HIV INFECTION AND AIDS
MULTISECTORIAL PLAN 2001-2005
Spain, July 2001

Secretariat of the National Plan on AIDS
Directorate General for Public Health and Consumer Affairs
Ministry of Health and Consumer Affairs

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FOREWORD

Until an effective vaccine against HIV becomes available, new cases of infection will continue to occur. The course of the epidemic in Spain can be considered to be evolving favorably, but the current decline and foreseeable subsequent stabilization of infection rates will only be maintained if we continue to develop prevention.

As the epidemic enters its third decade, we can point to some positive results: the health care system has responded with a high degree of professionalism and equity in the treatment of those affected by this disease, the public health system has proved its capacity to organize its different administrations in a cooperative and multidisciplinary fashion in the face of a health and social problem of unprecedented complexity, and the participation of citizens provided from the start the stimulus and incentive to adopt innovative measures and to protect the rights of affected individuals. Fortunately, many of these achievements are now well consolidated in our society. We can begin to speak of a normalization of the situation, but without this meaning a reduction in the priority it has been given up to now.

With over 120,000 infected individuals, HIV continues to be one of the major public health problems of our country. The changes caused by the decline in the number of new infections and the effectiveness of new antiretroviral therapies pose new challenges and demand new efforts. Preventive behavior will no longer be positively influenced by the impact of novelty, but rather must be transformed into long-lasting healthy habits, a task that is no less difficult. The availability of effective treatments makes HIV testing and counseling of exposed individuals even more necessary. New formulas will have to be found to respond to side effects and drug resistance. The reduction in morbidity and mortality not only means a larger number of infected persons and a consequently higher risk of transmission, but also that measures for reintegration into society and work must guarantee equality of rights of affected individuals. Epidemiological surveillance must be expanded to include cases of infection —a more complex task than for AIDS—, and also analyze risk behaviors to guide planning and design of appropriate prevention strategies. People in difficult or marginal situations are more vulnerable to HIV and other health risks, and specific and innovative measures are required to gain access to them so that they in turn can gain access to health and social prevention and care services. These are some of the

challenges currently raised by the AIDS epidemic, with the particular magnitude that the disease has here in Spain.

In short, we must continue to build on what we have achieved and respond to the new challenges. The first Multisectorial Mobilization Plan against HIV/AIDS for the period 1997-2000 no doubt helped to provide a coherent and coordinated framework on a national level. There have been important changes in the epidemic over those years, and we hope that the new strategic lines set out in this document will be a useful tool for responding effectively through the efforts of all to both the current situation and to the changes that occur in the next five years from 2001-2005.

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INTRODUCTION

The first strategic plan on HIV/AIDS in Spain was approved in 1997.1 The plan received a favorable evaluation [2], and this new Multisectorial Plan for the period 2001-2005 recognizes the same global objectives and the same guiding principles as those established in the first plan, while building on its achievements. The primary objective of the new Plan is to ensure the sustainability of the actions taken and to respond to new needs arising from the evolution of the epidemic. There is therefore no change in direction: the priority given to prevention is renewed and the multisectorial strategy reinforced.

In the last decade we have seen some successes in risk practice trends among persons injecting drugs. However, intravenous drug users (IDUs) in Spain are still a group exposed to a high risk of infection by HIV and hepatitis, and we must continue to respond to this circumstance specific to our country with all measures that prove their effectiveness. But it is important to remember that the sexual practices of drug users, their partners and the general population will probably determine the future of the epidemic. Sexuality is undoubtedly one of the most positive forces in life. From the perspective of public health, our task is to ensure that the risks that jeopardize the enjoyment of sexuality as a basic form of human expression are reduced to a minimum.

Implementation of the activities contained in this Plan will continue to be based on multisectorial approach that cuts across different administrations, i.e., by active cooperation with all health administration levels —central, regional and local—, and these in turn with the other players involved, education, social welfare, prisons and drug addiction institutions. Outside of the administration, the fight against HIV/AIDS is largely supported by the work of NGOs and community-based organisations, with the active participation of persons living with HIV/AIDS. Coordination between them is essential to cover the needs in the different areas of competence. We also need to benefit from cooperation with the various scientific and professional societies and associations involved, whose contribution is a guarantee of quality and consensus.

It is likely that new changes will occur in the epidemic during the period this Plan is in effect. This document aims to provide a flexible instrument that allows us to adapt our response to future developments and to profit from the experience accumulated with AIDS when responding to other diseases transmitted by similar risk practices or affecting similar populations.

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DIRECTOR GENERAL OF PUBLIC HEALTH AND CONSUMER AFFAIRS

SECRETARY OF THE NATIONAL PLAN ON AIDS

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GLOBAL OBJECTIVES AND GUIDING PRINCIPLES

The major goals continue to be those approved in 1987 by the World Health Assembly: prevent new infections, reduce the negative personal and social impact of the epidemic and mobilize and coordinate efforts against HIV/AIDS (Table 1). To achieve these global objectives, the different sections of this Plan reflect the need to apply interventions of proven effectiveness targeted at the general population, the most vulnerable groups and individuals.

Table 1. GLOBAL OBJECTIVES (World Health Assembly, 1987)

- Prevent new infections
- Reduce the negative personal and social impact of the epidemic
- Mobilize and coordinate efforts against HIV/AIDS

New needs

While there are no changes in the global objectives of the Plan, there have been large changes in the epidemic itself in recent years, which have generated new needs (Table 2). A large part of these changes are due to the widespread availability of free and highly active antiretroviral therapies, which has meant an enormous benefit for patients. The response of the public health system will continue to be the same: to incorporate new technological and therapeutic advances of proven effectiveness at the pace of scientific progress. However, the initial optimism generated by new treatments has gradually been tempered. The lack of a definite cure, the emergence of drug-resistant viral strains, the side effects of currently available drugs and the resulting patient non-compliance have gradually shaped a more realistic picture of the situation [3]. A response to these treatment problems is required, and these are not the only new developments. The substantial reduction in AIDS incidence and HIV-related deaths means that, with due support from society, persons living with HIV are able to return to work, which will require strict vigilance to protect their work rights.

Table 2. NEW NEEDS

- Epidemiological surveillance of HIV infection
- Promotion of early detection
- Prevention in the health care setting
- Measures to improve treatment compliance
- Adherence to prevention measures among HIV-infected persons
- Reintegration into society and work of infected individuals
- Generalization of provision of sterile injection equipment for IDUs
- Participation of social mediators in prevention
- Strategies to improve prevention of transmission in serodiscordant couples

From the perspective of new prevention activities that need to be developed, the most notable change in the epidemic is the increased prevalence of HIV infection and, therefore, the need to intensify early diagnosis, adequate treatment and interventions aimed at achieving long-lasting adherence to preventive measures by HIV-infected persons. It is estimated that 110,000-150,000 persons are infected with HIV in Spain and that, despite the decreased incidence of infection, new cases continue to occur, while the reduction in morbidity and mortality associated with the new treatments will generate, in the absence of a vaccine or curative treatment, an increasingly larger number of infected persons who can transmit the virus and who thus have the greatest need for prevention [4]. Obviously, the larger number of infected individuals means in turn that there is a greater probability of becoming infected, so prevention interventions should not only target persons who are infected but also the general population with risk practices and be especially intense in the most vulnerable population groups.

At least a quarter of infected persons do not know they are infected. The therapeutic and preventive benefit of early diagnosis has been amply proven. Patients not only have increased survival and quality of life, but also engage in safer sexual behaviors. Therefore, promotion of confidential voluntary HIV testing and counseling will be one of the key elements of the new plan. Promotional activities will target the heterosexual population at risk, men who have sexual relations with other men, drug users and their partners, and pregnant women or those who intend to have children. Health care professionals play a fundamental role in all these tasks since a significant part of new HIV infections occur in the environment of persons with known infection or risk practices who are in contact with the health care system, who seek medical assistance for sexually transmitted infections, who are under treatment for drug addiction or who are partners of these persons. This requires that measures be taken to integrate prevention into the everyday activities of the health care setting, reinforcing the role played by professionals as multipliers of preventive messages from their privileged relationship with the patient.

Hidden at risk populations are a different case. There are groups of socially excluded drug users, men who have homosexual or bisexual relations, especially young men, and immigrants, who have difficulty accessing health and social services, and who often do not have access to the interventions specifically designed for these population groups. Therefore, outreach programs with the participation of mediators should be reinforced, and

innovative initiatives promoted. Participation of associations in the design, implementation and evaluation of interventions aimed at these groups ensures peer support and facilitates access to hidden populations, while also improving knowledge of the social meaning of relationships in their environment, an essential element for designing more effective preventive interventions.

Guiding principles

The guiding principles of this Multisectorial Plan are based on the Spanish Constitution [5], the European Human Rights Convention [6], the Law of the Public Health Administration [7], and the Ottawa Charter for Health Promotion [8].

The response to the AIDS epidemic in Spain has had certain distinctive features, of which the most notable are a) its shared and coordinated nature —by central and regional administrations, associations, affected individuals and professionals—, b) the radical although late change that AIDS generated in the treatment of drug addiction given the severity with which the epidemic affected intravenous drug users, and c) the availability of free treatment accessible for all. A multisectorial approach, strategies of proven effectiveness and equity are some of the principles governing this new Plan (Table 3).

Table 3. GUIDING PRINCIPLES

• Multisectorial	• Community participation • Coordination of central/regional/local administrations • Interdisciplinary approach
• Evaluation	• Principle of harm reduction • Linked to related strategies
• Equity	• Human rights, tolerance and solidarity • Equal opportunities and non-discrimination • Reduction of vulnerability

Although primary responsibility for promoting and developing this Plan belongs to the public health administration, the multisectorial nature of the consequences of the epidemic and numerous areas of prevention and care interventions involved create the need for strategic alliances with the educational system, social services, prisons and drug abuse treatment centers [9]. The Plan intends to renew the commitments made by the various state administrations represented in the National Committee for Coordination and Follow-up of AIDS Prevention Programs.

In the Spanish State, however, autonomous communities are primarily responsible for activities in prevention, education and social areas. It is the task

of the Ministry of Health and Consumer Affairs through the National Plan on AIDS to promote these activities and integrate them into the state administration's own activities and those of other public or private organizations involved [10]. The Secretariat of the National Plan on AIDS cooperates actively with all of these institutions by proposing and consensuating activities, facilitating the exchange of information and offering scientific and technical expertise to collaborating governmental and nongovernmental organizations.

Only a synergistic action between all institutions and NGOs will ensure the effectiveness of prevention and the quality of social and health care services. This Plan renews its wish to include community organisations and associations of HIV/AIDS affected persons in the planning, implementation and evaluation of strategies and programs. Interventions must have clearly defined targets, and these persons must participate actively in the design, implementation and evaluation of the interventions affecting them.

A multisectorial approach implies a multidisciplinary approach. The impact of AIDS goes beyond the health care sector alone and consequently interventions must also respond to this specialized interaction.

Although much remains to be done in the evaluation of prevention interventions and research on prevention is still insufficient, there are certain strategies that have proven their effectiveness. Reduction of harm associated with drug use is the most important of these. There is evidence of the positive results of harm reduction interventions, and the lessons learned with AIDS in Spain should also help to guide actions to prevent other diseases related with harmful health practices such as hepatitis C. In this same line of selecting evidence-based prevention strategies, the following should also be noted: peer education, mediator participation, outreach work, a gender-specific approach and use of the mass media.

Strategies relating to HIV infection should be closely linked to national strategies for treating other diseases that are similar, either because they share common risk practices, such as hepatitis or sexually-transmitted diseases, or because of the target populations for intervention, such as drug addicts and tuberculosis.

Defense of the rights and dignity of persons living with HIV/AIDS or those with risk practices cannot consist only in certain specific actions, but from the planning stage must impregnate each and every one of the preventive, care, treatment, research and epidemiological surveillance activities conducted. Different lifestyles are an essential part of a pluralist and open society, and

respect and solidarity are basic elements to ensure that each person and the community they belong act as fully responsible and participating members [11].

This Multisectorial Plan aims to ensure equal access to preventive measures, treatment, care, social support, and work by designing specific programs for those persons or groups who owing to their situation of social exclusion or cultural differences are in a situation of vulnerability, as well as promoting measures to reduce stigma and discrimination.

Reduction of vulnerability requires an improvement in structural conditions. This Plan recognizes the political, economic, social, cultural, environmental, behavioral and biological determinants of health that need to be considered when designing interventions.

Structure of the document

The Plan for 2001-2005 was prepared by the Secretariat of the National Plan on AIDS with the contributions of regional AIDS plans, ministry departments represented in the National Commission for Coordination and Follow-up of AIDS Prevention Programs and HIV/AIDS NGOs through the NGO Advisory Council.

This document consists of five chapters and three appendices. Apart from this introductory chapter and the description of the characteristics and evolution of the epidemic in Spain, the remaining chapters deal with the three global objectives around which the Plan is structured. These chapters outline the different responsibilities and work areas of the Secretariat of the National Plan on AIDS: prevention —which is presented by target population and specific area of action—, treatment and care, epidemiological surveillance, research, community participation, institutional coordination and international cooperation. In each section it has been attempted to provide an overview of the current situation, to briefly discuss the strategies that should be implemented and to establish the objectives for the next five years. The chapter on prevention, in accordance with the functions of the National Commission for Coordination and Follow-up of AIDS Prevention Programs, is the longest one. The sections on training and evaluation that were included in the 1997-2000 Plan have been deleted. The training objectives and strategies have been incorporated into the corresponding chapters of their target populations. A new section on international cooperation has been included. There are increasing larger differences between Western industrialized countries and developing countries or former Eastern bloc countries in the

status of the HIV/AIDS [12], which makes cooperation even more necessary. Aware of this, the Secretariat of the National Plan on AIDS is carrying out a large number of activities, mainly through international agencies of the United Nations, which are discussed in a new section. Finally, the appendices contain the different groups or persons who have collaborated in this consensus document, the references used and a list of abbreviations. The indicators to be used for evaluation of the Plan will be published as a separate reprint.

Evaluation

Regarding evaluation, the previous system of indicators will be maintained after being revised. A final evaluation will be presented upon conclusion of the Plan and updated indicators will be published annually during the years the Plan is in effect. The theoretical framework guiding the selection of the indicators has been maintained: input-output-outcome-impact. When determining which indicators were to be maintained and which to be eliminated, a series of criteria were chosen of which the most notable are feasibility, prior availability of data, coverage by geographical and work areas, comparability and the quality and frequency of the studies from which the indicators were obtained. The purpose of this annual publication is to evaluate the plan, and also to offer politicians, administrators, researchers, NGOs and the public an up-to-date reference document that contains the principal information available and the references needed to complete it.

HIV INFECTION AND AIDS IN SPAIN

The configuration of the epidemic
Current status
Key elements for the future

BLANCA

HIV INFECTION AND AIDS IN SPAIN

The HIV/AIDS epidemic is major health problem worldwide and has enormous demographic, social and economic repercussions in many countries. The Joint United Nations Program on HIV/AIDS (UNAIDS) estimated that more than 36 million people globally were living with HIV or AIDS at the end of 2000, and more than two-thirds of them lived in sub-Saharan Africa [13]. HIV is continuing to spread rapidly, and it is estimated that 5.3 new infections occurred in 2000 [13]. Very diverse situations coexist in the world. In sub-Saharan African and other countries such as Russia and the Ukraine the epidemic is expanding; in contrast, HIV transmission has markedly descended in many countries of Western Europe in recent years. In large areas of Asia and Latin America the spread of the epidemic has been partially contained, but risk situations capable of accelerating its spread at any time are common [14].

The configuration of the epidemic

The course of the HIV/AIDS epidemic in Spain has been marked by three basic facts:

- The rapid spread of HIV during the 1980s.

