

The social cost of illegal drug consumption in Spain

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ABSTRACT

Aims The objective of this study was to estimate the social cost of the consumption of illegal drugs in Spain.

Design We performed a cost-of-illness study, using a prevalence approximation and a societal perspective. The estimation of costs and consequences referred to 1997. As direct costs we included health-care costs, prevention, continuing education, research, administrative costs, non-governmental organizations and crime-related costs. As indirect costs we included lost productivity associated with mortality and the hospitalization of patients. Estimation of intangible costs was not included.

Findings The minimum cost of illegal drug consumption in Spain is 88 800 million pesetas (PTA) (467 million dollars). Seventy-seven per cent of the costs correspond to direct costs. Of those, crime-related costs represent 18%, while the largest part corresponds to the health-care costs (50% of direct costs). From the perspective of the health-care system, the minimum cost of illegal drug consumption is 44 000 million PTA (231 million dollars). The cost of illegal drug consumption represents 0.07% of the Spanish GDP. This gross figure compares with 2250 million PTA (12.5 million dollars) invested in prevention programmes during the same year, and with 12 300 million PTA (68.3 million dollars) spent on specific programmes and resources for the drug addict population.

Conclusions Although there are limitations intrinsic in this type of study and the estimations obtained in the present analysis are likely to be an underestimate of the real cost of this condition, we estimate that illegal drug consumption costs the Spanish economy at least 0.2% of GDP.

KEYWORDS Cost-of-illness study, illegal drug consumption, Spain.

INTRODUCTION

The consumption of illegal drugs and its associated health and social consequences is a public health problem that attracts the attention of policy makers and citizens in many countries.

Particularly in Spain, since the middle of the 1980s HIV/AIDS infection has become the main health-care problem associated with the consumption of illegal drugs. Spain is among the countries with the highest percentage (up to 60%) of AIDS cases related to the consumption of intravenous drugs (CSES 1999). The

importance of this problem has driven the design of programmes, policies and health-care services specifically for this population (BOPC 1987; Plan Nacional sobre Drogas 1998).

Now, under the paradigm of evidence-based health care, it seems that knowing the magnitude of the problem, identifying the behaviour of the population confronting this problem and ascertaining its causes are essential tasks to articulate effective health-care policies (Muir Gray 1997). Assessment of the economic impact of the social cost of illegal drug consumption would allow one to justify budgets, initiate specific policies to decrease

the problem, identify possibilities for further research and establish standard measures to compare future policies for the reduction of the cost associated with the consumption of illegal drugs. This type of evaluation would enable assessment of the consequences of this habit for society, in terms of impact on health status, and the effectiveness of health-care policies (Hellinger 1993; Guinan *et al.* 1994; Gorsky *et al.* 1995; Barnett 1999; Yates 1999; Mompó *et al.* 2000).

Cost-of-illness studies have many limitations (Drummond 1992; Scitovsky 1982; Shiell *et al.* 1987; Reuter 1999). For example, they do not address the issue of choice between alternatives. As opposed to cost-effectiveness and cost-benefit analyses, cost-of-illness studies do not provide information about the relative efficiency of alternative health-care services, and they do not confront the issue of where to address the next available monetary unit. Also, the results may be subject to enormous uncertainty, based on the assumptions made. In addition, the costs calculated contain both avoidable and unavoidable social costs, and there is no direct link between the effectiveness of a policy and the decrease in social costs. On the other hand, these types of study can provide useful broad estimates of the magnitude of the problem. The distribution of the different health-care costs can help to assess how the health-care system delivers care for a given disease. The relative cost of diseases can be an indicator of priorities to those interested in improving the efficiency of the health-care system (Rice 1994). However, due to the difficulty of performing such an analysis and the possible problems relating lack of data and information to some of the aspects to be included, the reader should be cautioned that the estimations obtained in the present analysis are probably an underestimate of the real costs of this condition.

Although studies have been published previously that deal with the social cost of alcohol abuse (Portella *et al.* 1998), AIDS (Antoñanzas *et al.* 1995) and a partial study on illegal drugs (López *et al.* 1989), there is very little research on the social costs of illegal drug consumption in Spain.

According to estimations made in other studies carried out in health and social contexts different from the Spanish one, the economic cost of drug abuse in the United States in 1985 was 44 100 million dollars (Rice *et al.* 1990), 98 100 million dollars in 1992 (Harwood *et al.* 1998), and 1400 million in Canada in 1992 (Single *et al.* 1996).

