during the year are given in summary form in table 27 below.

Estimating the multiplier to represent addicts not receiving treatment

The appropriate multiplier for the calculation, as a consequence of the above decisions on inclusion, represents all addicts who did not receive treatment

in specialist drug clinics during the year. This information was collected from a combination of data sources, namely from the four cities study and from the key informants study. The addicts interviewed in the four cities study—those who were not currently in treatment—were asked whether they had been in treatment in the 12 months prior to their interview. The proportion of addicts who had been treated could therefore be estimated. This was done in all four cities where addict interviews were conducted.

The key informant study provided more widely spread information—by direct questioning of the respondent—that gave the proportion of addicts treated that year in the various locales used in the study. Informants who were not directly involved

with treatment of addicts were asked how many addicts they had contact with in the past 12 months, and how many of these had received treatment in the past 12 months. In using this information to produce an estimate of the proportion of addicts treated in the year, account was taken of the informants' experience and suitability in providing a valid estimate.

These studies produce a range of likely estimates of the proportion of addicts treated and the associated appropriate multiplier factors that are used in the calculation of the total number of addicts. The relevant information is presented in table 28 below. This is a difficult estimation exercise and considerable levels of variability are likely to be introduced into the estimation, although in methodological terms it is probably smaller than likely errors produced by other non-multiplier methods. Reliance on a single multiplier value is likely to be hazardous in terms of accuracy of the resulting estimates and figures are presented in table 28 for a likely minimum and maximum value of the appropriate multiplier.

Method of estimation: geographical coverage

Estimation of the prevalence of drug addiction through a treatment multiplier benefits from taking account of geographically local variation both in treatment facilities and in the proportion of addicts treated. Data have been collected in four cities and in 36 locales spread across the four provinces of Sindh, Punjab, NWFP and Balochistan. The FATA were included with NWFP for purposes of the prevalence estimation exercise. With the exception of Balochistan, it has been possible to estimate drug addiction prevalence on a province-by-province basis. In Balochistan, information was too sparse to allow satisfactory estimation of the prevalence level.

Within the provinces, all locales provided information on the *proportion* of addicts treated over the preceding year (for step (b) of the estimation procedure). Enumeration of the *number* of addicts in treatment over the preceding year (step (a) of the estimation procedure) can be carried out in the subset of locales where specialist treatment clinics have been identified. Within each province two levels of

extrapolation are required to produce an estimate. The first level requires extrapolation of the prevalence estimates from the locales with identified specialist treatment clinics to other locales in the province that have none. The second level requires an extrapolation from the locales selected for the study to the province as a whole. The estimates for Pakistan as a whole then are calculated as a combination of the four provincial figures.

Extrapolation at each stage described above can be made by a variety of methods, and requires simple assumptions to be made. In this report the reasonable assumption is made that prevalence rates that are estimated for the population in the clinic catchment areas within a province—that is, in those locales with identified specialist drug treatment clinics—can be applied to the remainder of the population in the province.

Estimation of prevalence

To focus the estimation and reduce the potential for sampling variation and error, the estimation exercise has been carried out on a target population of males aged 15-45 years. For many reasons, discussed in the report, estimating drug addiction prevalence amongst women has not proven possible. Restricting the prevalence to the age band of 15 years to 45 years of age covers the vast number of addicts in the population; selecting this age band where addicts are most densely found allows a more accurate estimate to be made than would be possible if the less densely found, very young and very old were included in the prevalence denominator. Choosing this age band is justified both from previous Pakistan studies and from the present four cities study of interviewed addicts.

Figures are presented in tables 25 to 29 for:

- ❑ The locales in which the four cities study was carried out, where the most detailed information is available;
- ❑ The remaining locales, incorporating an extrapolation from clinics with treatment clinics to those without clinics;
- ❑ All locales studied in the survey.

Figures for each province separately are presented in the annex tables A.III.1 to A.III.5 in an identical fashion.

Table 25 constructs a demographic profile of the four cities locales and the remaining locales, using data from the National Census.

Table 26 constructs the relevant target population of males between 15 and 45 years of age, using data on age and sex from the National Census. The national age ratios are presumed to apply across all locales.

Table 27 presents a profile of specialist clinic access, in terms of inpatient beds provided, the number of admission episodes in the year, the number of patients admitted in the year, and the number of these that are male heroin addicts or injectors in the target age range.

Table 28 presents the estimates from the key informant study of the likely proportion of addicts who have been treated in the identified specialist clinic, and the associated multipliers. The number of addicts in each locale is estimated, using a correction factor of 90% to allow for addicts who are treated but come from outside the locale. In addition to the median estimate, a likely maximum value and a likely minimum value are shown, derived from the extent of variability in key informant reporting in each locale.

Table 29 shows the estimated prevalence rate (estimated from those locales with specialist clinics, and assumed to apply also to locales without identified clinics), the number of addicts in the locales with clinics, and the estimated number of addicts in the province, assuming the same prevalence rate applies throughout the province.

Improving the initial estimates

The present report uses the simplest and most direct of possible assumptions. Subsequent refining of the estimates can be carried out in phases that introduce more sophisticated use of available data at each of stages reported above. The relationship—if any—of drug use to these features is exploited to

repeatedly refine the estimates of prevalence made by extrapolation. These data are:

- Relationship of drug use to more detailed breakdown of age distribution;
- Relationship of drug use to more detailed description of the rural/urban distinction;
- Relationship of drug use to more detailed breakdown of the catchment areas of the clinics;
- Relationship of drug use to numbers of household or implied household size;
- Relationship of drug use to other measures of social structure such as poverty, literacy.

The initial estimates provided here use:

- (a) the broad age-groups of 15 to 45 years of age, where most drug addiction occurs;
- (b) the distinction between the four major cities selected from each of the four provinces and the rest of the locale (district) in which they are located;
- (c) the assumption that the catchment area for the clinics is essentially the locale (district) in which it is located—key informant information suggests that about 10% of addicts are treated from outside the locale;
- (d) the characterization of each local as either “rural” or “urban”, as described in the study design section of the report.

A subsequent wave of analysis refining these initial estimates can take recognition of

- (a) a greater treatment attendance by those addicts over 25 years of age;
- (b) the urban and rural male population ratios within each city’s district;
- (c) the differential treatment attendance from the city rather than the district where the clinic is located;
- (d) the extent of the rural versus urban populations difference within in each of the rural or urban locales.

The procedures used in this report give rise to a range of likely estimates of overall prevalence and overall numbers of heroin addict or injectors. In an analytical exercise of this sort, where the procedures are not, nor

could be, simply to count the numbers of addicts, assumptions must be made about the viability of any calculation with regard to both validity and reliability. The resulting range of different estimates must necessarily depend upon the details of the different assumptions that can be made concerning the relationships

between the data elements and the relationships between the component surveys. These initial estimates reported here give a range that should be robust first approximation to the overall prevalence of hard drug addiction. Further analysis refining and possibly improving these analyses can be carried out.

Table 25. Basic demographic profiles provided by the census data, using figures for each of the locales in the study

	<i>Total of all locales</i>	<i>Total of the four city locales</i>	<i>Karachi division (Sindh)</i>	<i>Lahore district (Punjab)</i>	<i>Peshawar district (NWFP)</i>	<i>Quetta district (Balochistan)</i>	<i>Total of other locales</i>
<i>(i) Locale demographic profiles</i>							
Households	6 119 483	2 813 698	1 531 234	901 558	281 456	99 450	3 305 785
Male	22 121 618	10 017 487	5 261 712	3 262 904	1 067 397	425 474	12 104 131
Female	20 023 358	8 795 236	4 540 422	2 949 811	971 232	333 771	11 228 122
Total	42 144 976	18 812 723	9 802 134	6 212 715	2 038 629	759 245	23 332 253
Urban males	13 036 019	8 513 290	4 978 253	2 695 022	522 940	317 075	4 522 729
1981 population							
Total	21 867 553	10 477 795	5 437 984	3 544 942	1 113 303	381 566	11 389 758

Table 26. Reduced overall target population of males in the age band of 15 to 45 years

	<i>Total of all locales</i>	<i>Total of the four city locales</i>	<i>Karachi division (Sindh)</i>	<i>Lahore district (Punjab)</i>	<i>Peshawar district (NWFP)</i>	<i>Quetta district (Balochistan)</i>	<i>Total of other locales</i>
<i>(ii) Locale target age-band: males aged 15-45</i>							
Assumed % of males in target		42.20%	42.20%	42.20%	42.20%	42.20%	42.20%
Number of males in target population (millions)	9.335	4.227	2.220	1.377	0.450	0.180	5.108

Table 27. Clinic profiles derived from the treatment register update study

	<i>Total of all locales</i>	<i>Total of the four city locales</i>	<i>Karachi division (Sindh)</i>	<i>Lahore district (Punjab)</i>	<i>Peshawar district (NWFP)</i>	<i>Quetta district (Balochistan)</i>	<i>Total of other locales</i>
(iii) Local clinic profiles							
Total number of beds provided in specialist clinics	2 564	2 042	1 466	353	149	74	522
Total number of treatment admissions	17 053	13 464	7 887	2 531	2 076	970	3 589
Total number of inpatients admitted in year	11 166	9 015	5 012	2 356	1 377	270	2 151
Proportion of admissions that are male inpatient heroin cases			0.9	0.71	0.81	0.85	
Number of admissions of male inpatient heroin cases	9 311	7 528	4 511	1 673	1 115	230	1 783

Refinements to initial multipliers for estimating the number of addicts

The initial estimation of the number of addicts requires a count of the addicts in treatment over the past year and a multiplier reflecting, for each one addict in treatment the number of addicts not in treatment. Within the data collected, variations in the detail of the definitions and calculations of these two quantities can be made. The current initial estimates reported here are based on:

- (a) the estimated number of male inpatients in the specialist clinics who are being treated for hard drug use—heroin use or drug injecting;
- (b) the multiplier estimated from the proportion of interviewed addicts treated for hard drug addiction and the key informants' direct experience of this proportion—this generates a range of possible multipliers depending on the experience of the key

informants and their suitability in this regard.

In further more detailed waves of analysis these estimates could be refined by:

- (a) comparing the number of addicts in treatment with the number of (possibly repeat) treatment episodes generated by the addicts over a year, and the total number of days spent in treatment;
- (b) triangulating the number of addicts against the numbers in treatment and the numbers in prison over the previous year;
- (c) taking different ranges of feasibility for the multipliers, depending upon the number of addicts with whom the key informants have had contact in the last year, or depending upon the reported treatment ratios amongst the acquaintances of the interviewed addicts;
- (d) incorporating key informant assessments of the difficulty of obtaining treatment in the locales.