During this decade HIV infection spread widely among a large number of intravenous drug users (IDUs) [15] in Spain, making this mechanism of transmission responsible for more than two-thirds of cases. HIV also spread among homosexual men, although less abruptly [16,17]. Delay in starting up programs to reduce the harm associated with injecting drug use placed Spain at the head of AIDS rates in Europe. The high number of HIV-infected IDUs, most of them sexually active young adults, lead to secondary transmission of HIV by the heterosexual and perinatal route. At the start of the 1990s, more than 100,000 HIV infections had already occurred, and AIDS-related mortality ranked first among the major causes of potential years of life lost in Spain.

- The progressive decline in HIV transmission since the beginning of the 1990s.

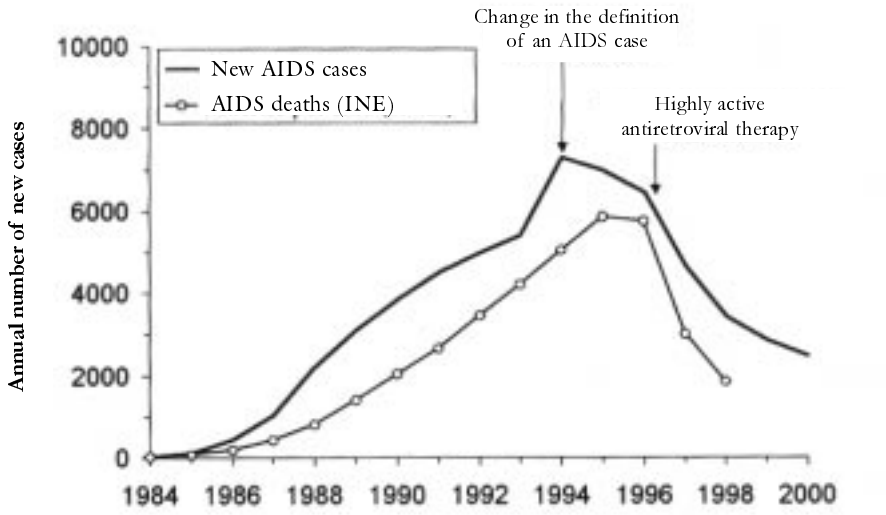
The seriousness of the situation alerted society and prevention programs, up to then clearly insufficient, were intensified, with the consequent reduction in risk practices. The rate of occurrence of new HIV infections in more susceptible groups began to slow, as has been shown by serial studies of HIV seroprevalence in IDUs [18,19], homosexual men [16,17] and women who engage in

sex work [20,21]. A smaller number of young people in the next generations started intravenous drug use, as shown by a gradual aging of the IDU group and by a progressive replacement of the intravenous route of drug use by the inhaled or smoked route [22,23].

- The introduction of highly active antiretroviral therapies since 1997.

By the mid-nineties, the highest point in the epidemic in terms of morbidity and mortality was reached, with more than 7,000 new AIDS diagnoses and more than 5,000 deaths annually [24]. In 1996 and mainly in 1997, new combined antiretroviral therapies were introduced, including protease inhibitor drugs, which caused a considerable improvement in the immune status, prognosis and quality of life of HIV-infected persons. This resulted in a rapid reduction in AIDS incidence of over 60% in the next four years, and a decline in mortality of 67% in just two years (Figure 1) [24].

Figure 1. Trends in AIDS incidence in Spain



Current situation

- *Number and characteristics of persons with HIV infection.*

In Spain, there are an estimated 110,000-150,000 persons living with HIV infection (Table 1), although probably more than a quarter of them have not yet been diagnosed. HIV seroprevalence in the Spanish population is from 5

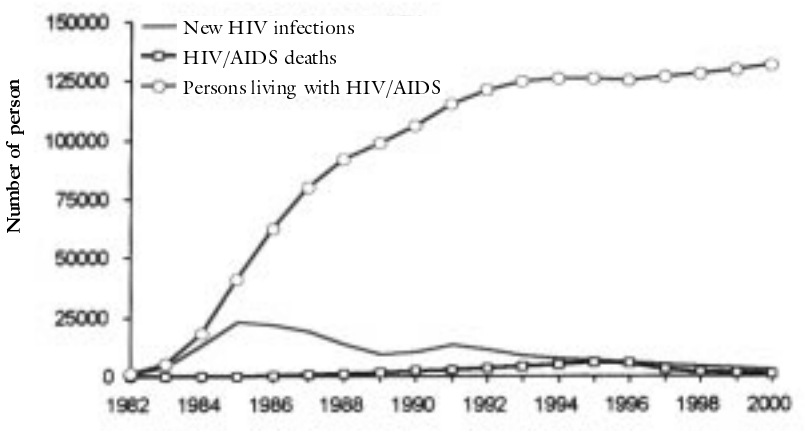
to 6 infections per thousand inhabitants between 18 and 39 years of age, with three times higher rates in men than in women, and 7 times higher raters in urban areas [25].

Table 1. End-2000 estimates of the HIV/AIDS epidemic in Spain

Persons living with HIV infection	110,000 -150,000
Characteristics of persons living with HIV Intravenous drug users Men with homosexual practices Heterosexual risk Women Children under 13	 50% - 60% 15% - 25% 20% - 30% 20% - 24% < 1%
Persons infected by HIV since the start of the epidemic	160,000 - 200,000
Persons developing AIDS since the start of the epidemic	65,000 - 75,000
Persons living with a diagnosis of AIDS	18,000 - 22,000
New AIDS diagnoses in 2000	2,500 - 3,000
HIV/AIDS deaths since the start of the epidemic	40,000 - 50,000

These estimates have probably changed little in recent years, since both the number of new HIV infections and the mortality rate among HIV-infected persons have decreased to very low values (Figure 2) [26].

Figure 2. Evolution of AIDS epidemic in Spain.



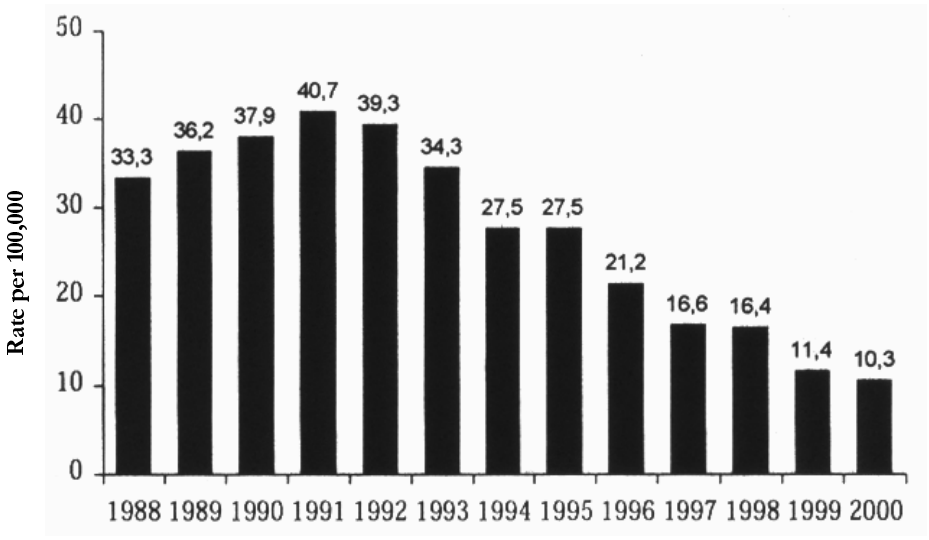
Modified from Castilla J., de la Fuente L. Med Clin (Barc) 2000.

The epidemiological characteristics of these persons can be best approximated by studying AIDS cases diagnosed in recent years [24]. Based on this source, we can estimate that a little more than half (50-60%) of HIV-infected living persons acquired the infection by sharing drug injection equipment, 20-30% from unprotected heterosexual practices and 15-25% are men who became infected through risky homosexual practices. The proportion of men to women is approximately 4:1, and the average age of these persons is from 35 to 40 years.

- *Progress in controlling HIV transmission*

Virtually all available information sources agree in pointing out that HIV transmission in Spain is undergoing a progressive decline, although a significant number of new infections still occur. In autonomous communities that have had HIV case reporting systems since the start of the epidemic, a 60% reduction in the number of new HIV diagnoses has been noted since the early 1990s (Figure 3) [27]. In spite of this large decrease, an overall total of 103 new HIV infections per million inhabitant were diagnosed in these communities in 2000, a figure that is still very high in comparison with other European countries [28].

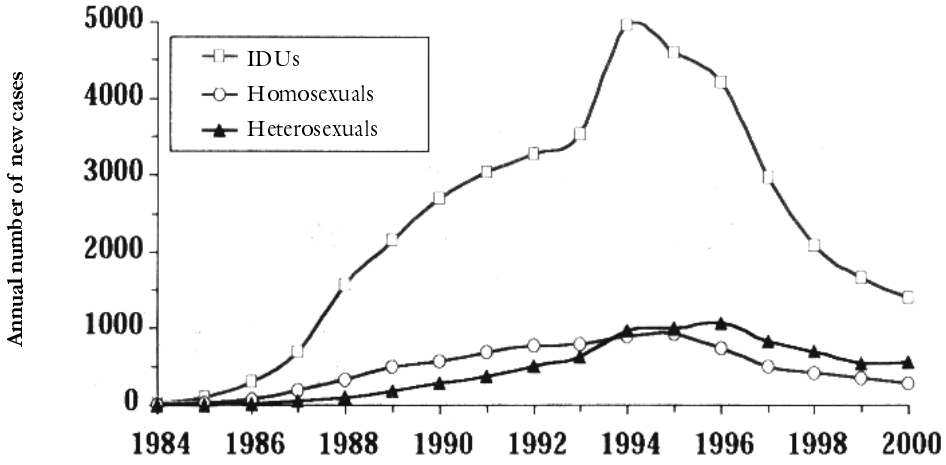
Figure 3. New HIV diagnoses (Asturias, Navarra and La Rioja) *



*Data is only available for Navarra and La Rioja in 1999 and 2000.
Modified from Moreno C. et al. Med Clin (Barc.) 2000.

Studies in heroin users have shown a progressive decrease in HIV seroprevalence in those using the injected route, but the most notable finding is a dramatic reduction in the number of new HIV diagnoses due to this route of transmission [18,19], which is explained not only by decreased seroprevalence, but also by fewer young people starting to use injected drugs (Figure 4).

Figure 4. Annual number of new AIDS cases by transmission category



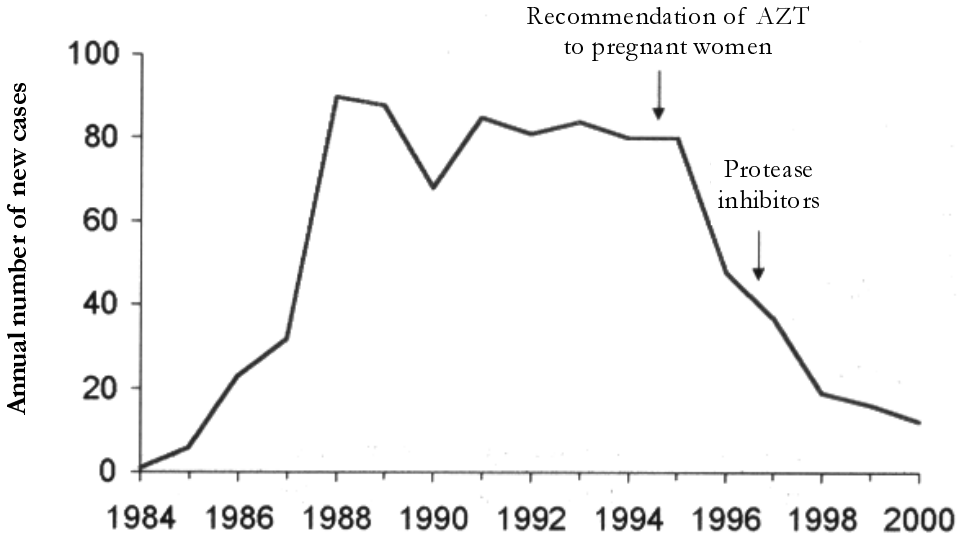
The decrease in the number of new infections among IDUs has led to a relative gain in the importance of sexual transmission. HIV seroprevalence has also decreased among homosexual men, but to a less pronounced extent than in other exposure categories [16,17]. In Barcelona and Madrid seroprevalence in homosexual men still exceeds 10% [16,17], and a study has reported upturns in HIV transmission and certain sexually-transmitted diseases, whose link with a relaxation of prevention measures [29] should continue to be observed.

Levels of infection are highly variable in the heterosexual population. In women delivering a liveborn child, prevalence rates of between 0.5 and 3 per 1000 have been found, depending on the autonomous community [30,31]. Sexual partners of HIV-infected persons, mainly IDU partners, are the group having the highest infection rates, from 5 to 10%, and the worse clinical course [32]. In women engaging in sex work, HIV seroprevalence remains below 2%, and injecting drug use has become an uncommon practice [32]. A massive influx of

immigrant women from Latin America, sub-Saharan Africa and Eastern Europe has occurred in recent years in this group; however, an increase in levels of infection has not been observed to date [32].

The recommendation of HIV testing and antiretroviral therapy in HIV-infected pregnant women has markedly reduced mother-to-child transmission, but some infections and cases of AIDS still occur by this route (Figure 5) [24].

Figure 5. AIDS cases through mother-to-child transmission in Spain



- *Reduction of HIV/AIDS morbidity and mortality*

Highly active antiretroviral therapies have dramatically reduced morbidity and mortality in infected persons [33]. Following their introduction in 1996-1997, very sharp decreases in the incidence of AIDS and mortality occurred, which continued in 1999 and 2000, although they were not as pronounced [24]. This has allowed the lowest AIDS rates in the last ten years to be recorded in Spain (6.4 new AIDS cases per 100.000 inhabitants in 2000). In spite of this significant advance, these rates are still high compared to other developed countries. In 1999 Spain was the second ranking European country in the AIDS incidence rate, only surpassed by Portugal [28].

Antiretroviral therapies play a fundamental role in continuing to reduce morbidity and mortality from HIV/AIDS, but several factors exist that are

slowing their impact: late diagnosis of AIDS leading to delays in the start of treatment[34], lack of patient compliance with treatment, the emergence of resistance to antiretroviral drugs and adverse reactions requiring prescribed treatments to be withdrawn or changed.

Key elements for the future

The HIV/AIDS epidemic is Spain is showing a favorable course and appears headed towards progressive control of the epidemic. However, there are various points of uncertainty that could modify the course of the epidemic in the near future.

— Some exposure categories persist, such as homosexual men and partners of HIV-infected persons, which have a less favorable course.

— The existence of a considerable proportion of HIV-infected persons who have not been diagnosed has various implications for the course of the epidemic. Firstly, these persons may play a significant role in HIV transmission; secondly, these persons cannot benefit from antiretroviral therapies, which has implications for AIDS incidence and mortality; and, finally, they add a further complication to assessment of the course and true dimension of the epidemic.

— Treatment of HIV infection is continually evolving and changes may occur in both directions, such as the emergence of resistant viral strains or the introduction of new drugs that improve on and complement previous existing drugs.

— The principal element of uncertainty about the epidemic comes for the global environment, where HIV is very widespread and continues to progress. Geographical barriers do not affect the spread of HIV, so while the pandemic persists and an effective vaccine remains unavailable, no country will be safe from being affected.

GLOBAL OBJECTIVE 1

PREVENT NEW INFECTIONS

Prevention in the general population
Prevention in adolescents and youth people
Prevention in intravenous drug users
Prevention in men who have sex with men
Prevention in commercial sex workers
Prevention in prisons
Prevention in women
Prevention in immigrants and ethnic minorities
Prevention of vertical transmission
Prevention in health care settings
    Clinical practice-based prevention of HIV
    HIV infection control in health care settings
    Nonoccupational postexposure prophylaxis

BLANCA

PREVENTION IN THE GENERAL POPULATION

Effectiveness of prevention interventions increases when targeted to high risk populations. But this type of interventions are not sufficient in themselves. It is essential that they be complemented by others directed to the general population [35], firstly, because the borderline between what we could call the "at-risk population" and the "general population" is practically impossible to define, and secondly, because individual behaviors and/or situations associated with risk of infections vary over the individual's lifetime and hence the risk of infection as well. Furthermore, there are very large sectors of the general population which are only accessible through this type of interventions, which have been shown to be effective to improve the level of knowledge about the infection and to promote positive attitudes, both towards preventive measures and towards affected persons.