The aim of the present study was to estimate the social cost of the consumption of illegal drugs in Spain. The specific objectives of this study were to identify the concepts of cost to measure, identify the sources of information, measure the consumption of resources in the different areas associated with drug consumption, value

the different costs with the data available and make recommendations for future studies.

METHODS

We performed a cost-of-illness study in order to identify the different cost elements associated with the consumption of illegal drugs, and assign them a monetary value using the available epidemiological and economic information (Rice 1966; Hodgson & Meiners 1982). As in any cost-of-illness study, the counterpoint of the analysis is that the costs are being calculated against the hypothetical alternative of the absence of the condition of interest, in our case the non-existence of illegal drug use. We consider the non-prescribed use of opioids, amphetamines and psychostimulants and the consumption of cocaine, synthesis drugs, cannabis, hallucinogenic drugs and glues, excluding alcohol and tobacco.

We used a prevalence approximation; that is, we estimated all costs with an impact on the time period of reference (Lindgreen 1982). In the estimation of the indirect costs, however, we introduced a slight modification because we calculated all the costs attributable to patients with cause of death related to drug abuse in the time period of reference. We also included the costs of other patients who had died previously from a drug-related cause which had an impact in the time period of reference, assuming that they would otherwise be alive that year.

We used a societal perspective but, since we assumed that a huge part of the costs would have an impact on public health-care administration, we also undertook the analysis from the perspective of the health-care system. The temporal horizon used was 1 year, and the estimation of costs and consequences was referred to 1997. The geographical unit was Spain.

As direct costs we included all the costs attributable directly to illegal drug consumption, including health-care costs, prevention, continuing education—i.e. training of professionals, attendance at and organization of scientific meetings, publications, research, administrative costs, non-governmental organizations and crime-related costs (French & Martin 1996). More specifically, within health-care costs we included acute care in hospitals, emergency care, primary care, transportation, specific health care services, long-term care and pharmaceutical expenditure.

Most of the calculations were made taking into account a measure of frequency and a measure of cost. In that way we calculated the costs of acute care, emergency care, transportation, long-term care and pharmaceuticals. The measures of frequency were health-care services utilization, and the cost measures were reim-

bursement tariffs (i.e. public prices applied for the reimbursement of health-care services) and costs.

To calculate the cost of acute care, we took into account the number of discharges in general and psychiatric hospitals in 1997 related directly (morbidity) to the consumption of illegal drugs registered in the uniform hospital discharge dataset or published by the Instituto Nacional de Estadística (1998a), and applying the reimbursement tariff for this item (DOGC 1997b; Instituto Nacional de Estadística 1998a). The related causes of morbidity are shown in Appendix 1, and are based on Single *et al.* (1996).

We also calculated cost related to co-morbidity, selecting those cases that have a related cause as a secondary diagnosis at discharge report. We included 33% and 60% of the cost as an estimation of the part of the total cost of these patients due to drug-related co-morbidity (Dickey & Azeni 1996). Similarly, we calculated the cost of the stays in long-term care centres of patients with HIV/AIDS, applying the corresponding reimbursement tariff (DOGC 1997a) to the number of cases (Servei Català de la Salut 1998). Of this amount, we took into account only the cost related to illegal drug use, using the percentage of HIV/AIDS cases related to the use of intravenous drugs available in the epidemiological registries (Instituto de Salud Carlos III 1998).

To calculate the cost of emergency care, we took into account the number of emergency visits related to the consumption of illegal drugs (Centre d'Estudis Epidemiològics sobre la SIDA de Catalunya 1998; Plan Nacional sobre Drogas 1999), and applied the corresponding tariff (DOGC 1997b). To calculate transport costs, we assumed that all emergency visits arrived at the hospital by ambulance. Then, we applied the tariff to this number of visits (DOGC 1997c).

When it was not possible to obtain frequency and cost measures we obtained data from budgets. This was the case for primary care, pharmaceuticals, specific health-care services, prevention, continuing education, research, administrative costs, non-governmental organizations and other policies such as the justice and penal systems. To calculate the cost of primary care, we took into account the amount of budget devoted to primary care in Spain (Ministerio de Sanidad y Consumo 1997). To this amount we applied the percentage of resources devoted to drug-related primary care visits, based on a previous study that analysed the distribution of primary care visits according to diagnoses (Bolíbar *et al.* 1996). To calculate the cost of pharmaceuticals, we multiplied the number of drugs consumed related to the consumption of illegal drugs—for example naltrexone—(Òrgan Tècnic de Drogodependències 1998) by its price in 1997 (Vademécum Internacional 1997), and we added the consumption of methadone (Laboratoris Esteve, personal

communication). We also added the percentage of anti-retroviral drug consumption due to HIV/AIDS attributed to drug abuse in that year (Instituto de Salud Carlos III 1998).