Table 28. Treatment multipliers derived from key informant and addict interview data

	<i>Total of all locales</i>	<i>Total of the four city locales</i>	<i>Karachi division (Sindh)</i>	<i>Lahore district (Punjab)</i>	<i>Peshawar district (NWFP)</i>	<i>Quetta district (Balochistan)</i>	<i>Total of other locales</i>
(iv) Key informant and interview treatment multipliers							
Range of estimated proportion of addicts who received treatment in year (see text)							
(a) Maximum likely proportion who received treatment	0.2633	0.3000	0.1000	0.4722	0.2567	0.0224	0.2567
(b) Median likely proportion who received treatment	0.1225	0.1000	0.0800	0.2056	0.1693	0.0217	0.1464
(c) Minimum likely proportion who received treatment	0.0500	0.0400	0.0400	0.0500	0.0954	0.0212	0.0600
Range of estimated derived multiplier, representing addicts not receiving treatment in year							
(a) Minimum multiplier (applies to clinics' catchment area)	3.80	3.33	10.00	2.12	3.90	44.64	3.90
(b) Median multiplier (applies to clinics' catchment area)	8.16	10.00	12.50	4.86	5.91	46.08	6.83
(c) Maximum multiplier (applies to clinics' catchment area)	20.00	25.00	25.00	20.00	10.48	47.17	16.67
Range of estimated number of addicts in population (see text)							
Correction factor for addicts out-of-catchment (see text)							
(a) Likely estimated minimum number of addicts in catchment	62 995	56 917	40 597	3 188	3 911	9 221	6 078
(b) Likely estimated median number of addicts in catchment	89 157	73 517	50 747	7 322	5 929	9 518	15 640
(c) Likely estimated maximum number of addicts in catchment	189 319	151 868	101 493	30 110	10 522	9 743	37 451

Interpretation of the initial estimates and their extrapolations

Calculation sheets are included that show the estimation procedure step-by-step as described above. They produce a range of possible estimates of prevalence for the country as a whole, broken down by the cities in the four cities study and by province.

Supplementary calculation sheets show information for each locale that is used to derive the summary calculation sheets.

Various technical details are explicated in a later document, but these calculations provide a first provisional estimate of prevalence of heroin addiction, by making a variety of assumptions. The main features of the results are summarised below, with some cautions and guidelines on their interpretation.

Table 29. Extrapolated estimates of the numbers of addicts in the country as a whole

	<i>Total of all locales</i>	<i>Total of the four city locales</i>	<i>Karachi division (Sindh)</i>	<i>Lahore district (Punjab)</i>	<i>Peshawar district (NWFP)</i>	<i>Quetta district (Balochistan)</i>	<i>Total of other locales</i>
(v) Prevalence estimates and numbers of addicts (extrapolated)							
(a) Minimum likely							
Minimum likely target population prevalence rate (in clinics' catchment area)	0.67%	1.35%	1.83%	0.23%	0.87%	5.14%	0.12%
Estimated minimum number of addicts (in locales with identified clinics)	62 995	56 917	40 597	3 188	3 911	9 221	6 078
Estimated minimum number of heroin addicts in total (see text)	97 637	56 917	40 597	3 188	3 911	9 221	40 721
(b) Maximum likely							
Maximum likely target population prevalence rate (in clinics' catchment area)	2.03%	3.59%	4.57%	2.19%	2.34%	5.43%	0.73%
Estimated minimum number of addicts (in locales with identified clinics)	189 319	151 868	101 493	30 110	10 522	9 743	37 451
Estimated maximum number of heroin addicts in total (see text)	398 302	151 868	101 493	30 110	10 522	9 743	246 434

In this regard the following points are to be noted.

There are some less populous geographic areas that have been excluded from the prevalence estimates for a number of technical reasons in these provisional figures. For example Balochistan province outside the Quetta district proved too difficult to estimate by these preliminary methods.

Prevalence rates quoted in the provisional figures are for males aged in the target age-band of 15 to 45 years of age, which according to this research and to previous government figures constitutes the vast majority of the heroin-users in the population.

The range of estimates from this study suggests as a possible upper limit up to 500,000 heroin users and other drug injectors, in round figures, amongst males in the 15 to 45 year old age band. Whilst this figure is considerably lower than previous national estimates, there are good reasons for the difference.

The overall prevalence in this study is for hard-core heroin users and drug injectors only, with no inclusion of alcohol or charas abusers. The reasons for advisability of excluding these other abusers from this study are detailed in the preceding sections. In previous figures reported for Pakistan the definitions

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of addiction have not been so precisely expressed nor were they built into the calculations from the outset, as this study has done.

There is large geographic variation in the density of hard-core drug use across Pakistan, in particular the difference between urban and rural rates in some provinces. To allow for these variations in prevalence rates is difficult, and failure to do so adequately could produce misleading results. The results in this report have been adjusted as closely as possible using available data to capture this variation.

Within some cities the prevalence rate is estimated to be very high, possibly as great as 4%, compared with about 0.5% in some rural areas, for males in the target age-band. These figures—1 male in every 25 in the age-band—by most countries' standards

would be considered unrealistically high, but it should be borne in mind that these are likely maximum figures that are being quoted for the worst affected Pakistan cities. Even so, previous reports of heroin addiction in Pakistan were considerably higher again, and as a result fell a long way short of achieving international credibility.

The overall prevalence expressed in terms of the whole population of Pakistan is around one third of one per cent and is not out of line with other countries expressing prevalence rates of one quarter or one half of one per cent. There are various special considerations relating to Pakistan in term of the country's age structure that make such international comparisons difficult to interpret, but the provisional figures suggest that, in the international setting, Pakistan has one of the highest rates of drug addiction.

Drug abuse in Pakistan: the implications of the Pakistan national assessment study

Comparisons with the earlier national assessment studies

Comparisons of the data presented here can be made with the findings of the earlier assessment studies but caution is required as the earlier work tended not always to differentiate between drug types (including alcohol) and the sampling strategy varies between these studies. Nonetheless, sufficient comparable information is available to draw some conclusions on changes in patterns and trends in drug abuse in Pakistan.

With respect to the overall pattern of drug abuse in the country, in 1982 hashish and charas, which we will refer to here for convenience as cannabis, was estimated to be the most commonly consumed illicit substance. The 1982 study estimated that 3.4% of the adult male population was using this drug. The later surveys suggest that heroin use overtook cannabis use around 1986. Cannabis abuse was reported to have declined between 1982 and 1986 but subsequently to have slowly risen after this date, although remaining at a lower consumption level than for heroin. The current study does not stand in conflict with this analysis, neither does it necessarily support it: with respect to the direction of trends it may well be that cannabis use declined slightly during the mid 1980s and then subsequently increased.

Equally difficult to resolve are questions concerning the relative consumption levels of cannabis and heroin in Pakistan. Did cannabis abuse actually fall lower, as reported, than heroin abuse or was this finding due to estimation errors? The present data do not allow us to determine the truth of this matter, as either scenario would be consistent with the current findings. Relevant, though, is that although the results presented here give no definite answer, they do raise the question as to what extent earlier estimates of heroin abuse might have been inflated. Addressing these issues cogently is greatly complicated by the time intervals between the assessments exercises, a fact which serves to emphasise that the accurate identification of consumption trends over time relies on the development of a continuous surveillance mechanism. This issue is discussed in detail below.

The key informant data in the 2000 exercise strongly suggest that cannabis in one form or another (marijuana, charas, etc) is the most commonly used drug in the country in terms of lifetime use and prevalence over the last year. Whilst this study was not designed to give an estimate of the number of cannabis consumers in Pakistan, it can be posited that this figure is likely to be considerable. Any estimate will depend specifically on the period prevalence measure used (lifetime, last year, last month etc). However, if period prevalence for either lifetime or last year is considered, the total numbers of individuals is likely to be higher than a million. For a point of reference, if the 1982 prevalence estimate is taken in conjunction with today's figures it would suggest there would be around 1.3 million current users. The general opinion would be that consumption today is probably considerably higher than in 1982, so

this figure is itself likely to be an underestimate. Both the scale of cannabis use and its relationship to health and other problems merit further research attention in Pakistan.

Of particular concern is the use of illicit drugs by young people. Sixty-five per cent of key informants identified hashish and charas as drugs used by young people. This finding is consistent with the 1993 study and moreover is concordant with international patterns of cannabis use, where prevalence levels are usually found to be higher among the young. Future studies may productively explore attitudes to, and patterns of use of, cannabis and other substances among young people. School surveys have extensively been used for this purpose elsewhere. Whether a school survey of drug use in Pakistan is feasible and what resources would be required are appropriate questions to address in future discussions about developing a permanent drug information system for Pakistan.

The early studies suggested that heroin use was “common in the younger population 16-30 years” (1993 study). In the 2000 study, fewer young respondents were interviewed, even though the mean age of respondents in both samples were very similar (see table 30). In the 1993 exercise, 24% of heroin users interviewed were between 15 and 20 years old. In the 2000 study this figure fell to 5%. This suggests that the age distribution of the earlier sample was more evenly spread but, given that the sampling strategy used in the studies is not identical, caution should be used in drawing conclusions from this with respect to the overall makeup of the heroin abusing population in Pakistan. More informatively, the mean age of first heroin use has fallen from 26 to 22 years; and as the mean age of subjects interviewed has remained constant, the 2000 sample therefore represents more long-term abusers of heroin.

In any respect the data suggest that street, treatment and prison populations of heroin abusers are characterized by a substantial proportion of long-term users whose needs are therefore likely to be both considerable and varied. Successfully intervening with such a group is likely to require services that can provide a broad range of interventions and

which can provide intensive and long-term support to those that require it.

Table 30. Comparisons of heroin abusers in the 1993 and 2000 studies

	1993	2000
Mean age at interview	32	33
Age first use heroin	26	22
Percentage of sample age 15-20 years of age	24	5
Percentage female	4	1
Sample size	506	1 049

The findings of the 2000 study also broadly supported the findings of the 1993 survey in respect to the provincial breakdown, with North West Frontier Province being identified as the province with the lowest prevalence of heroin use. Opium abuse was reported to be at low levels and in decline in both studies and poly-drug abuse was common among drug abusers in both research exercises.

Drug use by women

None of the assessment exercises conducted in Pakistan has been able to explore drug use among women in any detail. The 2000 assessment exercise does indicate that whilst drug abuse by women is not, for most drug types, likely to be found at the same levels as among the male population, it clearly exists. In the key informant data, a small but significant number of respondents reported heroin abuse among women in their locales. The estimation of psychotropic use was even higher. If women are abusing drugs in Pakistan, they are not accessing treatment in any great numbers. The treatment audit suggested that only 3% of current patients were women.

Two things are then clear from the current study. First, more information on drug use by women in Pakistan is required to allow a better understanding of the extent of problems among women and to gauge their related needs. Such studies will be methodologically challenging and require sensitivity

to the difficulties of accessing and interviewing women on the topic of their drug consumption. It may well be that qualitative inquiries using female interviewers will be the way forward here.