As a result of the efforts made by the various administrations, the mass media, community organisations, health care professionals and others, a good level of information about HIV/AIDS, its mechanisms of transmission, preventive measures, etc. has been achieved in Spain among the general population.

The resources allocated for information campaigns aimed at the general population were increased from 1997-2000. In spite of this, stereotypes mistakenly associating risk of infection with certain vehicles or mechanisms of transmission such as saliva, kissing or blood donation (10 to 30% think it implies a risk of infection [36]) have still not been completely eradicated in all these years. The percentages are even higher in rural areas and among older persons. In addition, identification of infection with certain groups (drug users or homosexuals) continues to be deeply rooted.

Even today, preventive measures of proven effectiveness, such as condom use, sex education for young people or harm reduction programs for drug users, are assessed in certain circles on the basis of ideological or moral rather than health criteria.

The way AIDS is perceived by society has changed a great deal in recent years. The marked decrease in the number of cases diagnosed each year, AIDS-related mortality and the evident improvement in the quality of life and prognosis of infected persons has helped to spread the perception among the population that HIV/AIDS is under control in Spain. With an estimated

prevalence of three infected persons per thousand inhabitants, it is clear that this perception is not in line with reality, but it may lead to a relaxation of preventive measures and a false sense of security among the population.

The number of AIDS cases acquired through sexual transmission has increased proportionally in recent years [37]. The only nationwide data available on sexual risk behaviors in the Spanish population [38] are from 1996 and show that, although the frequency of multiple partners is lower than in other countries of our setting, the use of condoms is low in sexual relations with casual sexual partners and still lower with stable partners.

Consequently, messages about HIV transmission mechanisms and appropriate preventive measures need to be conveyed to the population on a sustained basis, so that people are able to correctly assess their own risk of infection and that of others, and to properly identify risk-related situations and behaviors. Another important message that needs to be transmitted is that increased survival of infected persons also causes an increased probability of transmission of HIV infection and, therefore, the need to maintain preventive measures over time.

A detailed analysis of the data from the National Registry of AIDS Cases revealed that in 35% of cases reported in the period 1997-1999, diagnosis of HIV infection was simultaneous to diagnosis of AIDS. This percentage rises to nearly 60% in cases of heterosexual transmission. This means that there is a large percentage of persons who do not know they are infected and probably do not even suspect it, jeopardizing their own health and that of others by not benefiting early from available treatments.

The HIV test can be carried out in Spain free of charge and confidentially throughout the National Health System. The reasons for delayed diagnosis are probably more related to a lack of perception of risk and other types of psychological barriers than to accessibility of the test. Therefore, a policy needs to be initiated to actively promote HIV testing and counseling in the general population and to raise awareness among health care professionals to increase their involvement in this area.

The goals set out in the Multisectorial Plan to fight AIDS for the period 1997-2000 are therefore still fully applicable. Achievement of these goals requires the cooperation of all sectors of health care and society, especially the mass media, whose potential as opinion-makers should be fully taken advantage of.

OBJECTIVES

- Maintain and increase the general level of information of the population about HIV/AIDS infection, its mechanisms of transmission and the behaviors that favor its transmission, especially in those population groups with the greatest difficulty to access this information.
- Promote the adoption and adherence to safer sexual behaviors, actively promoting condom use.
- Improve social acceptance of different lifestyles and preventive measures and programs, related both to sexual practices and injecting drug use, especially those aimed at the most vulnerable groups.
- Promote early diagnosis of HIV infection and counseling, reducing information, psychological or health services barriers to performance of the test as well as proper identification of individual risk of infection in the general population.

PREVENTION IN ADOLESCENTS AND YOUNG PEOPLE

Adolescents continue to be one of the populations in which interventions to prevent sexual transmission of HIV are a priority. The future of the epidemic in our country depends on the success of interventions in this age group. Although adolescents are not a homogeneous group in terms of health risk behaviors, sexual relations and the use of certain drugs are experimented with during this period and often take place before the individual has acquired the necessary skills to avoid HIV infection or other sexually transmitted diseases or pregnancy.

Three out of five cases of AIDS acquired through sexual transmission and nine out of ten cases acquired through sharing of injecting drug equipment affect young people and adults between 20 and 39 years of age. Based on the natural history of infection, many of these persons must have become infected at a very early age, some of them even during adolescence.

At the same time, young people can be of great help to prevent HIV infection and control the epidemic. Since their behavior is still not fully developed, they can adopt safer behaviors more easily than adults. Thus, many international and national studies suggest that the critical age for the adoption of healthy behaviors is between 16 and 20 years of age.

Various Spanish surveys carried out in students on a local, regional or national level show that 13% to 18% have had sexual relations with penetration, a much lower percentage than that reported in other non-Mediterranean countries or in the United States [39,40,41,42]. The average age of the first sexual experience is 17 years 4 months for boys and 18 years 4 months for girls [43]. Although the condom is the contraceptive method most widely used by sexually active students (83% used it on their last sexual relation [44]), systematic use of condoms is much less widespread, a good example of this being the increasing number of unwanted pregnancies among adolescents in our country [45].

Analysis of the factors determining the adoption of preventive measures in sexual relations indicates that the availability of good information about HIV, its mechanisms of transmission and prevention is a necessary but not sufficient condition. Other critical determinants are perception of risk, what the partner thinks and does, effective communication/sexual negotiation skills, self-efficacy to ask one's partner to use a condom, the opinion of friends and

the perception of what others do and social norms about HIV prevention, and must also be taken into account. The importance of these determinants varies according to gender due to differences in social expectations and values about sexuality and because of the unequal distribution of power in many sexual relationships. Especially during adolescence, sexual behavior is subject to a multitude of environmentally-related influences. Most notable of these are alcohol consumption, the frequency of new partners, the facts that sexual relations are maintained in unsuitable places and usually in an unplanned fashion, etc. This is why it is necessary to incorporate a gender-specific perspective and contextual factors in the strategies for HIV prevention and the promotion of sexual health in young people.

Health promotion and education should be one of the basic activities to improve sexual health. Education about HIV and AIDS as an integral part of health promotion and education in schools remains the principal strategy to educate young people and, hence, all of society. Sexual health education should be incorporated into the school curriculum and be present in all stages of the educational process, adapting the content and methods to the age, cultural characteristics and specific circumstances of the students.

We also need to have additional educational strategies and approaches capable of reaching young people outside the school setting and those subgroups of youths who for different social circumstances (drug abuse, sexual orientation, poverty, lifestyles or belonging to minority ethnic groups) are excluded from mainstream sources of information but may be especially vulnerable to HIV infection. Peer education is an appropriate and effective way to reach them and also ensures their participation in the design, implementation and evaluation of interventions. Cooperation between the Secretariat of the National Plan on AIDS and the Spanish Youth Council has allowed campaigns to be designed and information/awareness materials to be prepared from the perspective of peer education.

Primary prevention of HIV infection through sexual health promotion and education should be complemented with the provision of services for contraception and early diagnosis of sexually transmitted diseases. The conditions for access to these services and the degree to which they adapt to the needs and preferences of young people will be key elements to ensure adequate coverage.

In our setting, the implementation of educational programs about HIV and AIDS in schools varies from one autonomous community to another and, apart from some exceptions, their coverage must be expanded. Consequently,

development of these programs should be increased in a coordinated fashion between health and educational authorities of the autonomous communities, while continuing collaboration with the Ministry of Education, Culture and Sports.

Parents are the primary transmitters of values in the development of their children. By fostering good health habits, responsibility and self-esteem from early childhood and establishing a trusting relationship allowing a dialogue on sexuality, parents can contribute effectively to the prevention of unwanted pregnancies, HIV and other STDs.

OBJECTIVES

- Increase the current level of development of HIV/AIDS prevention in the context of sexual health promotion and education in schools.
- Promote skill learning aimed at developing healthy sexual behaviors from a gender-based perspective.
- Increase, improve and intensify interventions and educational programs aimed at young people in high-risk situations, recognizing their specific problems and special vulnerability to infection.
- Adopt a comprehensive approach to HIV prevention activities in the context of sexual health promotion, prevention of STDs and unwanted pregnancies.
- Promote correct condom use taking into account the context of couple relations.
- Raise young people's awareness of the relationship between drug use and engaging in risky sexual behaviors.
- Improve and expand access of young people to health services (family planning centers, youth centers, etc.), adapting them to their preferences and needs.

PREVENTION IN INTRAVENOUS DRUG USERS

Given the particular characteristics of the AIDS epidemic in Spain, prevention of the transmission of HIV and other infectious diseases, as well as health promotion among persons who are intravenous drugs users, continues to be a core element of the National Plan on AIDS, and harm reduction the strategy of choice. In common with many other behaviour-related diseases, pragmatic measures aimed at reducing the associated morbidity and mortality suffered by intravenous drug users have been shown repeatedly to be more effective than maximalist interventions aimed at eradicating use, not only in reducing HIV transmission but also for treatment of drug addiction itself, while also creating a favorable environment for access to health and social services and reducing margination.

Injection practices associated with a risk of transmission of HIV and other infectious diseases in intravenous drug users (IDUs) have evolved favorably in recent years. In Spain, almost all IDUs belong to the "heroin world" (they were or still are heroin users), and there is no verifiable empirical evidence that the spread of cocaine use in Spain has led to the appearance of IDUs of this substance only. The use of injection as the primary route of use of this substance has continued to decline in Spain, falling from 28% in 1996 to 19% in 1999 in persons requiring treatment for heroin use, although the resistance to change shown by certain geographical areas such as the metropolitan area of Barcelona or the Island of Majorca is striking [46]. This decline in the intravenous route due to abandonment of this route as well as more frequent adoption of non-intravenous routes by new users [47] is a well-documented epidemiological fact and probably one of the most relevant issues for control of HIV infection in drug users in Spain [48]. However, there is increasing evidence that some persons who have given up the intravenous route as their usual route still sporadically inject themselves heroin and possibly even more frequently cocaine [49]. It appears that a similar pattern of sporadic injection, particularly of cocaine, is occurring among persons under opioid maintenance therapy. Although there are too few time series to make a definitive statement, it seems clear that there has been a constant decrease in the percentage of IDUs who use needles already used by others, and in the number of persons with whom they are shared, this habit now being restricted to close contacts in the user's social network, mainly the sexual partner [50,51]. However, some studies carried out outside our country have indicated that the benefit of sharing needles with partner only is not as important as could be expected in

view of the high turnover of sexual partners or close contact networks among drug users [52]. Moreover, it is also known that the practice of injecting drugs that have been dissolved in needles previously used by others is at least as widespread as the use of needles used by others, if not more so. Quite a few users who do not share needles engage in this practice, whose prevalence is probably increasing [53].

In Spain, the last decade of the 20th century could be defined as the decade in which harm reduction programs became widespread, specifically, needle exchange and methadone maintenance programs, whose distribution map has changed radically. Their coverage should be maintained and improved by implementing new programs in deficient geographical areas and improving access for inadequately covered groups of users: young users, highly marginalized users, etc. Availability of sterile injection equipment for all injectors and for all injections remains a crucial element for controlling not only the HIV epidemic but also HCV.

Distribution of sterile injection equipment should be incorporated as a standard procedure in all health centers, but particularly in those assisting drug addicts. Pharmacies have set a good example in this regard. In 2000, it is estimated that 5% of pharmacies participated in needle exchange programs and the willingness shown by pharmacists and their assistants [54] will allow the number of dispensing points to be increased significantly. Because of this, continued expansion of these programs should be promoted until an extensive and highly professional network of HIV prevention has been established.

In addition, more diversified needle exchange programs [55] are required to reach difficult-to-access populations of IDUs by developing mechanical dispensers for needle exchange, as well as programs which, in addition to distribution of sterile injection equipment, health education, promotion of early detection of HIV and counseling and referral to health and social services, are adapted to the different basic needs and schedules of users. Because of gender differences in risk behaviors, it is essential that programs include a gender-based perspective. Given that the magnitude of this problem in our country is not readily comparable to other developed countries, we have the obligation to undertake innovative and appropriate initiatives, such as safe drug injecting rooms and heroin prescription programs or any other we can devise. Therefore, outreach programs initiated in recent years for this group should continue to be developed and include the participation of mediators, mostly current drug users and ex-drug users, and a gender-specific perspective.

Gaining access to these hidden populations of users who do not contact existing services remains a challenge.

Sexual behaviors have evolved less favorably over this period probably because the risk of infection from unprotected sexual relations is perceived as being lower than the risks related to intravenous drug use. These behaviors, especially with a stable partner, appear to be more difficult to change. Several studies indicate that less than half of drug injecting persons use a condom routinely in their relations with their stable partner, creating a bridge for sexual transmission of HIV and other sexually transmitted diseases to non-intravenous drug users and to the general population. Although an extensive training program for professionals working at drug abuse treatment centers and workshops for mediators and users have been carried out, special attention should be given to the significance of this transmission route and to the impact on HIV prevention of early detection and treatment of other sexually transmitted diseases. Prevention activities should be intensified for serodiscordant couples, regardless of whether one of the members of the couple injects or not. The norms, rules and habits in the heterosexual behavior of users could be sustaining a culture legitimizing unprotected sex as an important and significant part of relationships, both in injectors and noninjectors. Because of this, participation of user associations in the design, implementation and evaluation of interventions aimed at this group not only ensures peer support and access to hidden populations, but also allows better knowledge of the social meaning of the relationships between injectors, an indispensable element for designing more effective prevention interventions.

Analysis of the data from the National Registry of AIDS cases for the period 1997-1999 shows that one out of five IDUs was diagnosed with AIDS at the same time as diagnosis of HIV infection. This delay in diagnosis, although not as pronounced as in other population groups, is particularly unacceptable in those persons who were previously admitted for treatment for psychoactive drug use. Health care professionals in health centers and services attending drug addicts should therefore be made more aware of the need to increase early detection of HIV infection, as well as increasing their training and skills in strategies to improve adherence to preventive measures by infected persons. The HIV epidemic among intravenous drug users should be seen in the context of other communicable diseases common in this population group (tuberculosis, hepatitis B and C and other STDs), some of which employ similar surveillance methods and prevention strategies,

indicating that a more integrated approach is required in policy development and program implementation.

Taking into account the large investment of resources required by harm reduction programs and the time elapsed since their implementation, a major effort should be made to evaluate the extent to which the different expected results have been achieved, as well as aspects relating to the design, organizational or functional structure of these programs that are clearly capable of being improved or adapted to the current epidemiological context or to the foreseeable future situation.

If, within 10 years, we wish to achieve the goal of making the risk of infection in a person engaging in a risk practice in Spain equivalent to the average risk in other European countries, our intervention must have a priority and characteristics different from other countries in our setting, both in its intensity and coverage and in the diversity of the strategies implemented.

All these actions must be carried out in coordination with health care systems, autonomous communities and the Ministry of the Interior. The collaboration of the National Plan on Drugs, responsible for treatment of IDUs and, consequently, of a significant part of HIV prevention, is essential.

OBJECTIVES

- Consolidate and strengthen existing harm reduction activities, ensuring their sustainability and adapting them to new needs.
- Integrate intravenous drug use-related harm reduction programs and activities, including prevention of HIV and hepatitis and early detection and follow-up of tuberculosis, into standardized drug abuse treatment services as part of the provision of comprehensive quality health care.
- Develop specific programs for difficult-to-access drug users, intensifying the participation of drug user associations and promoting research and development of new outreach strategies (drop-in centers covering basic needs, safe drug injecting rooms, controlled prescription of heroin).
- Intensify activities for prevention, early diagnosis and treatment of infections associated with drug use, hepatitis, tuberculosis and STDs, as well as HIV, from health centers and drug abuse treatment services.
- Reinforce activities to prevent sexual transmission of HIV, developing programs for serodiscordant couples and intensifying prevention activities in infected persons.