To calculate the cost of prevention, continuing education, research and administrative costs, we applied a percentage (80% and 100%) of the total budget dedicated by the government to these policies (Plan Nacional sobre Drogas 1998). As non-governmental organizations we included those for which we had information: Asociación Proyecto Hombre (1998) and Fundación de Ayuda contra la Drogadicción (1997).

To calculate the cost of the justice system, we estimated a cost of 87 100 pesetas (PTA) (US \$458) for a sentence in court, based on an estimation that totals the judge—wage costs divided by the annual number of sentences of this kind—plus the tariffs of other official lawyers that participate in a suit. We applied this cost to the number of cases in court because of drug traffic (Observatorio Español sobre Drogas 1998). Imprisonment costs were calculated through the estimation of a cost of 1 000 000 PTA (US \$5263) per case (Plan Nacional sobre Drogas 1998) by means of an approximation based on hotel costs plus a rough mark-up of security costs.

As indirect costs we included the productivity losses attributable to the mortality and the hospitalization of patients—morbidity—due to acute reaction to psychoactive drugs—mainly overdoses—through the human capital approach, using lost wages, mean wages and occupation rates (Weisbrod 1961; Rice 1966; Hartunian *et al.* 1980). To calculate indirect costs related to mortality, we calculated the lost productivity corresponding to 1997 measured through the mean wage (Instituto Nacional de Estadística 1998b) associated with the deaths related to drug abuse between 1975 and 1997 (Observatorio Español sobre Drogas 1999). To calculate the indirect costs attributable to morbidity, we included the length of stay of patients—in general hospitals, psychiatric hospitals and nursing homes, as calculated previously—due to causes related to drug abuse, and applied them to the mean wage in Spain in 1997 (Instituto Nacional de Estadística 1998b). Both calculations were corrected by the occupation rate of illegal drug consuming population (Òrgan Tècnic de Drogodependències 1998). We did not include the cost corresponding with the victims of crime due to the absence of data on this point.

We did not include any assessment of intangible costs such as pain, stress or discomfort, as they are difficult to assess and there is no clear methodology to carry it out (Single *et al.* 1996; Drummond *et al.* 1997). In the cases where there was discrepant information in the value of some of the parameters, we used the maximum and

| Concept | Cost (PTA) ^b | Cost (US\$) ^{ab} |
|---|---|--|
| Acute care | 8 589 391 923 (8 756 200 335) | 45 207 325.9 (46 085 264.9) |
| Emergency care | 345 577 044 | 1 818 826.5 |
| Primary care | 1 474 811 700 | 7 762 166.8 |
| Specific health-care resources | 12 307 596 114 | 64 776 821.7 |
| Long-term care | 900 274 751 (1 403 171 371) | 4 738 288.2 (7 385 112.5) |
| Pharmaceutical expenditure | 20 350 419 422 | 107 107 470.6 |
| Transport | 25 054 750 (1 038 167 90) | 131 867.1 (546 404.2) |
| Total health care costs | 43 993 125 704 (44 741 592 776) | 231 542 766.9 (235 482 067.2) |
| Prevention | 2 253 562 265 (2 816 952 831) | 11 860 854.0 (14 826 067.5) |
| Continuing education and research | 509 356 032 (593 994 690) | 2 680 821.2 (3 126 287.8) |
| Social programmes | 1 987 809 406 (2 484 761 757) | 10 462 154.8 (13 077 693.5) |
| Administration | 1 790 268 558 (2 237 835 698) | 9 422 466.1 (11 778 082.6) |
| Total non-health care costs | 6 540 996 261 (8 133 544 976) | 34 426 296.1 (42 808 131.5) |
| Asociación Proyecto Hombre | 1 748 895 72 | 9 204 714 |
| Fundación de Ayuda contra la Drogadicción | 207 528 258 | 1 092 254.0 |
| Total other organizations | 382 417 830 | 2 012 725.4 |
| Justice | 3 098 185 200 | 16 306 237.9 |
| Penal system | 13 155 000 000 | 69 236 842.1 |
| Total crime-related costs | 16 253 185 200 | 85 543 080.0 |
| Total direct costs | 67 169 724 995 (69 510 740 782) | 353 524 868.4 (365 846 004.1) |
| Mortality | 20 451 765 010 (63 435 995 688) | 107 640 868.5 (333 873 661.5) |
| Institutionalization | 1 267 597 162 (1 374 969 883) | 6 671 564.0 (7 236 683.6) |
| Total indirect costs | 21 719 362 172 (64 810 965 571) | 114 312 432.5 (341 110 345.1) |
| Total cost of illegal drug consumption | 88 889 087 167 (134 321 706 353) | 467 837 300.9 (706 956 349.2) |