Second, attention should be given to developing treatment facilities that would prove more attractive to women with drug problems. The Guiding Principles on Drug Demand Reduction identify the need for gender sensitive treatment services. This issue is an international one, which poses a challenge for both developed and developing countries. In Pakistan, cultural factors may make achieving this goal particularly demanding. Nonetheless this remains an important issue for the future development of drug treatment services.

Access to and delivery of drug treatment

A finding of both the key informant exercise and the addict interviews is that increased access to drug treatment is urgently required in Pakistan. Nearly all key informants agreed that many drug users in their area were too poor to get treatment. All the addicts in the interview samples were suitable for treatment and furthermore three-quarters expressed a self identified need for help, yet many respondents (66%) reported previous failed attempts to access treatment, overwhelmingly because of financial reasons. Street recruited addicts appeared least able to access help; in general those addicts interviewed in treatment settings were better educated and more likely to be in employment, supporting the suggestion that income levels influence treatment access. Some evidence was found that current treatment capacity was not being fully utilized despite the identified need of many drug abusers for therapeutic interventions. A successful expansion of treatment provision is therefore likely to be dependent at least in part, on delivery mechanisms that allow uptake of services by a wider section of the addict population.

Drug treatment has been repeatedly shown to be a cost-effective response at a national level to drug problems. However, clearly the benefits of treatment

provision are reliant on the delivery of a high quality service. Staff training and the development and implementation of appropriate therapeutic procedures are all important here. The term “treatment” is used to describe a wide range of activities that address a diverse set of needs and patient characteristics. Some positive evidence of the development of comprehensive, high quality treatment services is identified in this study. However, other evidence also suggests that in some areas treatment services are less well regarded. For example, overwhelmingly key informants agreed—or strongly agreed—that treatment services in their area did not offer a good service to those with drug-problems.

The UNDCP is currently working with the Government of Pakistan on measures to improve the quality of services in the country. A more detailed investigation of current practices and procedures would facilitate this work. The long-term goal must be to broaden the range of treatment options and to ensure that all services provide the high quality care that is currently found in some of the best facilities in the country.

Many of those on drug charges interviewed in prison were severely dependent and would benefit from the provision of therapeutic services that address long-standing drug problems. This need is emphasized by reflection on the fact that some of those incarcerated have arrived in prison through the intervention of their families, who are no longer able to cope with the behaviour of their family member. Drug abusers are housed in separate barracks in Pakistani prisons, which could facilitate the development of services within the prison setting.

Many of those interviewed in the street or treatment setting had previously passed through the prison system. The importance of developing post-release rehabilitation services for drug abusers has been noted elsewhere. In both instances—for drug abusers in prison and for those leaving prison with a history of drug abuse—the potential exists to further develop demand reduction programmes. Delivering effective drug treatment and prevention programmes within the prison setting is not an easy undertaking. Working in this setting presents a number of challenges but this remains an area in which considerable potential exists for the development of drug services.

Drug injection

In the 1993 exercise, concern about drug injection and its link to HIV infection were expressed, but injecting appeared to be very rare in Pakistan. Perhaps the most worrying conclusions of the 2000 assessment exercise is that drug injection has now become widely established, that it is continuing to grow, and that many drug injectors are engaging in high risk practices that make them vulnerable to infection by HIV and other blood borne diseases.

To date, what evidence that exists on HIV infection suggests that it has not become widespread amongst Pakistani drug injectors. Against this optimistic note, though, two notes of caution must be sounded. Firstly, infection rates have been shown in other countries to rise dramatically over short periods of time, when the behaviour of drug injectors is favourable to its spread. Secondly, HIV surveillance studies have not been conducted with any intensity among drug injectors in Pakistan and therefore the possibility must be considerable that unrecorded infections exist.

It is therefore important that any future drug research and surveillance activities include HIV seroprevalence monitoring wherever possible. Some work is being currently developed in this area, supported by UNAIDS and UNDCP. More intensive activities are urgently required. The 2000 study has demonstrated that the research capacity exists in Pakistan to efficiently access drug injectors in street and institutional settings at relatively low costs. Further research is required with drug injectors not only to monitor infection rates but also to understand the dynamics of drug injection practices in order to inform prevention strategies and other interventions. There is also a priority need to develop interventions that provide support to drug injectors and that address the HIV risk behaviours of this group. UNAIDS, UNDCP and the government of Pakistan have been developing a strategy in this respect. Given the relative size of the drug abusing population in the country, the high levels of risk behaviour detected, and the corresponding potential for a future epidemic, urgent and effective interventions are required in Pakistan.

Developing a permanent drug information system to inform policy and action

The year 2000 national drug assessment study has provided an overview of drug abuse problems for Pakistan. The study's aims were ambitious and the fact that they have been largely achieved owes much to the hard work of the research team in Pakistan, to the implementation organizers and to the good will of all those individuals in the country whose support was necessary for collecting the required information. That so many people concerned with drug problems in Pakistan were prepared to give up their time to help with the assessment exercise demonstrates that the importance of having sound information on the drug abuse phenomenon is widely accepted. That this project was implemented jointly with the Anti-Narcotics Force, and that it would not have been possible without their work and support, reflects the importance the Government of Pakistan has invested in basing its policy and actions on sound evidence. In Pakistan, national expenditure on drug problems has to be considered in relation to other pressing calls on the public purse, and it is therefore particularly important that investments be guided by an accurate assessment of the situation.

However, whilst the mass of data collected by this study is impressive, it represents a only a snap-shot of the drug abuse situation. Studies conducted many years apart cannot provide the on-going relevant information required for policy formation. The assessment study should be viewed as an important first step in a permanent ongoing drug information system for Pakistan. The data presented here can provide a valuable baseline for future continuous monitoring exercises. UNDCP through its Global Assessment Programme has already begun discussions with the Government of Pakistan on how such provision can be established. Drug information systems typically rely on the collection of a range of routine indicators and other data and then provide a forum for experts to discuss regularly the implications of the information.

The four city sites included in this study would make a good starting point for further work: city-based

networks can provide locally relevant information, are sensitive to emerging trends, and can contribute information to develop a national picture of drug abuse trends. Successful networks based on this city-network design are found elsewhere including the United States and Europe.

One information source with clear potential for development in Pakistan is the reporting of the records of treatment agencies. Many countries in the world have developed treatment attendance registers that provide basic details in a summarized form of those accessing treatment facilities for drug problems. Such information is cost effective and easy to collect in a standardized form, provided the requirements are modest and that the system works on the basis of anonymous records. As almost all of Pakistan's treatment facilities collect relevant information on client profiles, considerable potential exists for the development of monitoring in this area.

In developing a continuous drug information system, it is important to remember that, as the key informant exercise reveals here, a considerable amount of information is available from the technical experts working with drug abusers and that Pakistan is fortunate to have many well-qualified professionals working in the drug abuse field. One important role of an information system is to provide a forum for professionals in which to discuss and analyse the current situation. It is also important to remember that drug use remains a hidden behaviour and that assessments of drug abusers in street and other natural settings can often provide a unique insight into the extent of currently existing and newly developing problems. Whilst there is clearly much to do, Pakistan is fortunate in that sufficient capacity does exist within the country to develop the capacity to monitor and to better understand drug problems. Such understanding can be translated into well targeted, timely and effective responses. The Pakistan 2000 national assessment study has made a valuable contribution to this endeavour.

Other research needs

Understanding the composition and purity of drugs available on the illicit market and monitoring changes in this area have direct relevance to understanding patterns of abuse and changes in consumption. It was suggested during the pilot work for this project that declining heroin quality was impacting on the consumption patterns of the abusing population, either by changing dosing habits, affecting the choice of route of administration or encouraging the substitution of street heroin for other pharmaceutical drugs. In the study, over half of respondents agreed with the statement that "heroin users were changing to other pharmaceutical drugs in their locale". This question was not addressed in further detail by the current study and it remains worthy of further investigation.

It would be helpful to know more about the composition and nature of the drugs consumed by those with drug problems in Pakistan. UNDCP has been working with the government of Pakistan to improve the facilities available for the analysis of drug samples and a number of laboratory services have been developed. Any future drug information system that might be set up would benefit from including an analysis of the drugs available on the illicit market. A number of models exist for this type of activity, including the analysis of seizures taken from different levels of the supply chain.

Another question that emerged during the course of the study was the suggestion that there was growing solvent abuse among young people and street children in particular. Street children are recognized as group who are particularly vulnerable to drug problems. Data from this study do not allow comment on the issue in any detail. Solvent abuse was most commonly reported from urban areas and from the Punjab province in particular. The extent to which solvents are being abused by this marginalized and vulnerable group of street children deserves further attention, as does the wider question of what can be done to alleviate the drug and other social problems amongst this particularly needy group of young people.

Annex I.

Methodological discussion

The method used for the national assessment exercise is to carry out a set of surveys on particular aspects of the drug problem that each in its own right provides vital information on drug use in Pakistan; and which when taken together also can provide a prevalence estimate of drug use. Below we discuss some of the methodological issues this approach raises in more detail.

Drugs of abuse considered by this study

Drug abuse is a complex and multi-faceted phenomenon. It is therefore of critical importance to be clear and precise about the particular aspect of the problem that is being investigated by any study. This issue is particularly important for the question of prevalence estimation. For example, depending on which of the commonly used prevalence measures is selected—lifetime prevalence (ever use) or current use (usually last month)—the estimates produced will vary considerably. Similarly, different drugs often have very different use profiles. One problem apparent in aspects of some of the previous National Assessments was the need to clearly delineate between different drugs of abuse.

One of the first tasks of the research team in the present study was to produce a summary list of drugs of abuse that was appropriate for inclusion in the research questionnaires but also covered the main issues of concern about drug abuse in Pakistan. As the questionnaires would require the same list of drugs to be used in a number of repeat format questions, from a design point of view it was desirable that the list be as short and clear as possible. Questionnaires with overly long and detailed drug lists tend to perform poorly in fieldwork. However, at the same time it was important to address the main areas of drug abuse. The final drug list selected for used in this study after discussions with local experts contains the following items. Some drug types have been grouped and alcohol, which is an illicit substance in Pakistan, is also included.

- Hashish and charas (cannabis type)
- Heroin
- Opium
- Other opioids (e.g. morphine, temgesic, sosegon)
- Cough Syrups (when used for intoxication)
- Psychotropics (e.g. tranquillizers, such as ativan, valium, lexotonil and amphetamines)
- Alcohol use
- Drug use by injection (any drug)
- Inhalants (glue, solvents, etc.)