PREVENTION IN MEN WHO HAVE SEX WITH MEN

The incidence of new AIDS cases attributed to sexual relations between men has decreased by 62% in the last five years. Even so, the third most common route of transmission in 2001 was unprotected homosexual relations (11% of total reported cases), which showed a very uneven geographical distribution by autonomous community [56].

Studies using different methods (voluntary testing, unlinked anonymous testing) in different populations of men with homosexual practices (frequenters of STD/HIV centers or the gay scene) show that in the last five years HIV prevalence in men with homosexual practices has stabilized around 10%-15% [57,58,59]. The incidence of HIV in this group has been much less studied. Data from the only available study in our setting seem to show a decrease since 1995, followed by a modest but significant increase in the last five years (from 1.06 per 100 person-years in 1995 to 2.16 per 100 person-years in 2000) [60].

In the period 1997-1999, 54% of men with homosexually acquired AIDS were unaware of their infection until one month before diagnosis of AIDS [61]. This means not only that they did not know they were infected for a long period of time and could not benefit from current treatments, but also that they could not foresee the consequences of possible sexual risk behaviors.

The few studies on risk behaviors for HIV infection in men who have sex with men indicate that the frequency of systematic condom use with casual contacts varied from 71% to 81% in the period 1995-1998. With their stable partner, the same indicator ranged from 40% to 48% in this period, in spite of the fact that more than half did not know their serostatus (59% and 50%) [62]. Reports of condom accidents (breakage or slippage) in this group are not infrequent [63,64], which means that more emphasis should be placed on the need to increase the availability of condoms specifically designed for anal intercourse and the use of suitable lubricants. Consumption of alcohol before or after sexual relations varied from 48% to 60% in the same period and cocaine use from 10% to 17% [65].

In our setting, the risk of transmission of HIV between men who have sexual relations with men is still high and consequently they continue to be a priority population for prevention of HIV infection.

Male homosexual communities are the group that has shown the deepest changes in personal behaviors relating to AIDS. However, these changes have

not been evenly distributed or stable. The first AIDS prevention programs were highly successful in certain subgroups of homosexual men, mostly adults residing in large urban centers with a high educational level, while such good results were not seen in homosexuals with a low educational level, those who do not feel members of the gay community or those living outside large cities. Furthermore, the nature of HIV infection requires that behavioral changes be maintained for a long period of time and currently, twenty years after the start of the epidemic, recent international studies warn of an unfavorable trend in preventive sexual behaviors, with an increase in unprotected sexual practices in the group as a whole and more frequently in young homosexual/bisexual men, as well as an increased incidence of STDs, which in turn is an indirect marker of unsafe sexual practices that can result in transmission of HIV. This increase also coincides with the introduction of new and highly active antiretroviral therapies which may have caused a decreased perception of the risk of infection and of the seriousness of the disease.66 All this points to the possibility that the determinants of the initial changes in behavior are different from those related to maintenance of safe behaviors and the occurrence of relapses, and it is therefore necessary to study these factors and design more specific prevention programs.

In Spain, 6 to 8 autonomous communities and cities developed prevention programs specifically aimed at the male homosexual community in the period 1997-1999. The role of the homosexual associative movement in the design, implementation and continuity of preventive activities is of great importance. The peer education strategy ensures improved and more complete knowledge of the real situation, greater relevance and trust in messages and more effective dissemination of preventive messages in areas of social exchange. This capacity of direct intervention has contributed to most of the prevention programs and activities conducted by autonomous communities being designed and implemented in collaboration with gay organizations.

OBJECTIVES

- Maintain prevention activities aimed at reducing the frequency of unprotected anal sex in serodiscordant homosexual men.
- Intensify prevention activities designed specifically for young homosexual men.
- Develop specific interventions to prevent relapses and foster adherence to safer sexual practices.

- Promote early diagnosis of HIV infection and measures to increase the perception of individual risk.
- Increase awareness about the importance of taking preventive measures and the need to avoid having sexual relations at the same time as consuming alcohol or other drugs.
- Strengthen the associative movement and extend prevention programs aimed at this group to all autonomous communities.
- Establish monitoring systems for risk behaviors related to HIV transmission and their determinants in the homosexual community.
- Evaluate the effectiveness of prevention interventions targeting homosexual groups.

PREVENTION IN COMMERCIAL SEX WORKERS

Because of their profession, men and women who engage in commercial sex are especially vulnerable to sexually transmitted infections (STIs), including HIV, which they may also transmit to their clients, and require specific sexual health promotion programs.

The risk of HIV transmission is related to the type of sexual practices, number of sexual partners, prevalence of HIV infection and coexistence of other STIs. This risk varies widely depending on the place and circumstances in which sex work is engaged in, and is increased when injected drug use is combined with commercial sex work.

Sex workers comprise a very heterogeneous group, with large differences in their social characteristics and living conditions and, consequently, in their needs and patterns of usage of health services. Furthermore, this group is also formed by subgroups of other populations that are especially vulnerable to HIV infection, such as homosexual men or drug injecting women who prostitute themselves, and who are not always given adequate consideration in prevention interventions directed specifically to this group in general.

The precarious legal, socioeconomic, work and family situation of some immigrant men and women may increase their vulnerability to various health risks, including AIDS and other sexually transmitted diseases. Limited work experience associated with sex work in these persons, as well as the language and cultural barriers they experience, can lead to a higher risk of exposure to STIs including HIV infection, together with difficulties to access care and information resources. In Spain, studies carried out in persons who engage in prostitution found low prevalence rates of infection in immigrant women, even in those from heavily affected countries.

In addition, in specific segments of this group, sexual health may not be a priority and specialized STD services may not be viewed as being friendly, accessible or beneficial for them. Because of this, the prevention strategy in this group should be combined with actions designed to change lifestyles or adapt health care services to their needs, focussing on actions aimed at improving their living conditions and reinforcing their motivation to take preventive measures against infection.

Social prejudices and legal sanctions make some sex workers and their clients avoid existing health care services, even if these are highly appropriate and accessible. Hence, the adoption of anti-discrimination measures is as

important as the availability of prevention programs and adequate health care infrastructures.

In Spain, as in other western countries, commercial sex has not played a significant role in transmission of HIV to the general population, as relatively low prevalence rates are found in sex workers (below 2%), except in those who inject drugs (about 50%) [67]. The prevalence rate of infection in a sample of transvestites and male transsexuals engaging in street prostitution was 22% (16% in those who had never injected drugs and 58% in those who injected drugs), although only 73% had had an HIV test [68]. The incidence of HIV in a sample of sex workers was 8.8 cases per 100 women-years of follow-up, and was found to be associated with current injecting drug use, having a regular partner who also injects drugs and young age [69].

In the sample of transvestites and male transsexuals studied, 73% always used a condom with their clients and 50% in their private life. Among male sex workers, 52% used a condom with their clients and 41% in their private life. Due to this, male and transvestite sex workers should become a special target group in programs aimed at casual or professional sex workers.

It is important to develop and implement sexual health prevention and promotion programs appropriate to the different contexts in which commercial sex takes place. This includes considering young people involved in opportunistic sex work and persons with different linguistic and cultural backgrounds.

The capacity of groups or associations of sex workers to design, manage and participate in peer group-based health promotion activities and to participate in the broad associative response to the epidemic needs to be expanded.

Adoption of anti-discriminatory measures is as important as the availability of prevention programs and adequate health care infrastructures.

In addition to the epidemiological significance of prevention and early diagnosis of STIs among commercial sex workers, efforts should be made to improve early diagnosis and treatment of cervical carcinoma due to the greater susceptibility of sex workers to this disease.

In Spain, street outreach programs aimed at female sex workers have gradually extended to all autonomous communities, in contrast to those targeting homosexual and transvestite sex workers, despite the fact that it is precisely in this group that the prevalence of high-risk sexual behaviors is higher.

OBJECTIVES

- Increase the knowledge and skills of sex workers to negotiate safer sexual practices with their clients and sexual partners.
- Improve knowledge of the ways to access the health care system, especially STD services and HIV prevention programs.
- Characterize the prevention needs of the specific subgroups of sex workers who are most vulnerable to HIV infection.
- Facilitate the start up of outreach programs for transvestites and men who engage in commercial sex.
- Foster association and participation of this group in the design and development of prevention programs.

PREVENTION IN PRISONS

In Spain, AIDS cases reported in prisons account for approximately 11% of the total.70 Of these, 90% were acquired intravenously. As early as 1993, the World Health Organization and Council of Europe had already included in their recommendations on HIV/AIDS a request that governments guarantee inmates access to the same treatments and prevention measures as those available for the rest of the community. Consequently, the previously described strategies to address HIV infection in IDUs should also be applied in the prison setting.

In 1996, the prevalence of HIV infection in prisons was 22.7%. Five years later it had declined to 16.6%. This significant improvement is clearly attributable to the large effort made by prisons to prevent HIV infection and other communicable diseases. At present, all prisons have methadone maintenance programs, drug-free modules are increasingly commonplace, 9 needle exchange programs are operating [71], condoms are distributed in all prisons, coverage of the training program tailored to the different specialties of prison workers is very high, and numerous programs and workshops on health education and counseling techniques have been started. These activities have been possible as a result of effective cooperation between the Secretariat of the National Plan on AIDS (SPNS) of the Ministry of Health and Consumer Affairs and the Directorate General for Prisons, which have established agreements that allow the latter to carry out HIV prevention activities in the inmate population, to which the SPNS would otherwise not have access.

Several indicators confirm a favorable trend in the evolution of the epidemic in prisons. Not only the prevalence of infection, but also the number of cases of AIDS, tuberculosis and deaths from overdose all converge in pointing to these good results. But in spite of this impressive change in the panorama of comprehensive and quality health care in inmates, the data provided by the epidemiological surveillance system of the Directorate General for Prisons [72] still demand further attention.

In 1998, 40% of inmates had a history of injecting drug use upon entry in the prison and 75% of them had shared needles on some occasion. As in the outside world, a progressive change in the route used for drug consumption can also be noted in prisons, with the injected route declining in favor of the smoked or inhaled route. But perhaps the most striking fact is that 72-79% of inmates state that they do not use a condom regularly, a percentage that ranges from 60-75% among HIV-positive inmates.

In terms of AIDS-defining diseases, distribution differs in prisons from that seen in the general population, with pulmonary tuberculosis appearing in more than 46% of inmates, much higher than the 18% overall rate. HIV-tuberculosis coinfection has contributed decisively to the increased number of tuberculosis cases, which reaches 30-fold higher rates in prisons than in the general population.

Hepatitis, especially HCV, is another related major public health problem. In the year 2000, 21% of inmates in Madrid prisons were infected with HCV upon their first entry into prison, and the rate of infection among those who had a history of intravenous drug use ranged from 73 to 95% [73]. It should be taken into account that the situation of inmates offers a unique opportunity for preventive intervention, not only for HIV but also for hepatitis and tuberculosis.

In 1998, coverage of the HIV screening test was 53%, a percentage that rose to 70% in the case of inmates with a history of intravenous drug use. Although this coverage has increased in recent years, appropriate steps need to be taken to increase standardization of voluntary testing and counseling.

OBJECTIVES

- Increase exposure of inmates to evidence-based prevention programs for intravenously acquired HIV.
- Intensify awareness and training activities among prison guards, including watchmen, to achieve a favorable atmosphere towards harm reduction programs in which inmates can access existing programs without barriers.
- Expand the availability of sterile injection equipment, laying the foundations for standardization of needle exchange programs.
- Promote the adoption and maintenance of safer sexual practices, both in homosexual and heterosexual relations, through an appropriate range of educational strategies and access to prevention tools.
- Integrate HIV prevention activities into the activities aimed at addressing the most frequent health problems in this group, particularly tuberculosis.
- Foster participation of inmates in the design, implementation and evaluation of prevention interventions.

PREVENTION IN WOMEN

While at the end of the year 2000, 45% of persons living with HIV/AIDS worldwide were women, there was a clear male predominance in Europe, with a men/women ratio of 4.3:1 over the total number of AIDS cases [74]. In Spain, the country with the highest AIDS rates in Europe in both men and women until 1998, the epidemic is also clearly predominantly male: for each case reported in women four cases are reported in men and this ratio has remained practically constant throughout the last decade [75]. In an unlinked anonymous study carried out in 1996 on blood samples available from a serum bank, it was found that the men/women ratio of HIV infection was 3.1:1. This smaller difference could reflect the heterosexual component in the most recent period of the epidemic [76].

The intravenous route continues to be the most common route of transmission in both sexes, resulting from sharing injection equipment used to prepare and/or administer psychoactive substances. The proportion of cases acquired through heterosexual transmission has increased, and this is currently the second leading route in men, where it has surpassed homosexual transmission, but above all in women, in whom this route accounted for 33% of reported cases in 1999. The future of the epidemic in Spain could be determined by trends in sexual transmission, particularly if we consider the success of programs aimed at drug users in decreasing the incidence of infection attributable to the intravenous route.

The average age at diagnosis of AIDS is lower in women, although it is increasing in both sexes. In cases of heterosexually acquired AIDS, this difference is even more marked, reaching 4-5 years. Heterosexual transmission in younger age groups is predominantly female (70% from 20-24 years and 66% from 25-29 years of age).

From the beginning of the epidemic, heterosexually acquired infection has been marked by certain specific characteristics in women. In women, transmission from unprotected sexual relations with an IDU partner is nearly four times higher (60-70%) than in men (15-20%), in which it is much more common for transmission to have occurred from unprotected relations with multiple partners or with persons engaged in prostitution.

In summary, the magnitude of the epidemic of HIV infection in Spain is currently much lower in women than in men and does not appear to be increasing. However, it is also true that, in addition to their greater biological vulnerability, women have greater psychological, social and cultural

vulnerability as a result of the conditions of inequality under which their relations with the opposite sex take place. Data from numerous studies and different geographical areas show that the responsibility for use of contraceptives often falls on women and that they have more difficulty to negotiate safer sex practices such as condom use with their partners. It is also known that many female IDUs were initiated in intravenous drug use by their partner, a much less common occurrence in men, and that they also share injection equipment more often with their partners.

Prevention interventions must necessarily take into account this reality and the influence of gender relationships on different behaviors in men and women. Because of this, prevention messages, educational strategies and systems for provision of preventive health services must be adapted to the needs and specific values of men and women. In addition, these interventions must be accompanied by actions in the social, work and family environment aimed at reducing the obstacles caused by gender determinants in prevention.

This is the situation and the premises on which the prevention strategy of the National Plan on AIDS is based. Women constitute one of the priority target populations, recognizing the need to include a gender-specific perspective in prevention programs. Cooperation with the Women's Institute continues to be necessary for the development of preventive activities in women in the context of prevention of sexually transmitted diseases and unwanted pregnancies. In 1996, programs aimed at women were included for the first time in the financing priorities of NGOs. Autonomic community AIDS plans, with full powers in both the area of HIV prevention and women's equality, have also received funds from the Ministry of Health and Consumer Affairs since 1998 to develop HIV prevention programs in different population groups, including women.

OBJECTIVES

- Improve the level of information and health education regarding sexual health, HIV infection and preventive measures, especially in women belonging to high-risk populations.
- Offer comprehensive care to women that includes early detection of STDs (herpes, chlamydia and HPV) and cervical cancer.
- Develop specific interventions to improve access of women to existing HIV prevention programs and measures.
- Foster involvement of women in the design and implementation of these programs.

PREVENTION IN IMMIGRANTS AND ETHNIC MINORITIES

Immigration is a relatively recent phenomenon in Spain that has become more prominent in the last 10 years and which poses numerous health care and social challenges; prevention and treatment of HIV infection and its associated problems being one of them. HIV-related issues in immigrants and ethnic minorities should be considered from a broad perspective that allows the specific problems of these groups to be identified and prevention and care activities to be adapted to their needs.