^aCosts translated to dollars using 1 US \$ = 190 PTA.

^bValues in parentheses indicate the values using maximum thresholds.

minimum values in our calculus, as well as in those cases in which we included two estimations (i.e. two percentages of attribution).

RESULTS

As can be seen in Table 1, the minimum cost of illegal drug consumption in Spain is estimated at 88 800 million PTA (467 million dollars), but it could be as high as 134 300 million PTA (707 million dollars) (Table 1).

Regarding the percentage distribution of direct and

indirect costs, and taking into account the lower estimation, 77% of the total cost corresponds to direct costs. Of those, crime-related costs represent 18% of direct costs, while the largest part corresponds to the health-care costs, which represent 50% of direct costs.

Undertaking the analysis from the perspective of the health-care system, and including health-care costs, the minimum cost of illegal drug consumption is estimated at 44 000 million PTA (231 million dollars), and the maximum is 44 700 million PTA (235 million dollars). Note that the cost of prevention activities has not been included, as it is not health-care assistance, and due to its

Table 1 Results of the study.

intersectoral character. Pharmaceutical cost represents 46% of the health-care cost; other important costs are specific resources and acute care that represent 28% and 20%, respectively.

Related to indirect costs, and based on epidemiological information in Spain from 1975 to 1997, there was a total of 24 566 deaths due to acute reaction to psychoactive drugs and AIDS.

DISCUSSION

The study of illegal drug consumption and its consequences is difficult from a methodological viewpoint. The relationship between drug consumption and its consequences and the seriousness of the problems is extremely complex, both because of the characteristics of the substances and because of the different consumption profiles. All this makes it necessary to develop information systems that include prevalence and consumption profile of the population (Vicente 1999). In Spain, there is a valuable information system on drug abuse—Sistema Estatal de Información sobre Toxicomanías or SEIT (Observatorio Español sobre Drogas 1999) and Observatorio Español sobre Drogas (1998). However, the instruments available to study the incidence and prevalence of illegal drug consumption have limitations due mainly to the low prevalence of the problem and its negative social value (De la Fuente & Antó 1991). Additionally, at the European level, although there are some interesting initiatives (Hartnoll 1994; EMCDDA 1998), there is no homogeneous monitoring system, and comparison of the incidence and prevalence of drug consumption is difficult.

This study estimated that the minimum cost of illegal drug consumption in Spain is 88 800 million PTA (467 million dollars); 77% of the cost corresponds to direct costs. Crime-related costs represent 18% while the largest part corresponds to health-care costs, which represent 50% of direct costs. Undertaking the analysis from the perspective of the health-care system the minimum cost of illegal drug consumption is 44 000 million PTA (231 million dollars). Just to put these figures into context, the social cost of illegal drug consumption represented 0.07% of the Spanish GDP in 1997. Also, this gross figure could be compared with 2250 million PTA (12.5 million dollars) invested in prevention programmes during the same year, and with 12 300 million PTA (68.3 million dollars) spent on specific programmes and resources for the drug addict population.

Avoidable costs are those which would not have been incurred had there been no problems associated with the use of illicit drugs in Spain in 1997 (the counterfactual scenario). Part of the costs associated with illegal drug

use (23% of total costs) that could be avoided is productivity losses due to premature death. Note also that costs are imposed on society mainly through impacts on non-users, government control efforts and insurance and social systems (insurance and tax systems). Government bore the major part of the cost; abusers and members of households, as well as victims, bore another large part.