Component study 1. National contour mapping exercise

The initial aim of the study was to provide an overview of the contours of the national drug abuse situation in Pakistan. Whilst this exercise could not explore every aspect of drug abuse in detail, it could be expected to provide an overview of the situation. In particular, patterns and trends since the last national exercise, could be explored and expert assessments on the scale of relative problems associated with

different aspects of the drug abuse situation produced. As a national mapping exercise, the study would also help to assemble a contemporary picture of regional differences in the nature and scale of the drug abuse problem. Critical questions for further research activity could also be identified although not necessarily explored in detail. Nonetheless, producing an overview of the current situation is critically important for planning and targeting demand reduction programmes.

In detail, the mapping exercise would map and explore regional difference in respect of the following issues:

- ❑ The relative popularity of different drug types in Pakistan;
- ❑ Patterns of use for different drug types among rural and urban populations;
- ❑ Sex and age differences in drug consumption patterns;
- ❑ Trends in the use of different drug types;
- ❑ The existence of drug injecting;
- ❑ Routes of administration for opioid users;
- ❑ Differences in the extent of local problems relating to drug abuse;
- ❑ Relative extent to which different drug types were causing problems;
- ❑ The need for educational programmes;
- ❑ Opinions on the availability of treatment;
- ❑ Changes in treatment uptake over time.

Method: Two research strategies were employed for this part of the study:

- ❑ A desk review was undertaken of all the available research material on drug abuse in Pakistan.
- ❑ A key informant study was conducted to provide an overview of the contours of the drug abuse problem in Pakistan.

Materials for the desk review were obtained from the files of the Anti-Narcotic Force, UNDCP regional office and from other governmental and non-governmental sources. In particular, the previous national assessments (from 1982) were reviewed to place the current study in context. Data from the 1998 National Population and Housing Census of Pakistan were also audited along with a number of specialist ad hoc studies and reports.

Key informants were selected who could be reasonably expected to have an informed view of drug abuse in their locale. They included community leaders, teachers, business professionals, police officials, and members of

non-government organizations (NGOs) and those involved with providing treatment to drug abusers.

A questionnaire was produced especially for the purposes of this study. The questionnaire was prepared in both English and Urdu. To ensure that the translation and the English versions of the questionnaire were identical in meaning each question was reviewed in detail in both languages at a special training workshop held before interviewing commenced.

A team of specially trained interviewers administered the questionnaire. Interviewers were selected from across Pakistan and were for the most part associated with either treatment and rehabilitation services or academic institutes. Provincial coordinators and an official of the Anti Narcotics Force supervised the interview teams. Completed interviews were checked for accuracy and verification measures were also used to ensure interviewer compliance with the study protocol.

Data entry was conducted by a Pakistan-based information technology company. Additional data cleaning and the preparation of tabulations were conducted under the supervision of the statistical advisor to the project at the National Addiction Centre (UK).

Sampling strategy for key informant interviews

The rationale for this part of the study was to produce a national picture of drug use in Pakistan. Therefore a sampling strategy was devised that would provide national coverage. Study locations (hereafter referred to as locales) across Pakistan were selected for inclusion in the study. This list of locales has been drawn up by relevant experts for the authorities in Islamabad (ANF). To ensure that the study reflected difference between rural and metropolitan areas, locales were stratified in this dimension. In total, the Anti-Narcotics Force (ANF) in discussions with the study coordinator selected 18 urban and 18 rural matched locales across Pakistan to be used in this study. The locales were selected as being broadly representative of the country as a whole and reflected the sampling strategy used in previous national assessment exercises. Practical as well as statistical issues were important in selecting locales. For the purposes of analysis it was therefore accepted that some adjustments might have to be made, based on the 1998 census data, to ensure the population parameters of study sites reflected the national population characteristics.

In each locale a minimum of five key informants were selected. Key informants were selected on the basis of obtaining differing perspectives across occupation groups and on the basis of them having some knowledge about drug abuse in their communities. It was important for the accuracy of the study that those interviewed had life experiences that allow them to comment on drug abuse patterns. Training and instructions were given to interviewers on the appropriate selection of these respondents.

The key informant data would be used to produce a national map of drug use patterns for Pakistan as a whole. This involved the projection of information contours from the 36 locales where interviews took place onto a nationwide map, giving due regard to geographical and demographic details of the locales and the nation as a whole.

Component study 2. Provincial city studies: an exploration of the heroin abusing and drug injecting population

Heroin use and the use of any drug by injection are widely recognized as among the most damaging patterns of drug abuse both for society as a whole and for the individual. Earlier in this report we have discussed the emergence of widespread heroin use in Pakistan from the early 1980s. We also note concern in recent reports of the beginnings of an injecting subculture in Pakistan and therefore the increased potential for HIV transmission among drug abusers. This group of drug abusers also impact considerably on the health and criminal justice infrastructure. For all these reasons, understanding more about heroin use and drug injection was clearly a policy relevant priority. As such this topic was selected as for a more detailed investigation and as the focus for the subsequent prevalence estimation exercise. It should be noted that this does not mean that other aspects of the drug abuse situation were considered unproblematic or not meriting detailed investigation. Rather, the resources available for this study only permitted a focused exercise with one group of abusers. In the conclusion to this report we highlight other important research areas that data from the general assessment exercise would indicate require future attention.

Successfully interviewing drug abusers is never an easy task. This study's success in this area is largely due to the dedication and skills of the fieldwork team. The work also benefited from recent experiences in Pakistan of conducting small-scale studies with drug abusers. For example, the importance of using interviewers with the necessary

skills and backgrounds to access street-addicts was recognized and it was possible to identify suitable interviewers and to include them in the fieldwork team.

The objective of this module of the study was to produce detailed information from each province on one selected locale from the original 18 urban locales. The aim was to characterize the nature of hard-core drug abusers in the locale within three population groups of heroin users and injectors, namely those in prison, those in treatment, and street addicts.

There were three reasons for selecting these population groups. First, drug abusers not in institutional settings are often different from those who are, and therefore it is important to include street recruited samples in any assessment exercise. Second, drug treatment and criminal justice represent two of the major responses to hard-core drug abuse and therefore understanding more about the characteristics of the drug using populations in these areas is important. Third, an analysis of the extent of overlap between these three sections can be identified and, given that suitably strong information results from this, local prevalence estimates can then be produced. This issue is discussed in more detail below.

Four major provincial cities were chosen as the sampling sites for this part of the study. Key informant interviews were also conducted in these locals. The cities selected were:

Karachi,
Lahore,
Quetta, and
Peshawar.

The design of the provincial four city study focused study comprised therefore the following activities in each city:

- (a) Structured face-to-face interviews with:
 - (i) Heroin users or injectors who were interviewed on the streets,
 - (ii) Heroin users or injectors who were currently in drug treatment,
 - (iii) Heroin users or injectors who were currently within the prison population
- (b) An audit of local prison and treatment activity data was required in the four selected cities, as this information was needed for the prevalence estimation exercise and is also useful for exploring the impact that heroin abusers were having on local services. The treatment data were collected as part of the larger National Audit (see below). Prison activity data were only collected for the main prison dealing with drug

offences for each of the four cities. In particular it was necessary to collect detailed information on prison occupancy by drug addicts and drug peddlers. Specifically, the number of people sent to prison in the last year for drug use and drug-related offences was required for each of the four cities. An audit form was prepared for this purpose and used by specially trained members of the fieldwork team who visited the prison and transferred information onto the form from the prison records. This process was facilitated by ANF officials contacting prison governors in advance and explaining the purpose of the study. The consent of prison governors was required both for this audit exercise and for the face-to-face interviews with the prison addicts (described below). The fact that information for the audit was required only on those prisoners serving sentences for drug-offences and that drug abusers are housed in separate barracks within the prison, made achieving the objectives of the study less demanding than would otherwise have been the case.

Face-to-face interviews with heroin abusers

The target for this exercise was to conduct 1,000 interviews in total with drug abusers. This would comprise 400 sampled from patients currently in treatment (100 in each city), 300 sampled from prisoners currently in jail (75 in each city), and 300 sampled from the street addict population (75 from each city). This number of interviews was considered to be sufficient for the objectives of the study and achievable within the available resources.

As with the key informant study, all interviews were conducted using a set of structured questionnaires especially prepared for the study. Questionnaires were in English and Urdu and, as with the key informant interviews, considerable effort was made to ensure accuracy in translation. Methods for interviewer training and supervision were also the same as those described above for the key informant work. Data entry was conducted in Pakistan with additional data cleaning in the United Kingdom under the supervision of the statistical advisor to the project.

Each questionnaire contained an introductory paragraph explaining that the purpose of the study to the respondent, that all information collected was confidential and anonymous and that participation in the study was entirely voluntary. The importance of observing appropriate social research ethical standards was also discussed at length during the training of the field work team.

The questionnaires for the three samples covered the same topics and only varied for those issues specifically relevant to the individual sample group. Topics covered in the questionnaires included the following:

- Demographic information (sex, age, employment, and living situation)
- History of attendance at drug treatment facilities
- Attitudes to drug treatment
- History of prison attendance
- Patterns of current drug use
- History of drug taking
- Injecting and HIV risk behaviour
- Current problems
- Financial situation
- Knowledge of other drug users
- Severity of drug dependence

Component study 3. A national treatment register update

The third data collection module of the study was to update the 1994 national register of drug treatment facilities in Pakistan. Again the rationale for this exercise was that this information was important in its own right and also that the data produced could assist with an analysis of the scale of hard-core heroin use in Pakistan. The 1994 register was considered in urgent need of an update as it was strongly suspected that considerable inaccuracies now existed in the register. The provision of drug treatment is one of the key components of a comprehensive demand reduction strategy. The debate on how best to develop treatment opportunities requires as a first step an understanding of existing provision. This exercise was intended to provide this understanding by collecting data on current treatment capacity.

The 1994 report was used as a starting point for this exercise. Interviewers then contacted the treatment centres and completed a brief, specially designed, audit form. This process was facilitated by the fact that most treatment agencies keep relatively good records, although central collation of this information is poor.

To help identify new treatment centres that had been established post 1994, and those that had ceased operating in this period, staff at those agencies that were successfully contacted were asked if in their area:

- they knew of any new centres starting up since 1994, or
- they knew of centres operating in 1994 that had subsequently closed down?

In addition, appropriate key informants were also asked these questions during the national contour mapping part of this study (component study 1). In this manner the study team were confident that the national coverage of this exercise was acceptably good and was estimated by a local treatment expert at 90% or better.

Making use of the component studies: estimating the scale of heroin abuse in Pakistan

In making a practical and policy-relevant assessment of the country's drug-abuse situation the first concern must be the impact of illicit drug use on society with respect to the problems caused and the social resources necessary to remedy them. Some of these issues are addressed in the component studies of the national assessment exercise as discussed above. In many respects the critical policy-relevant questions are "how does the drug abuse problem make it self felt?" (i.e. problems) and "do current responses address these problems?" Lying behind these different aspects is the question of the current overall prevalence of drug use, which is a useful summary guide to and non-specific indicator of the overall problem.