The HIV/AIDS epidemic in Spain has been strictly national in scope until now, and immigration has not meant a significant increase in the number of cases. The growing influx of immigrants entering Spain raised some doubts about its potential impact on transmission of HIV. Analysis of the number of AIDS cases [77] in immigrant populations indicates that, although some cases come from areas heavily affected by the AIDS epidemic, prevalence rates have so far not been higher than those found in a Spanish population of similar characteristics [78]. AIDS cases in persons whose country of origin is different from Spain account for 1.9% of total cases, of which, 41% come from European countries. Transmission categories of AIDS cases in immigrants are heterogeneous and follow a similar pattern to that existing in their countries of origin. The exception is found in the cases seen in persons from Morocco, where a high percentage of intravenous drug users was detected, an uncommon pattern of drug use in this country that was presumably adopted in Spain.

However, the adverse social conditions of immigrants and ethnic minorities sometimes lead to health risk situations, such as male and female sex work or even injecting drug use, which are closely linked to HIV infection. On the other hand, the marginalized status to which certain immigrant groups are often driven can result in situations that make the development of public health prevention strategies and specifically HIV/AIDS prevention strategies more difficult.

In recent years, and in response to the progressive increase in the number of immigrants arriving in Spain in a situation of vulnerability, the SPNS started to work on issues related to immigration, ethnic minorities and HIV, and immigrants were included as a priority group for intervention in 1999.

Although immigration is heterogeneous, a significant proportion of these persons has serious limitations to access both prevention interventions and health care due to legal, cultural, language and socioeconomic barriers. The figure of sociocultural mediators and community health agents from their own countries of origin is a key element to overcome these limitations. Activities should be coordinated with immigrant associations and foster their involvement in the design and implementation of activities. Exchange of experiences should also be developed through the creation of networks. In addition, it is considered that a requirement for effective intervention is that HIV prevention be covered in the context of sexually transmitted diseases or as part of family planning in the case of women. To achieve this, an integrating health care approach that guarantees the right to health of these persons is required.

Finally, prevention activities need to be combined with actions directed to improving the living conditions of affected individuals, for which cooperation with the Ministry of Work and Social Affairs is essential to prepare joint work proposals and assistance to immigrant and ethnic minority groups affected by HIV/AIDS, as well as coordination with autonomous community AIDS plans in the area of prevention.

OBJECTIVES [79]

- Continue carrying out HIV/AIDS prevention campaigns aimed at immigrants in different languages and expand campaigns to other languages and other media.
- Provide technical and economic support for HIV/AIDS prevention programs culturally adapted to ethnic minorities and those groups of persons arriving in Spain in a situation of vulnerability (legal, socioeconomic, employment and affective precariousness) to become infected by HIV.
- Provide technical and economic support for research projects on knowledge, attitudes and HIV/AIDS risk practices in ethnic minorities and persons arriving in Spain a situation of vulnerability.
- Improve and promote HIV/AIDS epidemiological surveillance activities in immigrant and ethnic minority population in Spain, with special attention to collection of the variable "*country of origin*" in national and autonomic registries of AIDS cases.

- Increase the number of seminars/meetings directed to immigrant and ethnic minority associations to enable them to use more effectively the resources offered by public administrations (request for subsidies of intervention programs, preparation of programs, etc.).
- Promote incorporation of the figure of cultural mediators and community health agents in governmental or nongovernmental health care organizations working with immigrants and ethnic minorities.
- Stimulate work and cooperation between cultural, social and trade union immigrant associations and NGOs with experience working with HIV/AIDS to develop effective prevention activities in these groups.

PREVENTION OF VERTICAL TRANSMISSION

Prevention of HIV infection in women has special relevance due to transmission of infection to their children during pregnancy, delivery or nursing. In the time when no prophylaxis of transmission was done, the risk of transmission of HIV infection from mother to child during pregnancy was from 15 to 25%, varying according to the presence of certain factors related to the time of infection of the mother, viral load, delivery characteristics and others.

Given the effectiveness of antiretroviral therapy administered during pregnancy to reduce the risk of transmission of HIV infection to the fetus, a considerable reduction in the number of cases of children with HIV infection or AIDS is being achieved. However, Spain is the Western European country with the highest number of pediatric AIDS cases, which have totaled 844 cases since the beginning of the epidemic to December 2000 [80]. Although there has been a very marked reduction in rates of vertical transmission, 15 cases were still diagnosed in 1999, a number that is still too high in the context of our health care system. Information from large hospitals in Spanish cities where the epidemic has had greatest impact and, therefore, with the greatest dedication of care to HIV-positive pregnant women, show rates below 3%. In contrast, information from the retrovirus reference laboratory of the Carlos III Health Institute (ISCIII), the result of pooling samples from a considerable number of small and medium-sized hospitals, found rates higher than 5%. There is also a high prevalence of infection in women delivering a liveborn child [81], ranging from 0.5 to 3 per thousand depending on the autonomous community, and an upwards trend has been detected as well. This increase may be related to the increased incidence of pregnancies and the decrease in voluntary terminations of pregnancy in HIV-positive women due to increased quality of life with antiretroviral drugs, but also to the increased incidence of infection in women of childbearing age or underdiagnosis of infection in pregnant women.

Prevention of perinatal transmission of HIV infection is based on the following basic principles:

a) Early diagnosis of risk behaviors and risk of HIV infection in women of childbearing potential.

b) Advice on responsible planning of pregnancies.

c) Advice on continuing or terminating pregnancy in HIV-infected women and in those who discover they are infected when already pregnant.

d) Prevention of infection in the fetus and newborn of HIV-infected women who wish to carry their pregnancy to term.

Identification of women with risk practices for HIV infection is a key element in the prevention process. Diagnosis should always be done after obtaining oral informed consent, assuring the women that the results will be confidential and providing pre- and post-test counseling (VCT).

In confirmed cases of infection, it should be ensured that the pregnant women is offered different alternatives or options for prevention of vertical transmission, from voluntary termination of pregnancy to continuation of pregnancy, and antiretroviral therapy (after explaining its advantages and limitations) and bottle feeding of the newborn should be recommended.

Psychological and social support of pregnant women who decide to continue with their pregnancy is indispensable to ensure that both pregnancy and subsequent care of the newborn are conducted under adequate conditions. Psychological support should also be given to women who decide to terminate their pregnancy because of HIV infection.

As early as 1996, the SPNS, in cooperation with the Spanish Society of Gynecology and Obstetrics (SEGO) and the Spanish Association of Pediatrics (AEP), already recommended that VCT be systematically offered to all pregnant women, a recommendation that has been subsequently updated and expanded to include prevention and the use of antiretroviral drugs [82,83].

Sufficient information is not available [84] on the degree of implementation of the systematic offer of VCT to pregnant women, a key element in the prevention of perinatal transmission.

The SPNS collaborates with the AIDS Study Group (GESIDA), the Spanish Society of Gynecology and Obstetrics and the Spanish Association of Pediatrics to issue and disseminate recommendations and campaigns designed to achieve a minimal risk of mother-child transmission of HIV. Collaboration is also needed with other professional associations, such as official medical and midwife associations, as well as with both local and regional hospital gynecology and obstetrics departments, to achieve greater dissemination of the message regarding the need for systematic screening.

This collaboration extends to joint review of the incorporation of new prevention technologies, such as semen washing followed by artificial

insemination. In the developed world, the effectiveness of antiretroviral therapies to reduce vertical transmission has rekindled interest in procreation among infected or serodiscordant couples. These combined techniques are being evaluated by the Directorate General for Health Planning and the Agency for Health Technology Assessment of the ISCIII for their possible inclusion in National Health System benefits.

OBJECTIVES

- Reduce the incidence of HIV infection in newborns making it as close as possible to zero.
- Generalize the systematic offer of VCT in pregnant women.
- Guarantee access to the most effective regimens of antiretroviral therapies for all HIV-infected pregnant women who wish to carry their pregnancy to term.
- Establish programs of sexual education and family planning for women of childbearing age, favoring early detection of risk behaviors.
- Evaluate the inclusion of semen washing in serodiscordant couples as a health benefit.
- Make available sufficient information about the degree of implementation of the systematic offer of VCT in pregnant women.

PREVENTION IN HEALTH CARE SETTINGS

Clinical practice-based prevention of HIV

A place for prevention can and must exist in all health care settings. This concept must be applied in all medical or surgical clinical practices, although specific implementation will obviously depend on the characteristics of each setting [85]. HIV prevention interventions vary depending on whether they are carried out by a gynecologist, an internist, a general practitioner, an infectologist or a pediatrician, to give some examples, but have many common aspects.

In hospitals providing care for HIV-infected patients, most activities are devoted to the diagnostic and therapeutic aspects of the infection and its associated diseases.

A significant proportion of new HIV infections occur in the environment of persons already known to be infected or to engage in risk practices, who have either regular or sporadic contact with the health care system: persons under treatment for drug addiction, persons seeking medical assistance for sexually transmitted diseases, partners or sexual contacts of any of these persons, etc. In addition, individual prevention interventions should be carried out in all HIV-infected persons.

In the last few years, one of the essential messages of international organizations is precisely that greater emphasis should be placed on close coordination between prevention and care interventions.

There are many persons in the general population who have an apparently low risk of HIV infection. These persons often contact the health care system for a wide variety of reasons that in principle are not related to HIV infection. This is what happens in the majority of clinical encounters taking place in primary care or in gynecology or obstetrics. Routine use of a systematic medical history that includes risk factors allows specific prevention interventions to be carried out in everyday clinical practice and early diagnosis of HIV-infected persons.

Early diagnosis allows HIV-infected persons to benefit from antiretroviral therapies and prophylaxis of opportunistic infections, and risk behaviors can be reduced by providing appropriate counseling. In a study on AIDS cases reported in Spain from 1997-99 [86], of 6910 AIDS cases studied, 35% learned they were infected with HIV at the same time as being diagnosed with AIDS

(in the same or previous month). Lack of knowledge of HIV infection until diagnosis of AIDS was associated with age less than 25 or greater than 34 years, the homo/bisexual (54% of cases in this category had not been previously diagnosed) and heterosexual (59%) transmission categories (compared to 18.5% in intravenous drug users), and country of origin other than Spain, either developed or developing (60%). This large proportion of persons diagnosed with AIDS who did not know they had HIV infection indicates that early diagnosis should be improved to achieve a greater impact on prevention and treatment.

Information about the work of the NHS network in the prevention of HIV is very incomplete [87], which probably reflects its involvement in a activity that is still not applied systematically, particularly in primary care centers and hospitals. Drug abuse treatment centers are the ones that are intervening most intensely in transmission prevention programs to reduce both intravenous and sexual transmission of HIV.

Professionals from different health care settings, especially hospitals, primary care centers, drug abuse treatment centers and STD and family planning clinics, should incorporate early diagnosis of risk practices and HIV infection and prevention of sexual transmission of this virus into their everyday practice, including care for sexual partners of infected persons and/or with risk practices.

In coming years, a large effort should be made to amplify these messages and adapt them to diverse needs of the health care professionals involved, in addition to developing strategies for their everyday implementation in the health care setting.

Prevention of HIV in HIV/AIDS clinics and hospitals

Of the 110,000-150,000 persons infected with HIV that are estimated to be living in Spain, more than a fourth have yet to be diagnosed. Even so, there are at least 75,000 infected persons, most of whom regularly attend HIV/AIDS clinics. These persons must adopt a long-term commitment to safe sexual and injection behaviors to avoid transmitting the virus. Prevention should be discussed on each visit by an HIV-infected patient. The concept of compliance with antiretroviral treatment should be systematically extrapolated to adherence with preventive measures, taking into account that they share many determinants.

The number of persons infected by HIV will continue to increase as a result of the greater longevity and quality of life conferred by HAART. However, this also means a higher probability of transmitting the virus if safe behaviors are not adopted. Because of this, prevention in the health care setting is increasingly important and the most appropriate setting for doing so is in the hospitals or clinics where HIV-infected patients are seen.

The specific ways to bring prevention to HIV/AIDS hospitals or clinics, including follow-up of partners and other persons with risk behaviours, should be a priority for all professionals involved in the HIV-related care provision, in which nursing units play an important role to improve adherence to treatment and preventive measures. Cooperation between health care institutions and scientific associations will facilitate these activities.

Prevention in drug abuse treatment centers

Drug abuse treatment centers have been assuming the tasks of prevention of intravenous transmission of HIV and, to a lesser extent, of sexual transmission. However, a new challenge to prevention has arisen in this setting. Viral hepatitis have an appreciable role in the context of the HIV/AIDS epidemic in Spain, with hepatitis C being especially prominent. The frequent presence of coinfection with HBV and HCV in HIV-infected individuals reveals that available preventive measures are not being used effectively enough, especially the hepatitis B vaccine, given its effectiveness and safety.

The epidemiological relevance of viral hepatitis is gaining increasing clinical significance, to a large extent because of the very favorable impact that current antiretroviral therapies are having on morbidity and mortality caused by HIV infection and its associated diseases. Thus, the existence of chronic liver diseases secondary to hepatitis is becoming increasingly evident, while at the same time the potential benefit of antiviral therapy against such hepatotropic viruses is starting to be debated.

At the end of the year 2000, the SPNS set up a working group in collaboration with the AIDS Study Group (GESIDA-SEIMC) and the Spanish Association for the Study of the Liver (AEEH), together with other experts in this area. The aim of the Clinical Advisory Committee (CAC) is to draw up a guide establishing the key principles for intervention in these coinfections in terms of their epidemiological, diagnostic, preventive and therapeutic aspects. In the preventive aspect, the methods to improve vaccination programs for

hepatitis B and A will need to be discussed with autonomous communities and health system administrators.

Prevention of HIV in STD hospitals and clinics

According to the above stated aspects, prevention in the framework of the clinical encounter should be carried out in the diverse centers or clinics where persons at risk of becoming infected by HIV are seen or can be identified. The best example of this are consultations for STD taking place in the NHS network and in private STD clinics.

Diagnosis of an STD in an individual, in addition to increasing the vulnerability to HIV infection, is an indirect marker of unsafe sexual practices that can result in transmission of HIV. Therefore, as well as the need for treatment and follow-up of contacts, it requires an intervention aimed at motivating a change in the individual's behavior.

The SPNS, in collaboration with the professionals working in these clinics, should initiate a process to evaluate prevention interventions against HIV infection and any STD that facilitates acquisition of HIV. This process should include activities ranging from evaluation of HIV prevention programs in persons seen at STD centers, analyzing individual, dual and group interventions, the methods used and their effectiveness, to the writing of specific clinical practice protocols and their dissemination to STD clinics and scientific societies professionally related to these diseases.

Prevention of HIV in primary care and family planning clinics, youth centers, and clinical practice of obstetrics and gynecology

Primary care centers play an important role in the identification of risk behaviors, early diagnosis and the carrying out of prevention activities, which is still insufficiently developed. Primary care professionals have regular contact with nearly all persons in the community and, therefore, have the opportunity to deliver prevention messages and reinforce healthy behaviors [88]. Activities should be organized into two main areas: promotion of healthy sexual behaviors in the general population, with special attention to adolescents and women of childbearing age, and detection of risk practices, followed by VCT when appropriate.

In collaboration with the SEGO (see perinatal transmission), measures should be taken to facilitate greater involvement of gynecology and obstetrics professionals in the identification of risk behaviors and early diagnosis of HIV

infection. This collaboration should be expanded to include professional primary care associations.

HIV infection control in health care settings

In the health care setting, transmission of HIV may occur from health care workers to patients or vice versa. The key strategy for prevention of accidental exposure of health care workers to blood from HIV-infected patients continues to be strict observation of universal precautions in all patients. A large percentage of these accidental exposures are the result of incorrect practices. Both health care and non-health care personnel should be informed about improper practices and the preventive measures that should be taken in the work environment. Furthermore, the term 'health care setting" is considered to extend to less obvious areas, such as needle exchange programs, where staff should adopt the same preventive measures.