The five major drug abuse studies conducted in the United States (Rufener *et al.* 1977; Cruze *et al.* 1981; Harwood *et al.* 1984, 1998; Rice *et al.* 1990) demonstrate a clear upward trend in cost estimates since 1975 (Harwood *et al.* 1998). This trend is generally attributable to the increasingly severe impact of drugs. Although some notable methodological differences exist between the first study (Rufener *et al.* 1977) and all the subsequent studies, there is evidence that most of the increase during the 17-year period is due to real changes in effects of drug abuse. Reasons for increased costs between 1977 and 1992 include emergence of the cocaine and HIV epidemics; the huge increase in State and Federal incarcerations for drug offences; and the increase in crimes that are attributed to drugs. As noted by Single *et al.*, estimates for the United States are higher than those for Canada probably because costs are higher there, where illicit drug consumption is much more prevalent (Single *et al.* 1996). Like the study in Canada (Single *et al.* 1996), we took a conservative approach: when data were incomplete or alternative sources yielded different figures lower estimates were used; nor did we include property crime related to illegal drugs, due to lack of data. In contrast to the study in Canada, we did not find data concerning drug testing in the work-place or traffic accident damage.

Several limitations of the study could be pointed out. In the case of acute care, we worked with the uniform hospital discharge dataset, which carries with it the limitations of working with hospital administrative databases and morbidity codes (Librero *et al.* 1998) and also the non-inclusion of some private hospitals (accounting for an estimated 18% of all discharges).

A second limitation comes from the absence of budget differentiation for many elements. This absence of differentiation led us to apply a percentage of the total budget to some of the particular concepts of interest, as was the case for research, prevention, continuing education and administrative costs. Similarly, in the absence of information about the possible drug dependency of the patient, the chosen alternative was to include the percentage of HIV/AIDS cases related to the use of intravenous drugs in Spain.

Thirdly, and in all cases, the estimation was a minimum value, because we knew that some other elements had not been included due to the absence of information. That could be the case for pharmaceutical expenses, when it is known that there are other drugs

that are used for other purposes different from the therapeutic ones, or the case of local health-care programmes and non-governmental organizations where we knew that there are other organizations that have not been included.

Fourthly, as can be seen in the study, crime-related costs such as the justice and penal systems are an important part of the social cost. However, the absence of information in most of the cases, and the difficulty of obtaining costs applicable to this concept, make calculation of their corresponding cost almost impossible. For example, the legal costs included only allowance for drug possession or supply offences, and no account has been taken of drug-related acquisitive crime. However, in most treatment evaluations, the fall in drug-related acquisitive crime has been seen as one of the major social benefits of treatment and we only excluded it due to the lack of data on this item. Also, the cost of private security systems has not been included, in spite of its importance in Spain.

Fifthly, the indirect costs were also underestimated, as we included only the cost of the deaths related to acute reaction to psychoactive drugs and AIDS and the cost of hospitalization of patients by the same causes. Moreover, we did not include the cost associated with other causes of death of the victims of drug users, the productivity loss attributable to the lower occupation rate of the addicted population, the lower productivity of drug users and the lower productivity of the carers. The absence of information about the cost of subsidies for work absences and accidents made it impossible to include it. It is important to point out that, even with these conservative assumptions, the number of deaths and their equivalent in costs are important. Also, we did not include the costs of victims of crime due to absence of information.

On a positive note, one can point to the methodology used to estimate the indirect costs, as we calculated the productivity loss associated with the accumulated deaths from 1975 to 1997, taking into account the mean wage. In other international studies approximation of this point has been much simpler, estimating the number of deaths in the corresponding year and calculating their corresponding expected productivity loss (Harwood *et al.* 1998).

In general terms, the main limitation of the study is the fact that we did not know the total size of the drug dependent population. This meant that approximation to direct costs was through the utilization of health-care services for related diseases, but this is still a problem when trying to estimate the indirect costs, or non-health-care costs.

In the same sense, it is worth noting that these types of study relate only to a particular time and population. As one can see in the international comparison, estimation depends upon the studied population, the profile of

consumption of illegal drugs, the type of patients and their utilization of health-care services, and the policies existing at each occasion. For this reason, and unless the estimation corresponds to 1997, estimations that could be made for the present depend on the consumption profile, existing policies and the evolution of related diseases.

Finally, any estimation of the intangible costs has not been included, such as pain, suffering, family conflict or quality of life of the patients and their relatives. The methodological difficulties in estimating these costs are still unresolved. Nevertheless, it could be one of the most important parts of the 'social cost', and could be one of the main reasons for which there are so many health and social policies devoted to this disease.