This importance of the value of prevalence estimates in themselves should not be overstated. The development of sound policy need not be reliant on an exact measure of the current size of the abusing population. Nonetheless, having a reasonable estimate of the size of different aspects of the drug abusing population is useful. It was decided that this analysis should be included in addition to the other aspects of the study, rather than constitute the only objective of the assessment exercise.

In Pakistan, in common with most countries in the world, the prevalence figure for drug abuse is difficult to estimate with any degree of accuracy. This difficulty underlines the need to focus on obtaining good data directly from the primary problem areas, such as those individuals needing treatment. For example, indicators such as the level of first-time demands for drug treatment are often in practice better than overall prevalence estimates as a tool for monitoring drug abuse trends over time. This is in part because they can be measured more accurately and more cost effectively than actual prevalence can be estimated, in part because they often serve as a better indicator of incidence (new cases), and in part because they are a measure of direct impingement of the drug problem on national resources. It is important therefore that these points of

contact, where the drug problem impinges directly on social resources, are monitored as systematically as possible. Ideally this should be done on a continuous basis, to provide a future steady flow of information on trends in the drug abuse situation. This is a topic we return to in this report's concluding section where some of the options for the ongoing monitoring of the drug abuse situation are considered.

It was considered important in this study, however, to produce a prevalence estimate for heroin abuse and drug injecting. One reason for this was that current estimates varied greatly and therefore there was considerable benefit in generating a more reliable baseline figure. The methods used in this study to generate a prevalence estimate for hard-core heroin use in Pakistan is described in detail in the section of this report that contains the estimates themselves. Here we provide a more general overview of the principles behind the exercise.

In simple terms, two approaches are available to those who wish to generate drug prevalence estimates for the general population. The first is to conduct some form of conventional household survey using established survey methods and probability sampling. This approach has a number of problems. Most importantly, household surveys are costly, and as drug use is a stigmatized and low frequency behaviour, surveys do not always produce convincing estimates even when considerable resources are invested. This is especially a problem for drugs like heroin, whose use is often particularly stigmatised. A pilot household survey approach was tested in the 1986, national assessment study in Pakistan. The results were extremely disappointing as it was concluded that this method was not appropriate to recording drug abuse in Pakistan. Among the reasons for this were the difficulties in generating an appropriate sampling frame and the simple fact that it was not considered likely that respondents would admit to drug use in the household setting. These problems are not specific to Pakistan and, arguably, household survey work never performs well for the measurement of hard-core drug abuse. These problems lead the research team in discussions with Pakistan Government to rule out this approach as a sensible option for this study.

The second approach to prevalence estimation rests on more recent work to develop indirect statistical techniques for this purpose. These "benchmark/multiplier" methods remain relatively new but are now seen as having merit for estimating the prevalence of the use of drugs like heroin, even in countries with a long tradition of conducting household surveys.

This approach has distinct advantages for the current study as it is based on extrapolations from the component studies described above, each of which also provides valuable information in its own right. This makes the method cost effective and means that the estimates produced are only one of several useful results from the assessment exercise. Given the difficulties in producing credible drug prevalence estimates, regardless of the methods used, this approach was adopted as the strategy most likely to guarantee the maximum amount of useful information generated by the study.

A third, but less conventional approach to prevalence estimation, was the method employed by the previous national estimation exercises in Pakistan. This involved mapping descriptive data produced by snowball samples on to national estimates generated by key informants. This method and the results from the previous surveys are discussed in detail elsewhere in this report. Whilst these studies were competently conducted and did provide useful information on patterns of use, the prevalence figures produced were open to question. Subsequently, the method used to generate those estimates had been widely criticized and it was therefore decided that this was not a fruitful approach for the current study to repeat. This issue is explored in more detail in the prevalence estimation section of this report.

Some of the problems noted with the earlier estimation work in Pakistan stem from a failure to provide sufficient clarity in respect of issues relating to operational definitions. As we noted earlier, prevalence estimates for drug abuse are virtually un-interpretable unless clear operational definitions are used. This is especially the case with respect to defining the drug type covered. It was not a

realistic option in this study to attempt to generate robust prevalence estimates for all drug types. Rather, the use of regular use heroin and drugs by injecting was selected as the core topic of the estimation work. There is considerable overlap between these groups and for summary purposes we will refer to them as hard-core addicts. The benchmark-multiplier methods used here are particularly appropriate for use with this group of drug abusers.

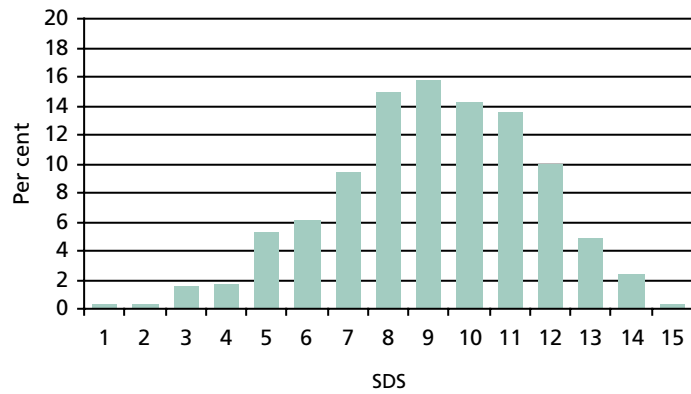
The prevalence estimation aspect of the study relies on the joint analysis of the component surveys. Each survey is analysed separately to produce the relevant information and assessments. These figures are then utilized in a joint analysis that makes use of the benchmark/multiplier indirect techniques. The joint analysis takes the information on treatment figures in the past year and information on the ratio of untreated to treated addict numbers to generate an estimate of the total number—treated and untreated—of heroin addicts. A similar joint analysis of the component surveys using imprisonment figures and imprisonment ratios is also carried out.

The methods used produce estimates that need to be harmonised not only across the different geographic regions but also across the different methods themselves. They are supplemented by further indirect estimation techniques where the information collected is appropriate. The face-to-face interviews with drug abusers provide information on drug use patterns, frequency of treatment and frequency of imprisonment. In particular these interviews establish the ratio of treated to untreated addicts over the last year and the ratio of those imprisoned to those not imprisoned in the previous year. These interview data can be used in harmony with the key informant data to give greater strength in establishing the ratios.

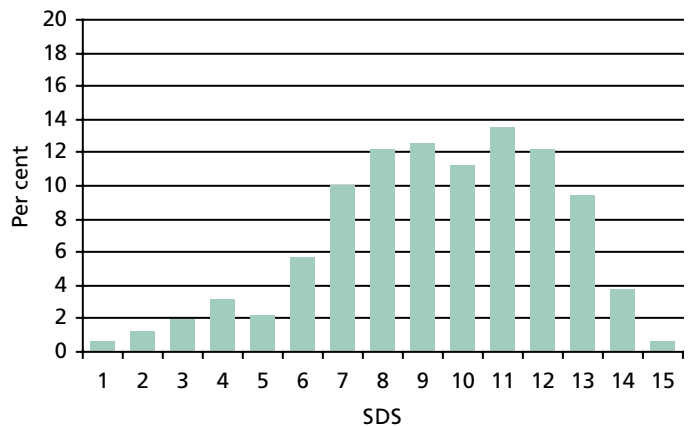
Annex II. Supplementary figure and tables

Figure A.II.I. Severity of dependence scores—by sample group

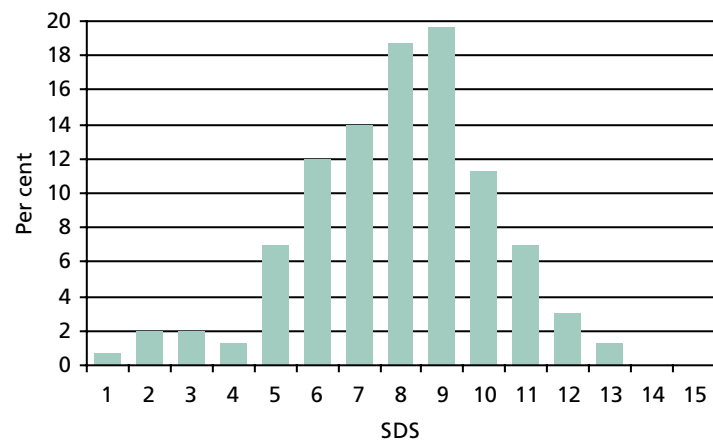
(a) Treatment sample



(b) Street sample



(c) Prison sample



DRUG ABUSE IN PAKISTAN

Table A.II.1. Respondents perceptions to the scale of drug use in their locale: rural/urban comparisons

Drug type	Urban areas				Rural areas			
	Commonly used	Some use	Rarely used	Don't know	Commonly used	Some use	Rarely used	Don't know
Hashish and charas	127 (71%)	43 (24%)	7 (4%)	2 (1%)	67 (69%)	24 (25%)	6 (6%)	—
Heroin	96 (54%)	69 (39%)	10 (6%)	4 (2%)	31 (32%)	42 (44%)	11 (11%)	12 (12%)
Opium	18 (10%)	58 (33%)	83 (47%)	18 (10%)	10 (11%)	33 (35%)	38 (40%)	13 (14%)
Other opiates	21 (9%)	28 (16%)	52 (30%)	74 (42%)	3 (3%)	6 (7%)	23 (26%)	56 (64%)
Cough syrups	19 (1%)	22 (12%)	56 (32%)	80 (45%)	12 (14%)	2 (2%)	17 (20%)	56 (64%)
Psychotropics	44 (25%)	62 (35%)	47 (26%)	25 (14%)	10 (11%)	26 (28%)	33 (36%)	23 (25%)
Drug injection	23 (13%)	56 (32%)	42 (24%)	52 (30%)	7 (8%)	17 (19%)	21 (24%)	43 (49%)
Solvents (glue, etc)	6 (4%)	30 (18%)	44 (26%)	90 (53%)	4 (5%)	6 (7%)	17 (20%)	57 (68%)
Alcohol	84 (47%)	66 (37%)	26 (15%)	1 (>1%)	37 (40%)	26 (28%)	28 (30%)	2 (2%)

Note: Sub-sample N's = Rural areas (84–97), Urban areas (170–179).