The risk of infection following accidental exposure to HIV-infected blood is very low (estimated at 0.3%, depending on the type of exposure, depth of the needlestick injury and infectiousness of the source). If such accidents occur, from a source known to be infected by HIV or whether this is unknown, all existing measures to prevent transmission of viruses, such as hepatitis B, C or HIV, should be made available to those exposed.

The CAC periodically establishes recommendations for postexposure prophylaxis of HIV using antiretrovirals, as well as providing guidance on individualized assessment of each case and the use or not of these drugs [89]. Thus, a careful assessment of the real risk of infection should be performed and, after informing the person who suffered exposure fully about the potential risks and benefits of this treatment and its limitations in terms of effectiveness, the decision made about their use.

Three cases of HIV infection acquired in the health care setting are known in Spain, all of which occurred more than 8 years ago. Generalized use of universal precautions and postexposure prophylaxis are very likely the reason for the absence of this type of cases.

The risk of HIV transmission from health care professionals to patients undergoing invasive procedures is very remote. This risk can also be prevented through systematic application of general infection control procedures and "universal precautions". In 1996, the National Committee for Coordination and Follow-up of AIDS Prevention Programs already considered that neither routine serologic studies in patients undergoing invasive procedures by a

seropositive health professional or routine provision of information to patients in this situation were warranted. Recommendations have been periodically issued regarding health care professionals infected by HIV or other bloodborne viruses, which describe in detail the measures to be taken in such circumstances [90]. No new cases of transmission from health care professionals to patients have been published in the literature since 1996, which further supports the idea that this is an extremely rare situation. Nevertheless, the SPNS, its Clinical Advisory Committee and the Care and Prevention Subcommittees will remain alert to the possibility of new cases occurring.

The application of universal precautions is an effective measure to guarantee that HIV-infected persons can receive dental treatment without risk. As a result, hindering their access to this treatment is unjustified and refusal to provide such treatment constitutes an act of discrimination and a violation of their rights as citizens. In collaboration with the General Council of the Official Associations of Odontologists and Stomatologists, the specific recommendations for this professional group have recently been updated [91] for their dissemination among odontologists and dentistry students.

Nonoccupational postexposure prophylaxis

Exposure to HIV in situations outside the health care setting is receiving progressively greater attention. Although there is little scientific evidence on the effectiveness of a prophylactic intervention with antiretrovirals, some recommendations for prophylaxis have been established, the result of an initiative of the Catalonian Center of Epidemiological Studies on AIDS (CEESCAT) in collaboration with the Ministry of Health and Consumer Affairs [92].

An essential concept in these recommendations is that whenever a person seeks medical assistance following exposure to HIV, the attending physician should view the clinical encounter as a unique opportunity to carry out various prevention interventions aimed at health education, and always from a broad perspective of the risks linked to sexual practices and the use of intravenous drug, such as prevention of viral hepatitis and sexually transmitted diseases.

OBJECTIVES

- Promote the concept that HIV prevention is a task of all health care professionals, especially in those working in drug abuse treatment

centers, STD or primary care centers, obstetrics and gynecology clinics, and internal medicine/infectious diseases/HIV hospitals.

- Promote cooperation with scientific societies and professional associations involved in the prevention of HIV transmission.
- Increase awareness and knowledge of health care professionals and social services on the importance of prevention, early detection and counseling of HIV through the preparation of clinical practice guidelines, treatment protocols and educational materials, as well as through training activities and the exchange of experiences.
- Maintain control activities related to biological accidents in health care settings.

BLANCA

GLOBAL OBJECTIVE 2

REDUCE THE NEGATIVE PERSONAL AND SOCIAL IMPACT OF THE EPIDEMIC

Health care
- Role of secondary care
- Role of primary care
- Quality of care
  - Clinical practice guidelines and treatment protocols
  - — HIV-tuberculosis coinfection
  - — HIV-viral hepatitis coinfection
  - Viral load quality control program
  - Introduction of antiretroviral resistance testing
  - Antiretroviral resistance quality control program

Social services

Reincorporation to work

BLANCA

HEALTH CARE

Role of secondary care

From the beginning of the epidemic, the NHS has responded diligently and effectively to the challenge of providing care for HIV/AIDS patients while applying in full the principles of universality, equity and quality of care, supported by the efforts and dedication of its professionals. From 1997 to 1999, the cost of antiretroviral treatments in Spain went from 138.2 to 282.5 million euros annually. From 1995 to 1998, the number of patients treated with antiretrovirals doubled [93]. In addition, according to a study conducted by the National Institute of Health (INSALUD) in 57 hospitals, the average length of hospital stay was reduced from 17.28 to 14.04 days and the number of hospitalizations was drastically reduced over the same period.

Because of the marked improvement in the prognosis for HIV infection and the continued occurrence of new infections, there are a growing number of patients requiring continued care. The dynamic nature of the epidemic has required an effort to adapt the health system to changing health care needs. The incorporation of new antiretroviral drugs and tests for viral load and resistance are a good example of this.

One of the health facilities for HIV/AIDS patients that has shown the greatest development in this decade is the day hospital [94], which should adapt to the changing needs of these patients, as, for example, toxicity units, daytime emergencies, clinical trials, etc.

The task of providing medical care to HIV/AIDS patients has fallen largely on secondary care. In order to determine the characteristics of patients seen in these facilities and the intensity of utilization of secondary care resources, the SPNS carries out an annual survey of hospitals [95] with the participation of the INSALUD and some autonomous communities. The results of the latest survey reflect major changes in the clinical status and disabling consequences of the disease. Patient utilization of health services has undergone significant changes. While one in two patients was hospitalized on the day of the survey conducted in 1995, this had fallen to nearly one in four in 1998. The number of admissions to day hospital units also decreased, with a three-fold decrease in the number of patients attended at these centers in 1998 (3.1% of whom were treated in one day). In this same period, the percentage of patients in Stage A rose to 86.3%, and nearly tripled the percentage of those with CD4 counts over 500. In recent years, there has been a large reduction in the

disabling consequences associated with HIV/AIDS. From 1995 to 1998, the ability to walk unaided rose by 33%, and the same trend was also seen in other areas of self care.

A goal that requires further development in coming years is to progressively improve the psychological support offered to patients affected by HIV/AIDS and their family members, in cooperation with NGOs and volunteer groups.

Existing NHS health facilities should provide care more specifically focussed on an active search for STDs (chlamydia, herpes, HPV) and screening for cervical cancer and anal epidermoid carcinoma.

Role of primary care

Although most of the burden of medical care of HIV/AIDS patients is carried by secondary care, certain aspects such as antiretroviral treatment side effects and drug interactions and, in particular, strategies to improve treatment compliance, should be managed by primary care health professionals [96]. Primary care physicians also require training on the indications and timing of nonoccupational postexposure prophylaxis, which should always be done in the context of an integrated approach to HIV prevention and care (see prevention in the health care setting).

Collaboration of public health institutions with pharmaceutical companies and specialized NGOs should have the goal of making information about treatments more accessible and comprehensible to patients, so that it facilitates compliance and greater effectiveness.

Quality of care

Clinical practice guidelines and treatment protocols

The SPNS will continue to provide technical assistance on clinical practice. The Clinical Advisory Committee (CAC) will continue to issue recommendation documents and rely on other specific working groups, in which members of the CAC along with of professionals of renowned prestige and experience in each topic may participate. Occasionally, these experts collaborate with or represent different scientific societies: the Spanish Interdisciplinary AIDS Society (SEISIDA), the Spanish Society of Pharmacy, GESIDA, SEGO, AEP and others, as well as professional associations.

The line of work concerning to the preparation of clinical practice guidelines is largely the result of the collaboration of NHS professionals, either on a personal basis as experts in the relevant topics or as representatives of scientific societies. The way in which these guidelines are generated is very efficient, while at the same time involving these professionals in an more general activity than that found in their usual practice, which we hope will facilitate adoption of this integrated working method by the medical community as a whole.

The criteria for using antiretroviral drugs according to the patient's immune status and viral load has been and will continue to be highly controversial. Given that complete eradication of HIV is currently impossible, the use of antiretrovirals is being weighed against the risks of toxicity, the problem of resistance and the difficulties to maintain high levels of compliance with treatment.

HIV-tuberculosis coinfection

The relevance of coinfection by *M. tuberculosis* and HIV is notable in Spain. Although the use of antiretrovirals has markedly reduced opportunistic infections, including tuberculosis, and the incidence of AIDS in adults presenting with tuberculosis as an AIDS indicative disease decreased from 38.5% in 1995 to 33.3% in 1999, tuberculosis still has great epidemiological and clinical significance in our setting, and control programs for this infection should be intensified. Appropriate intervention for tuberculosis should be discussed jointly with autonomous communities.

The Secretariat of the National Plan on AIDS promotes measures to control this disease in the context of coinfection. Thus, recommendations for preventive measures to control tuberculosis coinfection in connection with HIV/AIDS epidemic are issued and periodically updated [97], as well as a consensus document on directly observed tuberculosis treatments, in which various institutions participated under the coordination of the Barcelona Tuberculosis Research Unit [98].

HIV-viral hepatitis coinfection

Coinfection by hepatotropic viruses, particularly HBV and HCB, is acquiring increased epidemiological and clinical significance because the effectiveness of antiretroviral treatments allows viral hepatitis to develop clinical manifestations. The SPNS is also preparing recommendations for

clinical management of this coinfection for dissemination throughout the NHS, which should be periodically updated.

Following discussion by the National Transplant Organization (ONT), hospital transplant teams and the SPNS on the indication for liver transplantation in HIV-infected patients, it was concluded that HIV infection should no longer be an absolute contraindication. A pilot study on this subject is currently ongoing, the results of which will facilitate future decision making on this type of health benefit.

Viral load quality control program

The viral load quality control program, which was started in 1997 and subsequently extended to the entire health system, has continued in subsequent years. This initiative is being carried out in collaboration with the quality control group of the Spanish Society of Infectious Diseases and Clinical Microbiology, the Retrovirus Laboratory of the National Center of Microbiology of the Carlos III Health Institute and with the support of pharmaceutical companies manufacturing diagnostic tests.

A large majority of the hospital laboratories carrying out viral load determinations are participating in this program, with their number increasing year by year, so it can be stated that this program is well established in the National Health System.

This initiative is serving as a genuine quality control program, improving results each year, although they were already of acceptable quality at the start of the program. This versatile program is adapted on a yearly basis to new developments in viral load measuring techniques, and it is planned to continue annual review. A complement to the program, based on the use of a monthly standard with a known viral load, will be started in the year 2001.

Introduction of antiretroviral resistance testing

The SPNS issued a public report in March 2000 on the introduction of antiretroviral resistance testing in clinical practice [99]. This report took into account the work of an advisory group consisting of virologists and clinicians created specifically for this purpose.

A national database on resistance to antiretroviral drugs is being created so that the information generated in the NHS by the introduction of these techniques can be aggregated and be useful for understanding the epidemiology of antiretroviral resistance in Spain, as well as for optimizing and conducting research on

treatment regimens. This project is being carried out in the framework of a cooperation agreement with the Severo Ochoa Molecular Biology Center [Autonomous University and the Higher Council of Scientific Research (CSIC)] and two pharmaceutical companies manufacturing diagnostic tests.

Antiretroviral resistance quality control program

A quality control program with similar logistics to the viral load quality control program will be set up in 2001 with the collaboration of the quality control group of the Spanish Society of Infectious Diseases and Clinical Microbiology and the National Center of Microbiology of the Carlos III Health Institute. It will be offered to all clinical and research laboratories that use this technique with the mid- to long-term goal of making this a stable program carried out on a six-monthly or yearly basis.

OBJECTIVES

- Guarantee a network of services providing comprehensive quality medical care to persons affected by HIV/AIDS or with HIV risk behaviors.
- Conceive care as a "continuum of care" accomplished through maximum coordination of health service networks: primary care, hospital care, addiction services network, STD clinics, family planning centers and prison clinics.
- Integrate health care into prevention strategies, both in drug addicts and those with sexual risk practices, whether or not they are infected by HIV.
- Maintain the SPNS's role of providing technical assistance on care provision through the preparation of clinical practice guidelines and recommendation documents in collaboration with experts and scientific societies.
- Maintain the viral load quality control program and develop the antiretroviral resistance quality control program.
- Develop a national database on HIV resistance to antiviral drugs.
- Optimize tuberculosis control programs in autonomous communities and penal institutions, especially with regard to aspects related to HIV infection.
- Optimize control programs for viral hepatitis in autonomous communities, especially with regard to aspects related to HIV infection.

SOCIAL SERVICES

A large number of persons infected by HIV have numerous social problems, particularly those related to drug addiction. In Spain, the persons hardest hit by the epidemic are those with serious social problems such as unemployment, family breakdown, low educational and cultural levels, poverty, marginalization and substandard housing. Moreover, social welfare services are less developed than health services, and existing infrastructures and links with health organizations and citizen associations involved in social activities are insufficient. Finally, given that users are often ignorant of the social services available to them and the general trend whereby the user must adapt to services and not vice versa, it is not surprising to find a population of sick persons with great social difficulties who are unable or able only with great difficulty to access the aids and social services they could benefit from.

Because these situations are not solely suffered by persons infected with HIV, it would be undesirable to devote specific resources to them as a general course of action. Instead, the creation of an infrastructure of basic social services addressing this problem in a coordinated manner with primary care services and offering standardized solution to persons suffering social exclusion should be promoted.

Family members or close friends of persons affected by HIV/AIDS need support to learn the skills required to care for their patients and psychological support so that relationships do not deteriorate and tensions can be alleviated, especially with patients with seriously impaired health or who are children, or when the carers are older persons. Teaching self-care techniques to patients has been highly successful, reducing the number of hospital admissions, visits and emergencies. Psychological support (self support groups), coordination with the mental health network and greater involvement of this network in these subjects is essential to improve care outcomes in these patients.

The ability for the patient to remain in his/her own home is a key element for achieving an adequate quality of life and for maintaining social relations. Social services for home care of patients remains a current need and, for those who lack family support, adequate coverage in refuge houses is required. Although the improvement in morbidity and mortality and quality of life of patients makes some social support services less necessary (home help, refuge houses or flats), the combination of HIV infection and drug addiction generates a state of great physical and psychosocial deterioration, and advances in recovery of health do not always run parallel to increased social and

personal autonomy. These resources must be adapted to the enormous increase in recent years in the number of patients under treatment with opiate substitutes, to respond to their needs. Refuge houses or flats, including for accommodation social emergencies, should be oriented to getting patients to initiate a process of social integration and to developing resocializing resources (sheltered accommodation and accommodation for social integration) and initiatives, always from a position of respect for the principles of individuality, participation and self-determination.

OBJECTIVES

- Guarantee a coordinated network of services providing comprehensive quality social and health care for persons affected by HIV/AIDS.
- Increase involvement of the primary care network in HIV/AIDS related functions.
- Expand the network of social support services for persons infected by HIV or with risk practice for acquisition of HIV, orienting them towards reintegration into society and work.
- Improve coordination with NGOs offering social welfare services.

REINCORPORATION TO WORK

Life expectancy and quality of life of seropositive persons has changed considerably in recent years as a result of HAART. HIV infection and AIDS has struck the population aged 20-40 years with particular severity, i.e., persons in their most productive years. In contrast to the situations of disability they suffered in the past, many seropositive men and women are now perfectly able to re-enter the world of work and fully entitled to a better quality of life.

Both workers and employers should learn to accept a new social obligation, which is to reduce the risk of AIDS, to eliminate exclusion based on fear and to promote solidarity, providing the necessary support to persons affected by HIV/AIDS and maintaining solidarity [100].

The most important task of the SPNS in this area is to prevent and to fight HIV or AIDS-related discrimination in employment, but also to facilitate reincorporation to work of affected persons whose state of health makes this recommendable, so they can have greater personal autonomy and self-responsibility for their own life. Strategies and activities in this area should be established jointly by workers, employers and trade unions and, when appropriate, in conjunction with the administration and organizations of persons living with HIV/AIDS [101].