In many respects this study could be read as a future research agenda, from the aetiological, epidemiological and economic aspects of the consumption of illegal drugs and the consequences. Each of the included costs could be improved with more and better information.

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Appendix I Morbidity causes related to the consumption of illegal drugs.

| ICD-9-CM code | Diseases |
|---------------|--|
| | <i>Drug psychoses (292)</i> |
| 292.0 | Drug withdrawal syndrome |
| 292.1 | Paranoid and/or hallucinatory states induced by drugs |
| 292.11 | Drug-induced organic delusional syndrome |
| 292.12 | Drug-induced hallucinosis |
| 292.2 | Pathological drug intoxication |
| 292.8 | Other specified drug-induced mental disorders |
| 292.81 | Drug-induced delirium |
| 292.82 | Drug-induced dementia |
| 292.83 | Drug-induced amnestic syndrome |
| 292.84 | Drug-induced organic affective syndrome |
| 292.89 | Others (drug-induced organic personality syndrome) |
| 292.9 | Unspecified drug-induced mental disorder |
| | <i>Drug dependence (304)</i> |
| 304.0 | Opioid type dependence |
| 304.2 | Cocaine dependence |
| 304.3 | Cannabis dependence |
| 304.4 | Amphetamine and other psychostimulant dependence |
| 304.5 | Hallucinogen dependence |
| 304.6 | Other specified drug dependence |
| 304.7 | Combinations of opioid type drug with any other |
| 304.8 | Combinations of drug dependence excluding opioid type drug |
| 304.9 | Unspecified drug dependence |
| | <i>Non-dependent abuse of drugs (305)</i> |
| 305.2 | Cannabis abuse |
| 305.3 | Hallucinogen abuse |
| 305.5 | Opioid abuse |
| 305.6 | Cocaine abuse |
| 305.7 | Amphetamine or related acting sympathomimetic abuse |
| 305.9 | Other, mixed, or unspecified drug abuse |
| 648.3 | Other current conditions in the mother classifiable elsewhere, but complicating pregnancy, childbirth, or the puerperium - drug dependence |
| | <i>Foetus or newborn affected by maternal conditions which may be unrelated to present pregnancy—noxious influences affecting foetus via placenta or breast milk (760.7)</i> |
| 760.72 | Narcotics |
| 760.73 | Hallucinogenic agents |
| 760.75 | Cocaine |

Appendix I *Continued*

| ICD-9-CM code | Diseases |
|---------------|---|
| 779.5 | Drug withdrawal syndrome in newborn <i>Poisoning by analgesics, antipyretics and antirheumatics (965)</i> |
| 965.0 | Poisoning by analgesics, antipyretics and antirheumatics—opiates and related narcotics |
| 965.8 | Poisoning by other specified analgesics and antipyretics (pentazocine) |
| | <i>Poisoning by other central nervous system depressants and anaesthetics (968):</i> |
| 968.5 | Poisoning by surface (topical) and infiltration anesthetics <i>Poisoning by psychotropic agents (969)</i> |
| 969.6 | Poisoning by psychodysleptics [hallucinogens] (cannabis, marihuana, lysergide, mescaline, psilocin, psilocybin) |
| 969.7 | Poisoning by psychostimulants (amphetamine, caffeine) |
| | <i>Poisoning by central nervous system stimulants (970)</i> |
| 970.1 | Opiate antagonists (levallorphan, nalorphine, naloxone) |
| 970.8 | Other specified central nervous stimulants |
| 970.9 | Unspecified central nervous system stimulants |
| | <i>Human immunodeficiency virus (HIV) infection</i> |
| 042 | HIV infection with specified conditions |
| 043 | HIV infection causing other specified conditions |
| 044 | Other HIV infections |
| 279.5 | AIDS |
| 795.8 | Positive serological or viral culture findings for human T-cell lymphotropic virus-III/lymphadenopathy |
| | <i>Tuberculosis</i> |
| 010–018 | Primary tuberculous infection |
| 137 | Late effects of tuberculosis |
| | <i>Viral hepatitis</i> |
| 070.0–070.1 | Viral hepatitis A |
| 070.2–070.3 | Viral hepatitis B |
| 070.4–070.5 | Other specified viral hepatitis |
| 070.6, 070.9 | Unspecified viral hepatitis |