Table A.II.2. Respondents perceptions to the scale of drug use in their locale: provincial comparisons

Drug type	Punjab				Sindh			
	Commonly used	Some use	Rarely used	Don't know	Commonly used	Some use	Rarely used	Don't know
Hashish and charas	62 (67%)	26 (28%)	5 (5%)	—	36 (56%)	25 (39%)	2 (3%)	1 (2%)
Heroin	53 (58%)	31 (34%)	4 (4%)	4 (4%)	36 (56%)	24 (38%)	3 (5%)	1 (2%)
Opium	11 (12%)	33 (37%)	35 (39%)	10 (11%)	5 (8%)	15 (24%)	35 (56%)	8 (13%)
Other opiates	19 (22%)	19 (22%)	22 (26%)	26 (30%)	3 (5%)	8 (13%)	22 (34%)	31 (48%)
Cough syrups	24 (28%)	15 (17%)	27 (31%)	21 (24%)	1 (2%)	3 (5%)	19 (30%)	41 (64%)
Psychotropics	25 (28%)	38 (43%)	18 (20%)	8 (9%)	14 (22%)	21 (33%)	22 (34%)	7 (11%)
Drug injection	19 (21%)	41 (46%)	21 (23%)	9 (10%)	8 (13%)	15 (24%)	21 (33%)	19 (30%)
Solvents (glue, etc)	9 (11%)	25 (29%)	26 (31%)	25 (29%)	1 (2%)	7 (11%)	19 (31%)	35 (56%)
Alcohol	62 (71%)	22 (25%)	3 (3%)	—	26 (41%)	26 (41%)	12 (19%)	—
Drug type	Balochistan				NWFP			
	Commonly used	Some use	Rarely used	Don't know	Commonly used	Some use	Rarely used	Don't know
Hashish and charas	27 (90%)	2 (7%)	—	1 (3%)	56 (75%)	13 (17%)	6 (8%)	—
Heroin	23 (77%)	7 (23%)	—	—	9 (12%)	43 (57%)	12 (16%)	11 (15%)
Opium	7 (23%)	13 (43%)	8 (27%)	2 (7%)	4 (5%)	27 (36%)	37 (49%)	7 (9%)
Other opiates	—	2 (7%)	7 (25%)	19 (68%)	2 (3%)	4 (6%)	18 (25%)	48 (67%)
Cough syrups	—	2 (7%)	8 (30%)	17 (63%)	5 (7%)	4 (5%)	18 (25%)	46 (63%)
Psychotropics	1 (4%)	7 (25%)	9 (32%)	11 (39%)	11 (15%)	21 (28%)	23 (31%)	20 (27%)
Drug injection	3 (10%)	13 (45%)	6 (21%)	7 (24%)	—	3 (4%)	12 (17%)	54 (78%)
Solvents (glue, etc)	—	3 (11%)	15 (54%)	10 (36%)	—	1 (1%)	1 (1%)	68 (97%)
Alcohol	18 (60%)	4 (13%)	6 (20%)	2 (7%)	14 (19%)	33 (44%)	27 (36%)	1 (1%)

Note: Sub-sample N's = Punjab (85–93), Sindh (62–64), Balochistan (27–30), NWFP (69–75).

Table A.II.3. Key informant perceptions of long-term trends in drug use in their locale (last 5 years): rural/urban comparisons

Drug type	Urban areas					Rural areas						
	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know
Hashish and charas	4 (2%)	21 (12%)	24 (13%)	64 (36%)	61 (34%)	4 (2%)	3 (3%)	11 (11%)	9 (9%)	33 (34%)	41 (42%)	—
Heroin	13 (7%)	42 (24%)	17 (10%)	50 (28%)	52 (29%)	4 (2%)	6 (6%)	15 (16%)	11 (12%)	26 (28%)	26 (28%)	9 (10%)
Opium	12 (7%)	21 (12%)	86 (50%)	23 (13%)	9 (5%)	20 (12%)	3 (3%)	16 (17%)	46 (49%)	13 (14%)	10 (11%)	5 (5%)
Other opiates	3 (2%)	7 (4%)	33 (20%)	32 (20%)	16 (10%)	72 (44%)	4 (5%)	1 (1%)	10 (12%)	9 (11%)	3 (4%)	55 (67%)
Cough syrups	6 (4%)	13 (8%)	19 (12%)	27 (16%)	18 (11%)	81 (49%)	1 (1%)	3 (4%)	8 (10%)	7 (9%)	8 (10%)	52 (66%)
Psychotropics	4 (2%)	6 (3%)	23 (13%)	70 (40%)	47 (27%)	23 (13%)	—	6 (7%)	8 (9%)	30 (35%)	21 (24%)	21 (24%)
Drug injection	—	9 (5%)	23 (13%)	52 (30%)	30 (18%)	57 (33%)	3 (4%)	2 (2%)	8 (10%)	23 (28%)	7 (9%)	38 (47%)
Solvents	2 (1%)	4 (2%)	22 (14%)	42 (26%)	10 (6%)	83 (51%)	—	1 (1%)	8 (11%)	17 (23%)	1 (1%)	46 (63%)
Alcohol	2 (1%)	15 (9%)	54 (31%)	47 (27%)	52 (30%)	6 (3%)	5 (5%)	11 (12%)	17 (18%)	37 (39%)	21 (22%)	3 (3%)

Table A.II.4. Key informant perceptions of long-term trends in drug use in their locale (last 5 years): provincial comparisons

Drug type	Punjab					Sindh						
	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know
Hashish and charas	2 (2%)	7 (8%)	11 (13%)	46 (55%)	15 (18%)	2 (2%)	2 (3%)	10 (16%)	10 (16%)	21 (33%)	19 (30%)	1 (2%)
Heroin	6 (7%)	27 (33%)	15 (18%)	29 (35%)	5 (6%)	1 (1%)	7 (11%)	—	7 (11%)	19 (30%)	29 (46%)	1 (2%)
Opium	2 (3%)	7 (9%)	51 (66%)	9 (12%)	1 (1%)	7 (9%)	3 (5%)	9 (15%)	34 (57%)	7 (12%)	1 (2%)	6 (10%)
Other opiates	2 (3%)	2 (3%)	12 (16%)	20 (26%)	15 (19%)	26 (34%)	1 (2%)	4 (7%)	14 (25%)	7 (12%)	2 (4%)	29 (51%)
Cough syrups	1 (1%)	4 (5%)	7 (9%)	21 (28%)	19 (25%)	23 (31%)	5 (9%)	5 (9%)	4 (7%)	3 (5%)	3 (5%)	35 (64%)
Psychotropics	2 (3%)	1 (1%)	6 (8%)	44 (56%)	21 (27%)	4 (5%)	1 (2%)	4 (7%)	7 (12%)	20 (34%)	20 (34%)	7 (12%)
Drug injection	—	6 (7%)	14 (17%)	37 (45%)	17 (20%)	9 (11%)	2 (3%)	1 (2%)	4 (7%)	16 (27%)	11 (19%)	25 (42%)
Solvents	—	3 (4%)	13 (17%)	42 (55%)	6 (8%)	13 (17%)	1 (2%)	2 (4%)	8 (14%)	7 (13%)	4 (7%)	34 (61%)
Alcohol	—	2 (3%)	30 (38%)	24 (31%)	20 (26%)	2 (3%)	2 (3%)	3 (5%)	13 (21%)	21 (33%)	23 (37%)	1 (2%)

Drug type	Balochistan					NWFP						
	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know
Hashish and charas	—	—	3 (10%)	9 (30%)	17 (57%)	1 (3%)	2 (2%)	11 (13%)	7 (8%)	18 (21%)	47 (55%)	—
Heroin	—	—	—	5 (17%)	24 (80%)	1 (3%)	11 (13%)	20 (24%)	6 (7%)	21 (25%)	17 (20%)	10 (12%)
Opium	—	3 (10%)	8 (27%)	3 (10%)	12 (40%)	4 (13%)	10 (12%)	16 (19%)	31 (36%)	16 (19%)	5 (6%)	7 (8%)
Other opiates	—	—	8 (30%)	1 (4%)	—	18 (67%)	4 (5%)	2 (3%)	9 (12%)	11 (14%)	1 (1%)	50 (65%)
Cough syrups	—	—	6 (21%)	6 (21%)	—	17 (59%)	1 (1%)	6 (8%)	8 (10%)	3 (4%)	4 (5%)	55 (71%)
Psychotropics	—	1 (3%)	5 (17%)	10 (34%)	3 (10%)	10 (34%)	1 (1%)	6 (7%)	12 (15%)	20 (24%)	22 (27%)	21 (26%)
Drug injection	—	—	3 (10%)	12 (41%)	8 (28%)	6 (21%)	1 (1%)	3 (4%)	9 (12%)	8 (11%)	—	53 (73%)
Solvents	—	1 (4%)	6 (22%)	10 (37%)	—	10 (37%)	—	—	2 (3%)	1 (1%)	—	67 (96%)
Alcohol	—	2 (7%)	7 (23%)	9 (30%)	8 (27%)	4 (13%)	3 (4%)	14 (16%)	19 (22%)	29 (34%)	18 (21%)	2 (2%)

Table A.II.5. Key informant perceptions of short-term trends in drug use in their locale (last year): rural/urban comparisons

Drug type	Urban areas					Rural areas						
	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know
Hashish and charas	6 (3%)	15 (8%)	39 (22%)	60 (34%)	55 (31%)	4 (2%)	3 (3%)	9 (9%)	18 (19%)	30 (31%)	36 (38%)	—
Heroin	14 (8%)	46 (26%)	33 (19%)	47 (26%)	35 (20%)	3 (2%)	8 (9%)	16 (17%)	17 (18%)	25 (27%)	18 (19%)	9 (10%)
Opium	10 (6%)	19 (11%)	96 (56%)	22 (13%)	4 (2%)	19 (11%)	4 (4%)	13 (14%)	47 (52%)	16 (18%)	4 (4%)	7 (8%)
Other opiates	—	8 (5%)	36 (22%)	27 (17%)	17 (11%)	73 (45%)	3 (4%)	1 (1%)	15 (19%)	3 (4%)	3 (4%)	56 (69%)
Cough syrups	1 (1%)	10 (6%)	31 (19%)	24 (15%)	15 (9%)	79 (49%)	4 (5%)	1 (1%)	9 (12%)	7 (9%)	8 (10%)	49 (63%)
Psychotropics	1 (1%)	3 (2%)	27 (16%)	73 (43%)	39 (23%)	28 (16%)	1 (1%)	3 (3%)	15 (17%)	25 (29%)	22 (25%)	21 (24%)
Drug injection	1 (1%)	8 (5%)	24 (14%)	56 (33%)	24 (14%)	55 (33%)	—	2 (3%)	14 (18%)	19 (24%)	3 (4%)	41 (52%)
Solvents	2 (1%)	3 (2%)	26 (16%)	35 (22%)	13 (8%)	81 (51%)	—	—	13 (16%)	13 (16%)	4 (5%)	51 (63%)
Alcohol	1 (1%)	11 (6%)	63 (36%)	51 (29%)	46 (26%)	4 (2%)	3 (3%)	12 (13%)	32 (34%)	26 (28%)	18 (19%)	3 (3%)

Table A.II.6. Key informant perceptions of short-term trends in drug use in their locale (last year): provincial comparisons