With regard to reincorporation to society and the workplace, it is essential to take into account the key role played by the business world, since it is companies who ultimately have to hire people with disabilities and, specifically, seropositive persons. For this reason, channels of cooperation need to be established with employers' organizations, trade unions and specific NGOs.

Compulsory HIV testing in the workplace or in any other setting, is not only incompatible with respect for the rights and dignity of workers and unjustified for reasons of public health, but may also lead persons who are or think they are infected to 'go underground' and to adopt counterpreventive attitudes or behaviors or even give up the benefits of treatment. The fight against HIV or AIDS related discrimination in the workplace should become a new cause for workers. Training programs in the workplace should include clear information on HIV/AIDS [102] to combat stigma and fear based on ignorance.

It is the responsibility of institutions to suppress barriers for access to employment by persons affected by HIV/AIDS. NGOs are well qualified to detect work-related situations of inequality or discrimination. The mass media

can also play an important role in creating a social environment of solidarity and exposing cases of discrimination. The nature itself of HIV infection and AIDS implies the need for a multidisciplinary response, not only by the administration and health care professionals, but also by each member of the community, as part of an individual and collective responsibility [103].

For HIV-infected citizens who as a result of their disease or other associated diseases have a degree of physical and psychological disability that makes them unfit for work, Spanish legislation contains a recent regulation, Royal Decree 1971/1999, which updates assessment criteria for disability and determination of the degree of disability in citizens. Application of an objective scale, harmonized with other disabling diseases and that does not create either positive or negative discrimination, for a disease subject to such large changes in treatment and prognosis such as HIV/AIDS, is extraordinarily difficult. Added to this is the special situation of very young patients, many of whom are drug addicts with a low level of education and professional training, which makes their reincorporation to society and work even more difficult.

This is a clear example of a situation in which institutions and civil society must work closely together so that the regulation can be applied effectively and directed to palliating the social needs of those most in need. Cooperation between associations of persons affected by HIV/AIDS and the administration for enforcement of this decree is coordinated through the State Board on HIV/AIDS Disabilities, formed by more than 60 NGOs, with the aim of adapting the criteria to the specific circumstances of the persons living with HIV/AIDS.

OBJECTIVES

- Create a favorable social environment for integration of persons with HIV infection/AIDS into society and the workplace, guaranteeing strict compliance with applicable legislation and promoting solidarity, tolerance and respect through information campaigns directed to the general public.
- Promote measures for integration into society and the workplace of persons who, in addition to HIV infection/AIDS, have important problems of social exclusion.
- Open channels for cooperation with employers' organizations, trade unions and NGOs working specifically in the field of HIV/AIDS.

- Promote training, counseling and awareness raising activities through trade union organizations and associations of persons affected by HIV/AIDS to eliminate barriers to reincorporation to work by affected individuals.
- Work in coordination with the Ministry of Work and Social Affairs and autonomous communities to guarantee proper enforcement of regulations on non-discrimination in employment.

GLOBAL OBJECTIVE 3

MOBILIZE AND COORDINATE EFFORTS AGAINST HIV

Epidemiological surveillance
- AIDS cases
- HIV infection
- Risk behaviors
- Other additional sources of information

Research
Community participation
Institutional coordination
International cooperation

BLANCA

EPIDEMIOLOGICAL SURVEILLANCE

Planning, coordination, implementation and evaluation of activities covered under this strategic plan, as well as its adaptation to the real needs generated by the HIV/AIDS epidemic, requires good epidemiological information systems.

The characteristics and requirements that must be met by epidemiological surveillance of HIV/AIDS are the following:

— Various approaches should be combined. The current complexity of the HIV/AIDS epidemic makes it unfeasible to monitor all aspects of the epidemic with a single epidemiological surveillance system. A comprehensive surveillance strategy should take into consideration AIDS-related mortality, AIDS incidence, HIV infection rates and risk behaviors.

— Use of comparable methodology that allows the data collected to contribute to epidemiological surveillance in the European region and worldwide.

— The quality of the information is an essential requirement for its usefulness and to ensure that actions based on it are appropriate.

— Timely information. Events occur in rapid succession in the course of the HIV epidemic. The usefulness of epidemiological data depends on its ability to be updated. The time required to collect, prepare and disseminate information should therefore be reduced as much as possible.

— Flexibility. The course of the epidemic has undergone significant changes in a period of just a few years, and has thus required adaptation of the surveillance systems to new situations. The surveillance strategy should be prepared to incorporate new activities and objectives as they are required.

— Closely linked to decision making. Epidemiological surveillance has no meaning in itself, but rather becomes meaningful depending on how well it serves to guide actions to control the epidemic.

The current epidemiological surveillance system for HIV/AIDS consists of the following activities:

Epidemiological surveillance of AIDS cases

This activity is carried out through AIDS case registers, which have been operating in Spain since the first years of the epidemic in a decentralized

network that is coordinated on a national level through the National Register of AIDS Cases. To date, the overall rate of underreporting is estimated to be 10-15%, which is one of the lowest rates in European countries. Very acceptable levels of completion of epidemiological variables are also being maintained. Up to now, this system of information on HIV/AIDS, together with mortality statistics, has been the only one that covers the whole population. The main results are the annual incidence of AIDS by sex, age, transmission category and autonomous community of residence. Updates are issued every six months.

This source of information can be used for international and national geographical comparisons and to describe the characteristics of affected persons and the predominant modes of transmission. Also, the incidence of AIDS is a key indicator for overall evaluation of the progress made in the fight against AIDS and, specifically, the effectiveness of antiretroviral therapies.

Epidemiological surveillance of HIV infection

As in other developed countries, surveillance of HIV infection is carried out through two types of activities:

a) Reporting systems for new diagnoses of HIV infection

This activity has been carried out by the autonomous communities of Asturias, Navarra and La Rioja for several years. The Information System on New HIV Infections (SINIVIH) was introduced on a national basis in 2001, and will gradually include those autonomous communities that decide to implement it.

Unlike other approaches that are restricted to specific population groups, this reporting system collects data on all diagnosed infections even if they do not belong to traditional exposure categories. Its main objectives are: to quantify new diagnoses of HIV infection and their time trends, to characterize recently diagnosed persons and to gain a better understanding on recently infected persons so that human and technical resources can be planned and scheduled to address the epidemic in coming years.

b) HIV sentinel surveillance

This consists of HIV monitoring in specific populations chosen because they are target groups for prevention activities (injected drug users, women who engage in prostitution, etc.) or because they present logistic advantages

for their study (primary care patients). These are very flexible surveillance methods that are highly adapted to prevention needs. Because they only analyze a sample of the population they are highly efficient, especially when infection prevalence rates are medium or high. They have limitations for comparing the magnitude of different subepidemics because their population base is generally unknown. They can be based on voluntary testing or the use the unlinked anonymous screening methods, which avoid participation biases.

HIV sentinel surveillance consists of the following activities:

— HIV seroprevalence surveys in heroin and cocaine users under treatment, in collaboration with the National Plan on Drugs of the Ministry of the Interior.

— Analysis of the results of voluntary HIV testing in HIV/STD clinics.

— Compilation of the results of compulsory HIV testing in blood donors.

— Study of unlinked anonymous HIV seroprevalence in newborns.

— Study of unlinked anonymous HIV seroprevalence in STD clinic patients.

— Study of unlinked anonymous HIV seroprevalence in primary care patients.

In addition to these activities conducted on a systematic basis, HIV seroprevalence studies are also conducted at certain times in other specific groups by collecting data in the street, public premises or using mobile units (intravenous drug users, homosexual men, transvestites, male sex workers, etc.)

Epidemiological surveillance of risk behaviors

Information on risk behaviors is essential for prevention. In Spain, studies on risk behaviors for HIV have been carried out in specific populations such as IDUs, homosexuals and prostitutes, but not in the general population. There are also few studies repeated on a regular basis. The lack of adequate information on sexual behaviors related to sexually transmitted infections such as HIV has been pointed out in previous chapters. The SPNS, in collaboration with various autonomous communities, started to prepare a national survey on sexual behaviors in the year 2000, with the aim of supplementing currently existing information so that appropriate strategies to prevent sexual risk practices can be defined.

Other additional sources of information

a) AIDS mortality monitoring

Mortality statistics by cause, which are prepared by the National Statistics Institute, provide information about HIV/AIDS deaths and allow it to be compared with other public health problems. One of the limitations of these statistics is that they are published with several years of delay. This source of information is more useful in certain autonomous communities that make their data available sooner, allowing them to be compared with AIDS registers in order to complete them and evaluate their exhaustiveness.

b) Hospital-based information systems

Since 1995, a cross sectional survey has been conducted annually in patients attended on one day by the National Health System network. It has become a useful tool to identify clinical, sociodemographic and epidemiological characteristics, new care needs, resource utilization and patterns of clinical and therapeutic management.

In recent years, the minimum basic data set (MBDS) has provided an additional tool for monitoring hospital discharges related to AIDS and HIV infection.

OBJECTIVES

- Maintain and reinforce currently operating surveillance systems, improving their coverage and quality when necessary.
- Promote surveillance activities for recently initiated HIV infections, extending them to a larger number of autonomous communities.
- Define and consolidate surveillance of risk behaviors in specific populations and in the general population.
- Make surveillance systems more flexible so they can adapt to needs and changes in the evolution of the epidemic.
- Strengthen the relationship between epidemiological surveillance and decision making related to prevention and health service planning.
- Expand and improve dissemination of the results of surveillance system, adapting the message to the target population.

RESEARCH

In recent years, the National Plan on AIDS has made an effort to base its responses to the epidemic, both in terms of care and prevention, on scientific evidence. Research, conducted by both public administrations and the private sector, remain a basic pillar of the national strategy on HIV/AIDS, and has the goal of improving knowledge on ways to prevent the spread of the epidemic, to reduce the harm it causes for individuals and society and to improve the quality of life of affected individuals. Clinical research in Spain, in parallel to the high level of care provided, is abundant and of high quality. Basic research is of high quality, but insufficient. The government has proposed to increase research activities overall, and the biomedical area will make adequate progress in parallel to the R&D program. But, in addition to above priorities, the SPNS own priority is to improve research aimed at responding to the epidemic from the perspective of public health, especially prevention. This will require a special effort in research in social, epidemiological and behavioral sciences, as they are essential for well-informed planning.

The resources available for the funding of research studies on HIV/AIDS in Spain are the following:

1. National institutional channels, basically through the Health Research Fund (FIS) and current programs of the Ministry of Science and Technology.
2. European institutional channels, mainly through BIOMED projects. Spain is already participating in various European studies.
3. Autonomous institutional channels. The various autonomous communities have their own activities for promotion of research.
4. The pharmaceutical industry carries out clinical trials in various phases of research, which are authorized by the Spanish Medicines Agency.
5. Research funded by other public or private bodies, either foundations or academic institutions, which may or may not be strictly related to the health sector.

The SPNS collaborates with the most important of the above institutions and also has its own initiatives in which the Clinical Trials Agency and the Foundation for AIDS Research and Prevention in Spain (FIPSE) participate.

The Ministry of Health and Consumer Affairs, through the SPNS, will continue funding research activities of the AIDS Study Group (GESIDA), the

Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC), and for the Clinical Trials Agency (AEC) of GESIDA, created in 1999. The objectives are to promote clinical research on AIDS conducted in the National Health System, to achieve greater coordination of this activity among Spanish health centers, and to facilitate the conduct of a very wide range of multicenter studies [104], such as clinical trials and cohort and prevalence studies, for which it provides methodological and management support.

In 1999, the Foundation for AIDS Research and Prevention in Spain (FIPSE) was created, whose basic goal is to promote quality research in Spain related to the basic, clinical, epidemiological, preventive, economic and social aspects of the epidemic [105]. This foundation is governed by a board of directors with equal public and private representation, whose members include the Ministry of Health and Consumer Affairs, Carlos III Health Institute, the Secretariat of the National Plan on AIDS and leading pharmaceutical companies in antiretroviral drug research and development. Priorities are established annually for each of the areas and topics considered to be especially relevant to the AIDS epidemic in Spain. This joint initiative of the private industry and the Ministry of Health and Consumer Affairs is facilitating support for rigorous research of high scientific content. The ultimate goal of the FIPSE is to ensure that the HIV epidemic is addressed in the most effective possible way by incorporating new findings from biomedical and social research. Taking into account the content of the 63 projects currently underway, the result of the first two years, and the participation of nearly 250 investigators and 79 scholarship holders/contracted researchers belonging to more than 100 centers, it can be stated that the FIPSE is satisfactorily accomplishing its goal of fostering Spanish research on HIV/AIDS in its basic, clinical, epidemiological, preventive, economic and social aspects, as well as promoting multicenter projects.

The Ministry of Science and Technology, created in the year 2000, has assumed the task of promoting research in the Life Sciences, previously carried out by the Ministry of Education and Science. Given that basic research in the biomedical area, including HIV/AIDS, is closely interrelated with basic research in the clinical area, coordination between the SPNS and this new ministry is required. A detailed knowledge of European research studies on HIV/AIDS is also important, as many of them are financed by Spanish funds from either the FIS or the Ministry of Science and Technology. The General Directorate for Research of the European Commission is currently holding discussions with Member States on setting up the so-called European Platform

for Clinical Trials on AIDS/Tuberculosis/Malaria, with the aim of promoting research in developing countries and also within the framework of the EU. This initiative, within the "European Research Area", will probably have great impact to promote Spanish research and its connection with European and Third World networks.

OBJECTIVES

- Maintain support for clinical research activities through the Clinical Trial Agency of the GESIDA, diversifying the range of studies and expanding the participation of health centers and collaborating on similar initiatives.
- Increase activities for promotion of research of the Foundation for AIDS Research and Prevention in Spain (FIPSE), incorporating new sponsors to increase annual project funding, while continuing with the annual call for projects.
- Establish coordination with other public resources dedicated to research, such as programs sponsored by the Ministry of Health and Consumer Affairs, the Ministry of Science and Technology, and especially European research projects, with special emphasis on the so-called European Platform for Clinical Trials on AIDS/Tuberculosis/Malaria.

COMMUNITY PARTICIPATION

The mobilization of community organizations is a clear example of the response of society to a problem that from its beginnings far surpassed the health care sector alone to become a public health problem with very important social component.

Participation of civil society has been particularly important in the field of HIV/AIDS. In many contexts, persons affected by HIV have actively influenced their own treatment and their access to health services. And nongovernmental organizations (NGOs) and groups of persons living with HIV have helped to shape ideas about human rights in relation to this epidemic and have helped to mold international public health responses to future epidemics in the age of globalization.

Youth organizations, women's groups, homosexual organizations, groups of persons living with HIV, harm reduction networks, etc., are valid mediators because of their capacity to identify with the targeted individuals and groups, and their credibility. In addition, they are better positioned to access and more empowered to directly intervene in individuals and populations most at risk, who, because of their social characteristics or lifestyles, are often inaccessible to conventional programs and services.

Based on the above, an effective response to the epidemic requires an associative approach that includes the participation of governmental organizations, NGOs and groups affected by HIV/AIDS, particularly HIV-infected persons.

The work of NGOs is thus an invaluable complement to the actions of institutions and professionals. It is essential to promote healthy behaviors in the population, to provide psychological support and care for affected persons and their family members and to create a favorable social environment for 'normalization' of the disease and to fight against any type of stigma and exclusion. NGOs also help in early detection of changes in risk practices and in the needs of persons living with HIV/AIDS and, through the NGO Advisory Committee, inform and guide strategies of the National Plan on AIDS.

No matter what past efforts or increased future efforts are made by public institutions, the response to the epidemic will never be complete without civil society. Psychological (individualized care, self support or mutual help groups) and social (assistance and aid in the patient's own home, the creation and maintenance of refuge houses and flats for patients with no means of support)

care of affected persons and their family members or persons close to them are needs that are still not fully covered, which institutions or administrations often lack sufficient flexibility to adapt to in short periods of time so as to provide these services with sufficient coverage, As a result, the work of NGOs is fundamental in these areas as well. The fight against exclusion, stigma, and discrimination of infected or sick persons with regard to employment, schooling, legal, health care or other areas is one of the fields where citizen associations are working most intensely.