Drug type	Punjab					Sindh						
	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know
Hashish and charas	4 (5%)	4 (5%)	16 (20%)	45 (55%)	10 (12%)	3 (4%)	1 (2%)	10 (16%)	14 (22%)	15 (23%)	23 (36%)	1 (2%)
Heroin	9 (11%)	23 (28%)	22 (27%)	22 (27%)	6 (7%)	1 (1%)	1 (2%)	14 (22%)	15 (23%)	15 (23%)	18 (28%)	1 (2%)
Opium	—	7 (9%)	54 (70%)	9 (12%)	—	7 (9%)	3 (5%)	5 (8%)	38 (63%)	5 (8%)	2 (3%)	7 (12%)
Other opiates	—	4 (5%)	15 (19%)	18 (23%)	15 (19%)	25 (32%)	2 (3%)	1 (2%)	12 (21%)	6 (10%)	3 (5%)	34 (59%)
Cough syrups	—	2 (3%)	13 (17%)	22 (29%)	18 (24%)	20 (27%)	3 (5%)	3 (5%)	8 (14%)	2 (4%)	1 (2%)	40 (70%)
Psychotropics	—	1 (1%)	7 (9%)	41 (55%)	21 (28%)	5 (7%)	—	1 (2%)	5 (8%)	29 (47%)	19 (31%)	8 (13%)
Drug injection	1 (1%)	3 (4%)	14 (17%)	39 (48%)	16 (20%)	8 (10%)	—	1 (2%)	12 (19%)	12 (19%)	9 (15%)	28 (45%)
Solvents	—	2 (3%)	12 (15%)	40 (51%)	12 (15%)	13 (16%)	1 (2%)	1 (2%)	12 (21%)	5 (9%)	4 (7%)	34 (60%)
Alcohol	1 (1%)	1 (1%)	29 (37%)	29 (37%)	17 (22%)	1 (1%)	—	5 (8%)	14 (22%)	20 (31%)	24 (38%)	1 (2%)

Drug type	Balochistan					NWFP						
	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know	Decreased a lot	Decreased a little	No change	Increased a little	Increased a lot	Don't know
Hashish and charas	—	—	13 (43%)	9 (30%)	8 (27%)	—	3 (4%)	8 (9%)	10 (12%)	20 (24%)	44 (52%)	—
Heroin	—	—	4 (14%)	12 (41%)	13 (45%)	—	10 (12%)	22 (26%)	9 (11%)	20 (24%)	14 (16%)	10 (12%)
Opium	—	3 (11%)	10 (36%)	9 (32%)	3 (11%)	3 (11%)	11 (13%)	15 (18%)	35 (42%)	12 (14%)	3 (4%)	8 (10%)
Other Opiates	—	—	9 (35%)	—	—	17 (65%)	1 (1%)	4 (5%)	14 (19%)	4 (5%)	2 (3%)	50 (67%)
Cough syrups	—	1 (4%)	11 (39%)	1 (4%)	—	15 (54%)	2 (3%)	4 (6%)	7 (10%)	4 (6%)	4 (6%)	51 (71%)
Psychotropics	—	2 (7%)	10 (36%)	4 (14%)	2 (7%)	10 (36%)	1 (1%)	3 (4%)	17 (21%)	20 (24%)	17 (21%)	24 (29%)
Drug injection	—	—	5 (15%)	16 (62%)	1 (4%)	5 (19%)	—	5 (7%)	8 (11%)	5 (7%)	—	54 (75%)
Solvents	—	1 (4%)	13 (48%)	3 (11%)	—	10 (37%)	—	—	1 (1%)	1 (1%)	—	71 (97%)
Alcohol	—	2 (7%)	16 (55%)	2 (7%)	6 (21%)	3 (10%)	2 (2%)	11 (13%)	32 (38%)	24 (28%)	14 (16%)	2 (2%)

Table A.II.7. Key informant perceptions of problems caused by drug use: urban/rural comparisons

Drug type	Urban areas					Rural areas				
	Major problems	Some problems	Few problems	No problems	Don't know	Major problems	Some problems	Few problems	No problems	Don't know
Hashish and charas	31 (17%)	86 (48%)	47 (26%)	15 (8%)	—	15 (15%)	43 (44%)	26 (27%)	13 (13%)	—
Heroin	156 (87%)	16 (9%)	3 (2%)	3 (2%)	1 (1%)	66 (71%)	12 (13%)	3 (3%)	1 (1%)	11 (12%)
Opium	11 (6%)	41 (24%)	61 (35%)	45 (26%)	15 (9%)	11 (12%)	15 (16%)	27 (29%)	36 (39%)	3 (3%)
Other opiates	14 (8%)	22 (13%)	38 (23%)	23 (14%)	70 (42%)	—	9 (11%)	7 (9%)	16 (20%)	50 (61%)
Cough syrups	16 (10%)	20 (12%)	21 (13%)	25 (15%)	82 (50%)	6 (7%)	4 (5%)	5 (6%)	14 (17%)	52 (64%)
Psychotropics	19 (11%)	29 (17%)	57 (33%)	41 (24%)	26 (15%)	1 (1%)	11 (13%)	28 (32%)	23 (26%)	24 (28%)
Drug injection	45 (26%)	40 (23%)	21 (12%)	16 (9%)	49 (29%)	13 (16%)	15 (18%)	7 (9%)	8 (10%)	39 (48%)
Solvents	17 (10%)	20 (12%)	34 (21%)	19 (12%)	72 (44%)	3 (4%)	10 (13%)	11 (14%)	7 (9%)	46 (60%)
Alcohol	52 (30%)	60 (34%)	51 (29%)	11 (6%)	2 (1%)	32 (34%)	30 (32%)	20 (22%)	7 (8%)	4 (4%)

Table A.II.8. Key informant perceptions of problems caused by drug use: provincial comparisons

Drug type	Punjab					Sindh				
	Major problems	Some problems	Few problems	No problems	Don't know	Major problems	Some problems	Few problems	No problems	Don't know
Hashish and charas	17 (20%)	45 (54%)	19 (23%)	2 (2%)	—	8 (13%)	20 (31%)	23 (36%)	13 (20%)	—
Heroin	73 (88%)	9 (11%)	—	1 (1%)	—	50 (78%)	10 (16%)	2 (3%)	2 (3%)	—
Opium	1 (1%)	24 (31%)	31 (40%)	18 (23%)	3 (4%)	3 (5%)	4 (7%)	13 (21%)	35 (57%)	6 (10%)
Other opiates	10 (13%)	19 (24%)	20 (25%)	7 (9%)	23 (29%)	3 (5%)	3 (5%)	7 (12%)	17 (30%)	27 (47%)
Cough syrups	19 (25%)	17 (22%)	9 (12%)	9 (12%)	23 (30%)	1 (2%)	2 (4%)	2 (4%)	19 (33%)	33 (58%)
Psychotropics	11 (14%)	17 (22%)	26 (34%)	20 (26%)	3 (4%)	4 (7%)	7 (12%)	20 (33%)	20 (33%)	9 (15%)
Drug injection	28 (34%)	32 (39%)	10 (12%)	7 (8%)	6 (7%)	10 (16%)	10 (16%)	10 (16%)	10 (16%)	21 (34%)
Solvents	18 (24%)	23 (30%)	22 (29%)	5 (7%)	8 (11%)	1 (2%)	3 (5%)	11 (19%)	15 (26%)	28 (48%)
Alcohol	37 (48%)	33 (43%)	6 (8%)	—	1 (1%)	19 (30%)	18 (28%)	20 (31%)	6 (9%)	1 (2%)

Drug type	Balochistan					NWFP				
	Major problems	Some problems	Few problems	No problems	Don't know	Major problems	Some problems	Few problems	No problems	Don't know
Hashish and charas	6 (20%)	13 (43%)	4 (13%)	7 (23%)	—	12 (14%)	46 (54%)	22 (26%)	5 (6%)	—
Heroin	30 (100%)	—	—	—	—	61 (72%)	8 (9%)	4 (5%)	1 (1%)	11 (13%)
Opium	10 (33%)	3 (10%)	13 (43%)	2 (7%)	2 (7%)	8 (9%)	22 (26%)	28 (33%)	21 (25%)	6 (7%)
Other Opiates	—	1 (3%)	8 (27%)	1 (3%)	20 (67%)	1 (1%)	8 (10%)	7 (9%)	14 (18%)	47 (61%)
Cough syrups	—	—	5 (17%)	3 (10%)	22 (73%)	2 (3%)	5 (7%)	7 (9%)	7 (9%)	54 (72%)
Psychotropics	—	3 (10%)	8 (27%)	4 (13%)	15 (50%)	5 (6%)	12 (15%)	26 (32%)	17 (21%)	21 (26%)
Drug injection	16 (53%)	5 (17%)	2 (7%)	1 (3%)	6 (20%)	1 (1%)	7 (10%)	6 (8%)	6 (8%)	53 (73%)
Solvents	—	2 (7%)	10 (36%)	2 (7%)	14 (50%)	—	2 (3%)	2 (3%)	4 (6%)	63 (89%)
Alcohol	1 (3%)	7 (23%)	14 (47%)	6 (20%)	2 (7%)	23 (27%)	26 (31%)	29 (34%)	5 (6%)	2 (2%)

Table A.II.9. Key informants: attitudes to drug abuse

<i>Attitude statements</i>	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Unsure</i>	<i>Agree</i>	<i>Strongly agree</i>	<i>Overall rating</i>
Many drug users are too poor to get treatment.	1 (>1%)	27 (10%)	1 (>1%)	106 (38%)	141 (51%)	1.30
Drug users are responsible for a lot of crimes in this area.	3 (1%)	53 (19%)	3 (1%)	141 (51%)	75 (27%)	1.32
Many treatment services in this area do not offer a good service to drug users.	8 (3%)	17 (6%)	23 (8%)	103 (37%)	124 (45%)	0.80
Heroin use is becoming less popular than it used to be in this area.	70 (25%)	77 (28%)	22 (8%)	90 (33%)	18 (6%)	0.44
There is a need in this area for more educational campaigns about the dangers of drug abuse.	1 (>1%)	4 (1%)	—	60 (22%)	211 (76%)	0.33
The police and prison system should be more severe in dealing with drug abusers.	51 (18%)	99 (36%)	2 (>1%)	59 (21%)	65 (24%)	1.01
Awareness campaigns against drug abuse have been an effective way of discouraging drug abuse.	57 (21%)	70 (25%)	26 (9%)	80 (29%)	42 (15%)	0.09
There is not sufficient help available for people with drug problems in this area.	11 (4%)	10 (4%)	1 (>1%)	99 (36%)	155 (56%)	0.55
Heroin users are increasingly changing to other pharmaceutical drugs in this locale.	10 (4%)	31 (11%)	88 (32%)	88 (32%)	59 (21%)	1.26

Note: sub-sample N's (273–276). Note overall rating score positive values = attitude positive to statement/negative values indicate negative attitude. Possible values run from –2 (all strongly disagree) +2 (all strongly agree).

Annex III.

Tables supplemental to prevalence calculation

1. Notes on calculation methods used in the prevalence estimation tables

CALCULATION SHEET SUMMARY (1)

Overall calculation and presentation scheme

The locales for the four cities study component and the other study locales are estimated separately.

The overall estimation scheme has been to estimate the prevalence of addiction in each of the four provinces of Sindh, Punjab, NWFP and Balochistan separately, as far as possible, in order to derive the prevalence for Pakistan as a whole. The F.A.T.A. has not been included in the prevalence estimate as a separate figure.

Within each of these provinces, prevalence has been estimated (i) for the principal locale that contributed to the four cities study component of the National Assessment, namely Karachi, Lahore, Peshawar and Quetta respectively; and (ii) within each province also for the remaining locales chosen for study.

The tables therefore present data for each of the four cities locales and for the totals of 'all other' locales within each province—giving eight 'locale-groupings'—and for all study locales combined.

Data structures and estimate breakdowns used:

1. Locale demographic Profiles

Basic data provided by the Census is used, using figures for each of the locales in the study

Section 1 of the table establishes the key figure of the number of males in the locale-groupings, derived from the figures provided in the 1998 National Census, Census Bulletin-1, along with other demographic characteristics.

Data structures presented

- Households
- Male
- Female
- Total
- Urban males
- 1981 Population Total

2. Target age-band (in millions of population)

This next step reduces the overall male population to target the most important age band of 15 to 45 years

Section 2 of the table presents the estimated percentage of the male population that lies in the target age-band of 15 to 44 years of age. The initial figures were derived from the 1998 National Census Bulletin 6.

(Subsequently figures were derived separately for each province, from Census Bulletins 7-10.) This percentage is used in conjunction with the section 1 figure for the total male population to provide the number of males in the target age-band, for each locale-grouping.

Data structures presented

- Percentage of males in target age-band
- Number of males in target population

3. Locale clinic profiles

Data from the treatment Register Update Study are used to estimate the number of male heroin addicts in treatment

Section 3 of the table presents information collected in the Treatment Register Update component of the National Assessment. This information gives the key figures of (i) the total numbers of inpatient cases in the past year who have attended the listed specialist (inpatient) clinics; and (ii) the percentage of inpatient cases who were male heroin addicts, along with other information on the listed clinic services.

Combining these figures allows the calculation of the number of male inpatient heroin addiction cases, although only in 7 of the locale-groupings, since the locales in Balochistan other than Quetta had no recorded inpatient services. So in Balochistan only the Quetta city locale could provide a figure for the number of male inpatient heroin addicts treated in the past year.

Data structures presented

- Total number of beds in clinics
- Total treatment admissions
- Total number of inpatients in year
- Percentage male inpatient Heroin cases
- Number of male inpatient Heroin cases

CALCULATION SHEET SUMMARY (2)

The second Calculation Summary Sheet extends the estimates made in Summary Sheet 1 of the numbers of treated heroin addicts to give estimates of the likely range of total numbers of heroin addicts for each locale-grouping, and for Pakistan as a whole.

4. Key Informant and Interview Treatment Multipliers

The range of multipliers used to represent the number of addicts not in treatment in the year is a composite of all study data

The Key Informant component of the National Assessment provided information on the percentage of addicts treated

in each of the locale-groupings. Key informants, excluding police and treatment-related personnel, who had contact with at least ten addicts over the previous year reported on how many of these had received inpatient treatment during the year.

These reports from all included Key Informants in the locale-groupings gave a median figure for the percentage of addicts receiving inpatient treatment over the previous year. Amongst these reports the 25%-tile (1st quartile) is used as a minimum likely estimate and the 75%-tile is used as a maximum likely estimate to provide a likely range for the estimate of the percentage of addicts who were treated.

These treatment percentages enable the calculation of a range of 'treatment multipliers'—factors that give the required inflation factor of local inpatient treatment figures to give the total number of local treated and untreated addicts. These inflation multipliers are applicable to the estimated number of local addicts receiving inpatient treatment for each (of 7) locale-grouping.

The Treatment Register Update interviews in the clinics provided informally data on the percentage of treated addicts at the listed specialist clinics who are from the local catchment areas, and this catchment 'correction factor' has been taken at 90% in the initial estimation procedures.

Combining, for each of the locale groupings separately, the figures for the multiplier and the catchment correction factor with the numbers of inpatient treated addicts derived in section 3 of the Summary Sheet gives the estimated total number of heroin addicts in the study locales.

Data structures presented

- (a) Maximum likely % in treatment
- (b) Median likely % in treatment
- (c) Minimum likely % in treatment
- (a) Derived multiplier (for catchment)
- (b) Derived multiplier (for catchment)
- (c) Derived multiplier (for catchment)

catchment correction

- (a) Estimated number of addicts in catchment
- (b) Estimated number of addicts in catchment
- (c) Estimated number of addicts in catchment

5. Prevalence estimates and numbers of addicts (extrapolated)

Minimum and maximum likely numbers extrapolated to whole country

The final section 5 extrapolates from the estimated number of addicts estimated to be in each locale's clinic catchment area to the overall figure for each of the provinces and for Pakistan in total. This extrapolation is in two stages: (i) from the locales in the study that have clinics listed for male heroin inpatient treatment to all locales used in the study; (ii) from the locales used in the study to the whole province, keeping the distinction between the locale for the principal city and the remaining locales in each province.

Minimum likely and maximum likely estimates are given in each instance, to provide a plausible range of estimates.

Data structures presented

- Ext. coverage (non-clinic locales)
- Ext. coverage (province exc locales)
- Minimum likely ...
 - (a) Target prevalence (in catchment)
 - (a) Number of addicts (clinic locales)
 - (a) Likely minimum number of heroin addicts
- Maximum likely ...
 - (c) Target prevalence (in catchment)
 - (c) Number of addicts (clinic locales)
 - (c) Likely maximum number of heroin addicts

2. Tables showing prevalence estimation data by province

Tables correspond to tables 25 to 29 in chapter 8, giving data outside the principal cities of the four cities study for each province.

Table A.III.1. Basic data provided by the census, using figures for each of the locales in the study

	<i>Total of other locales</i>	<i>Locale data (exc four cities) summed for each province</i>				
		<i>Sindh</i>	<i>Punjab</i>	<i>NWFP</i>	<i>FATA</i>	<i>Balochistan</i>
(i) Locale Demographic Profiles						
Households	3 305 785	625 540	2 112 993	470 016	97 236	0
Male	12 104 131	1 947 639	7 484 506	2 062 258	454 492	155 236
Female	11 228 122	1 770 872	6 979 950	1 924 769	411 487	141 044
Total	23 332 253	3 718 511	14 464 456	3 987 027	865 979	296 280
Urban males	4 522 729	997 809	3 191 978	268 185	28 587	36 170
1998 population total	11 389 758	2 612 874	7 334 489	994 206	448 189	0

Table A.III.2. Reduced overall target population to males in the age band of 15 to 45 years

	<i>Total of other locales</i>	<i>Locale data (exc four cities) summed for each province</i>				
		<i>Sindh</i>	<i>Punjab</i>	<i>NWFP</i>	<i>FATA</i>	<i>Balochistan</i>
(ii) Locale Target Age-Band: males aged 15-45 (in millions of population)						
Assumed % of males in target	42.20%	42.20%	42.20%	42.20%	42.20%	42.20%
Number of males in target population	5.108	0.822	3.158	0.870	0.192	0.066

Table A.III.3. Data from the treatment register update study

	Total of other locales	Locale data (exc four cities) summed for each province				
		Sindh	Punjab	NWFP	FATA	Balochistan
<i>(iii) Locale Clinic Profiles</i>						
Total number of beds provided in specialist clinics	522	243	269	10	0	0
Total number of treatment admissions	3 589	1 316	2 118	155	0	0
Total number of inpatients admitted in year	2 151	603	1 393	155	0	0
Proportion of admissions that are male inpatient heroin cases		0.89	0.83	0.58		
Number of admissions of male inpatient heroin cases	1 783	537	1156	90		

Table A.III.4. Treatment multipliers derived from key informant and addict interview data

	Total of other locales	Locale data (exc four cities) summed for each province				
		Sindh	Punjab	NWFP	FATA	Balochistan
<i>(iv) Key Informant and Interview Treatment Multipliers</i>						
Range of estimated proportion of addicts who received treatment in year (see text)						
(a) Maximum likely proportion who received treatment	0.2567	0.2000	0.3000	0.4167	—	
(b) Median likely proportion who received treatment	0.1464	0.1000	0.1000	0.2000	—	
(c) Minimum likely proportion who received treatment	0.0600	0.0300	0.0500	0.1500	—	
	0.2567	0.2000	0.3000	0.4167	—	
Range of estimated derived multiplier, representing addicts not receiving treatment in year						
(a) Minimum multiplier (applies to clinics' catchment area)	3.90	5.00	3.33	2.40	—	
(b) Median multiplier (applies to clinics' catchment area)	6.83	10.00	10.00	5.00	—	
(c) Maximum multiplier (applies to clinics' catchment area)	16.67	33.33	20.00	6.67	—	
Range of estimated number of addicts in population (see text)						
Correction factor for addicts out-of-catchment (see text)						
(a) Likely estimated minimum number of addicts in catchment	6 078	2 415	3 469	194		
(b) Likely estimated median number of addicts in catchment	15 640	4 830	10 406	405		
(c) Likely estimated maximum number of addicts in catchment	37 451	16 100	20 811	539		

Table A.III.5. Extrapolated estimates of the numbers of addicts in the country as a whole

	<i>Total of other locales</i>	<i>Locale data (exc four cities) summed for each province</i>				
		<i>Sindh</i>	<i>Punjab</i>	<i>NWFP</i>	<i>FATA</i>	<i>Balochistan</i>
(v) Prevalence estimates and numbers of addicts (extrapolated)						
Minum and maximum likely numbers extrapolated to whole country						
ext.coverage (non-clinic locales)		1.00	1.59	2.76	—	—
ext.coverage (province exc locales)		5.42	4.63	3.83	—	—
(a) Minimum likely ...						
(a) target prevalence (in catchment)	0.12%	0.29%	0.17%	0.06%	—	
(a) Number of addicts (clinic locales)	6 078	2 415	3 469	194	—	
(a) Likely minimum number of heroin addicts	40 721	13 096	25 570	2 055		
(b) Maximium likely ...						
(c) target prevalence (in catchment)	0.73%	1.96%	1.05%	0.17%	—	
(c) Number of addicts (clinic locales)	37 451	16 100	20 811	539	—	
(c) Likely maximum number of heroin addicts	246 434	87 305	153 421	5 707		