However, while their enormous contribution to the fight against AIDS must be recognized, certain areas that could be improved also need to be mentioned. In recent years, there has been a large growth in the number of these associations, which is not evenly distributed between the different geographical areas in terms of the number or type of programs carried out and which are sometimes implemented with no adequate technical training. To this should be added a lack of sufficient coordination between public administrations and these organizations. All of this leads to scattered resources and reduced effectiveness. Improving the technical training of the members of these associations and establishing networks that allow information and experiences to be exchanged is essential, as well as better coordination of their activities.

The main source of funding for these associations is the public administration. In the case of NGOs working specifically on HIV/AIDS, the Ministry of Work and Social Affairs, by means of a allocation paid on personal income tax, and the Ministry of Health and Consumer Affairs through the Secretariat of the National Plan on AIDS, together with autonomous communities, are the main sources of funding. With the goal of increasing efficiency, the general administration has made a significant effort to improve coordination between the two ministries, which has resulted in a clear delineation of the priority areas of action of each institution. Thus, the Ministry of Work and Social Affairs subsidizes home help and refuge houses for AIDS patients, while funding provided by the Ministry of Health and Consumer Affairs is used to set up and maintain prevention programs aimed at the general population and specific communities at highest risk (especially drug users, persons who engage in prostitution, young persons, gays) and psychological support for affected individuals. Regarding autonomous administrations, they have substantially increased economic resources allocated to NGOs in recent years.

From 1997 to 2000, the Ministry of Work and Social Affairs allocated over 12 million euros to funding of social support programs and the Ministry of

Health and Consumer Affairs nearly 4.2 million euros, to which approximately 12 million euros provided for prevention by autonomous communities should be added. However, the increased social and work-related needs of these patients generated by longer survival since the introduction of new antiretroviral therapies, as well as the spread of HIV infection among the general population, require that the resources allocated to support these associations in prevention and social support programs for persons affected by HIV/AIDS be increased.

OBJECTIVES

- Improve coordination and exchange of experiences between NGOs working in the Spanish territory to increase the effectiveness of their actions.
- Improve coordination between NGOs and the administration, promoting their participation in the design and development of control strategies and the fight against AIDS, as well as the preparation of technical recommendations to achieve greater consistency and standardization of the criteria used by all NGOs in their programs.
- Improve technical capacities of people working in these associations in specific aspects of resource management and program design, planning and evaluation.
- Strengthen institutional support of citizen organizations offering AIDS-related services.
- Promote self-organization of persons living with HIV/AIDS to increase the effectiveness of interventions.

INSTITUTIONAL COORDINATION

The Secretariat of the National Plan on AIDS is the standing body for coordination between the various institutions and organizations belonging to the National Committee for Coordination and Follow-up of AIDS Prevention Programs, created by Royal Decree 592/1993 for prevention and control of the epidemic. In addition to the state administration and autonomous communities, local authorities and various nongovernmental organizations have important roles in the prevention and control of HIV/AIDS.

In recent years, efficient instruments and mechanisms have been established for coordination with most of these institutions and organizations, and the new Multisectorial Plan intends to maintain them in the future. It is the task of the Ministry of Health and Consumer Affairs, through the National Plan on AIDS, to encourage joint reflection on and integration of the activities of the various ministerial departments, organizations and associations with the regional AIDS programs, with the aim of optimizing efforts and converging towards mutually agreed goals. However, intra-regional sectorial coordination is increasingly the responsibility of regional HIV/AIDS plans as the transfer of powers to autonomous regions in two fundamentally important areas for prevention of HIV infection, health care and education, have been or are soon to be completed, among other previously transferred areas.

An overview of the organizational structure and different areas of responsibility is given in Table 2.

OBJECTIVES

- Increase commitment of the various departments and sectors involved in actions aimed at slowing the progression and reducing the impact of HIV/AIDS.
- Intensify ongoing cooperation between the Secretariat of the National Plan on AIDS and autonomous plans.
- Reinforce multidisciplinary coordination between autonomous communities.

Table 2. Organizational structure

GOVERNMENTAL	NON-GOVERNMENTAL
National *a) State administration* Ministry of Health and Consumer Affairs Carlos III National Health Institute Ministry of Education, Culture and Sports Ministry of the Interior (National Plan on Drugs, Prison System) Ministry of Work and Social Affairs (GDs of Social Action, Children and Family, Women's Institute, Institute for Migration and Social Services, Youth Institute) Ministry of Defense Ministry of Foreign Affairs (Spanish Agency for International Cooperation) *b) Governing boards* National Commission for Coordination and Follow-up of AIDS Prevention Programs Public Health Commission Interterritorial Council of the Spanish National Health System Spanish Federation of Municipalities and Provinces	*National* Spanish Medical Association General Council of Spanish Pharmacist Associations General Council of Spanish Nursing Associations Spanish Association of Psychologists General Council of Spanish Associations of Diplomates in Social Work and Social Workers Spanish Society of Gynecology and Obstetrics Spanish Association of Pediatrics Spanish Society of Infectious Diseases and Clinical Microbiology Federations of HIV/AIDS NGOs National HIV/AIDS NGOs Spanish Youth Council SEISIDA SEIMC-GESIDA FIPSE La Caixa Foundation Pharmaceutical industry
Autonomous (regional) communities Regional AIDS plans Regional Health Authorities Regional Social Services Regional Education Authorities	*Autonomous (regional) communities* Autonomous (regional) or provincial NGOs Autonomous (regional) or provincial youth councils
Local Municipal social services Municipal health services Addiction care centers Women's and family planning centers Youth centers	*Local* Local NGOs Peer groups Self support groups Community associations Local youth councils

INTERNATIONAL COOPERATION

Since 1990, the Ministry of Health and Consumer Affairs, in collaboration with the Ministry of Foreign Affairs, has constantly increased its annual activities relating to HIV/AIDS within the framework of its policy of international cooperation. The various cooperation plans have been carried out in collaboration with international bodies, agencies and programs such as the Joint United Nations Programme on HIV/AIDS (UNAIDS), World Health Organization and Pan American Health Organization (WHO-PAHO), health authorities of the respective countries, other regional agencies or programs and NGOs. The Spanish Agency for International Cooperation (AECI) plays a prominent role in areas related to cooperation, providing funds and logistic and technical support for initiatives that the Ministry of Health and Consumer Affairs, through the Secretariat of the National Plan on AIDS, has established with regard to HIV/AIDS.

In 1994, complementing structural contributions to multilateral organizations, the Ministry of Health and Consumer Affairs started a line of international cooperation on HIV/AIDS. Owing to close cultural ties, cooperation with Latin American countries was set as the first priority, although specific programs were also carried out in African countries.

Since 1994, interventions in the area of international cooperation have been carried out through three main channels: Action Plans through the PAHO/WHO (the 2001 Plan is the 8th Joint Action Plan of the Ministry of Health and Consumer Affairs-AECI-PAHO/WHO), cooperation agreements with UNAIDS (since the creation of the program in 1996) and direct bilateral cooperation with countries or through international NGOs.

The main goal over these years has been to increase the capacity of response of these countries in handling the epidemic, equipping them with the technical tools and resources to maintain interventions over time.

From 1993 to 2000, most cooperation activities on HIV/AIDS were carried out in Latin American countries, giving higher priority to countries most heavily affected by the epidemic. Since 2001, in accordance with the new priorities established in the UNAIDS program in Africa, actions aimed at this continent were intensified, while maintaining those already initiated in Latin America.

In the period 2001-2005, international cooperation activities will concentrate on reinforcing the capacity of countries to plan and generate

multisectorial responses to control HIV/AIDS and sexually transmitted infections and to equip national HIV/AIDS programs with the necessary technical elements to increase the effectiveness of resources and interventions.

OBJECTIVES

- Reinforce epidemiological surveillance for decision making.
  - Increase the quality of regional epidemiological surveillance systems.
  - Provide, generate, share and disseminate relevant and timely epidemiological information for decision making aimed at reducing the impact of the HIV/AIDS epidemic and STIs.
  - Provide support for national HIV/AIDS programs in the management and planning of resources aimed at more effective control of the epidemic.
- Reinforce public health policies and programs to prevent and control sexual transmission of HIV; HIV transmission associated with intravenous drug use and vertical transmission.
  - Develop methods and best practice guidelines for the design of prevention interventions aimed at changing behaviors in groups at risk of HIV and increase the quality of care for persons infected and affected by HIV/AIDS.
- Strengthen the capacity of countries to provide comprehensive care for persons affected by HIV/AIDS.
  - Increase national and regional capacity to disseminate appropriate models for care of HIV/AIDS/STIs.
- Develop innovative and attractive programs to communicate to society the need to adopt and maintain healthy practices with regard to HIV/AIDS/STIs.

APPENDICES

BLANCA

APPENDIX 1

AUTHORS AND COLLABORATING GROUPS

BLANCA

AUTHORS

STAFF OF THE SECRETARIAT OF THE NATIONAL PLAN ON AIDS

Ángela Bolea Laguarta

María José Belza Egozcue

Jesús Castilla Catalán

Julia del Amo Valero

Luis de la Fuente de Hoz

Luis Guerra Romero

Isabel Noguer Zambrano

Maite Manzanera Rodríguez

Francisco Parras Vázquez

Anna Rodés Monegal

Mónica Suárez Cardona

COLLABORATING GROUPS

REGIONAL AIDS COORDINATORS

Alfredo Rubio Sanz. Head of Service Programs. Directorate General for Public Health and Participation. Department of Health of Andalucía.

Javier Toledo Pallarés. Coordinator of the Program for Prevention and Control of HIV Infection/AIDS. Department of Health, Consumption and Social Welfare of Aragón.

Marian Uría Urraza. Coordinator of the Program for Prevention and Control of HIV Infection/AIDS. Directorate General for Public Health of Asturias.

María Teresa Barge Franco. Regional AIDS Coordinator. Department of Health and Social Security of the Balearic Islands.

Domingo Núñez Gallo. Chief of Department of Epidemiology. Department of Health of the Canary Islands.

Teresa Pelayo Cortines. Section Head of Epidemiological Surveillance. Department of Health, Social Welfare and Consumption of Cantabria.

Juan Atenza Fernández. Director of the Regional Public Health Center. Regional Government of Castilla-La Mancha.

Carmelo Ruíz Cosín. Chief of Department of Epidemiology. Department of Health and Social Welfare of the Regional Government of Castilla and León.

Joan Colom i Farran. General Director of Drug Addiction and AIDS. Department of Health and Social Security of the Regional Government of Catalonia.

Gregorio Montes Salas. Regional AIDS Coordinator of Extremadura. Department of Health and Consumption of the Regional Government of Extremadura.

José Antonio Taboada Rodríguez. Chief of Department of Prevention and Control of HIV Infection and other Communicable Diseases of the Department of Health and Social Affairs of Galicia.

Isabel García González. Chief of Primary Care Department of the Regional Department of Health of the Autonomous Community of Madrid.

Alfredo Cano Sánchez. Regional AIDS Coordinator of the Department of Health and Social Policy of the Region of Murcia.

Lázaro Elizalde Soto. Coordinator of the Program for Prevention and Control of HIV Infection/AIDS. Public Health Institute of Navarra.

Milagros Perucha González. Chief of Department of Epidemiology and Health Promotion of the Department of Health, Consumption and Social Welfare of the Regional Government of the Rioja.

Daniel Zulaika Aristi. Coordinator of the Plan for Prevention and Control of AIDS of the Basque Health Department.

Sofía Tomás Dols. Chief of AIDS Unit of the Department of Health of the Regional Government of Valencia.

Juan Carlos Pérez Aguilar. Head of AIDS Plan of the Autonomous Community of Ceuta.

Gloria Duque Rueda. Provincial AIDS Coordinator of the Autonomous Government of Melilla.

STAFF OF OTHER MINISTRIES

Subdirectorate General for Nongovernmental Organizations and Subsidies. Directorate General for Social Action, Children and Family. Ministry of Work and Social Affairs.

Subdirectorate General for the Action Plan and Programs for People with Disabilities. Institute for Migration and Social Services. Ministry of Work and Social Affairs.

Subdirectorate General for Programs. Women's Institute. Ministry of Work and Social Affairs.

Subdirectorate General for Prison Health. Directorate General for Prisons. Ministry of the Interior.

Subdirectorate General for the National Plan on Drugs. Regional Office for the National Plan on Drugs. Ministry of the Interior.

Center for Research and Educational Documentation - CIDE. Ministry of Education, Culture and Sports.

Institute of Preventive Medicine of the Army. Ministry of Defense.

NONGOVERNMENTAL ORGANIZATIONS

Coordinator of Associations for Help against AIDS of the Autonomous Community of Valencia. CALCSICOVA.

Doctors of the World.

Federation against AIDS of Southern Spain. FASUR.

Federation of Committees and Commission of the Spanish State. FEDALCS.

Training and Information on Treatments for HIV/AIDS. FIT.

Foundation of Committees and Commission against AIDS of the Spanish State.

National Federation of Lesbians and Gays.

Catalonian Association for Solidarity and Aid to Refugees.

General Secretariat of Gypsies.

BLANCA

APPENDIX 2

ABBREVIATIONS

BLANCA

ABBREVIATIONS

AEC	Agencia Española de Ensayos Clínicos (*Spanish Clinical Trials Agency*)
AECI	Agencia Española de Cooperación Internacional (*Spanish Agency for International Cooperation*)
AEEH	Asociación Española de Estudio del Hígado (*Spanish Association for the Study of the Liver*)
AEP	Asociación Española de Pediatría (*Spanish Association of Pediatrics*)
ARV	Antiretroviral
CAC	Consejo Asesor Clínico (*Clinical Advisory Committee*)
CEESCAT	Centro de estudios epidemiológicos sobre el sida de Cataluña (*Catalonian Center of Epidemiological Studies on AIDS*)
CNE	Centro Nacional de Epidemiología (*National Center of Epidemiology*), Carlos III Health Institute
DGIP	Directorate General for Prisons, Ministry of the Interior
FIPSE	Fundación para la Investigación y la Prevención del Sida en España (*Foundation for AIDS Research and Prevention in Spain*)
FIS	Fondo de Investigaciones Sanitarias (*Health Research Fund*)
GESIDA	Grupo de estudio de sida - SEIMC (*AIDS Study Group – SEIMC*)
HAART	Highly active antiretroviral therapy
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
HPV	Human papillomavirus
IDU	Intravenous drug user
ILO	International Labour Organization
INJUVE	Instituto Nacional de la Juventud (*Youth Institute*)
INSALUD	Instituto Nacional de la Salud (*National Health Institute*)
MBDS	Minimum basic data set
MMP	Methadone maintenance program

MSM	Men who have sex with men
NEP	Needle exchange program
NGO	Nongovermental organization
NHS	National Health System
ONT	Organización Nacional de Trasplantes *(National Transplant Organization)*
PAHO	Pan American Health Organization
PNSD	Plan Nacional sobre Drogas (*National Plan on Drugs*), Ministry of the Interior
R&D	Research and development
RDG	Related diagnostic group
SEGO	Sociedad Española de Ginecología y Obstetricia (*Spanish Society of Gynecology and Obstetrics*)
SEIMC	Sociedad Española de Enfermedades Infecciosas y Microbología Clínica (*Spanish Society of Infectious Diseases and Clinical Microbiology*)
SPNS	Secretaría del Plan Nacional sobre el Sida (*Secretariat of the National Plan on Aids*), Ministry of Health and Consumer Affairs
STD	Sexually transmitted disease
STI	Sexually transmitted infection
ULA	Unlinked anonymous
UNAIDS	Joint United Nations Program on HIV/AIDS
VCT	Voluntary counseling and testing for HIV infection
WHO	World Health Organization

APPENDIX 3

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