

# HIV/AIDS EVOLUTION IN ROMANIA

## 1985 - 2003

### Introduction

This report intends to be a follow-up of the report "HIV/AIDS Epidemiologic Surveillance in Romania between 1990-1999". It is founded on the results provided by the surveillance system during 1985-2003 and its realization was possible due to the efforts done for data bases integration and revision of the whole registration/recording system. The report includes not only epidemiological data, but also information related to the HIV/AIDS treatment in Romania, very important in the frame of our country's desiderate of Universal Acces to Treatment and Care for people living with HIV/AIDS (PLWHA).

HIV/AIDS evolution in Romania didn't record any spectacular trend in between reports, the figures indicating a steady increase in the number of new cases. The weight of the cases registered in the group of children infected during 1986-1991 decreased in a constant manner, while the number of cases registered among adults raised. The report confirms the existance of the epidemiological accident (1986-1991), which caused the transmission of HIV to about 10.000 children. Among adults, the sexual transmission of HIV continues to lead the epidemic, this data being confirmed by coroboration with the annually increases in the incidence rates for syphilis. The last three years were signed by an increasing need of treatment and care for HIV/AIDS and the evolution of the age of the children, a large part of them being now adolescents and long term survivors of the disease.

Romania is one of the few countries in Central and Eastern Europe with a significant number of people affected by HIV/AIDS. In December 2003, 14.353 cumulative cases of HIV/AIDS were registered. At the same moment 10.259 people were living with this virus. 4.679 were AIDS cases (3.553 children and 1.126 adults), while 5.599 were HIV infection cases (4.244 children and 1.355 adults). The statistical data indicate that 8.000 of the PLWHA had access to specialistic care and were under medical surveillance in one of the nine regional centers. At the end of 2003, the HIV/AIDS prevalence in Romania was of 44 cases on 100.000 inhabitants, while the infected people represented 0.04% of the entire population. Unfortunately, the lack of a wider scale, systematic and transversal monitoring of the prevalence in the entire population may have introduced biases so the real value of this indicator could be a lot higher. The specific of the HIV/AIDS epidemic in Romania is the massive HIV incidence registered at the end of the 80's among children. It is considered that the use of non tested blood and blood products, as well as the use of unsterilised medicale instruments during 1987-1991, resulted in the spreading of the HIV infection among thousands of new borns, little babies and young children. A steady increase of the HIV/AIDS incidence among young adults was registered, after 1994. This phenomenon seems to be determined by the sexual mode of transmission (mainly heterosexual).

Recent studies developed in Romania demonstrated that different populations are at risk not only for HIV/AIDS, but also for Sexual Transmitted Diseases (STI). Romania registers highly rates of infection with syphilis: 44 cases at 100.000 inhabitants in 2003. The results of one research conducted at national level showed that more than 50% of the men and 20% of the women have had at least two sexual partners during the last three months; just 40%, respectively 20% of them used condoms during sexual intercourse. The studies demonstrated again the lack of knowledge in key area of interest as transmission, prevention and safe behaviours. The situation is even worse when we refer to rural areas. High levels of spreading of risk behaviours were reported in Bucharest, in relation with the use of injecting drugs. It is estemated that over 24.000 people (aprox. 1% of the city population) make use of injecting heroine, this being a potential risk of outburst of an HIV epidemic.

Our country's response to the HIV/AIDS challenge became more structured in 2000. The National HIV/AIDS Strategy covering 2000-2003 timeframe was launched then. Romania developed a comprehensive strategy willing to respond to this challenge both from the prevention and PLWHA support point of view. In 2001, the Ministry of Health declared HIV/AIDS as a public health priority and developed the Plan for Universal Access to Treatment and Care, aiming to increase the access of PLWHA to antiretroviral (ARV) drugs and improve the quality of treatment. As a result of this action, the number of people receiving ARV therapy raised from 3.800 in 2001 to 5.700 in 2004.

Romania is the only country in Central and Eastern Europe which ensures universal access to treatment and care for more than 5.700 people living with HIV/AIDS (treatment received in accordance with international standards) from a total number of 8.000 people under medical surveillance. Starting with 2001, a strong public-private partnership was launched, under the facilitation of the United Nations. These efforts resulted in price cuts and ARV and opportunistic infection drugs' donations from the most important six pharmaceutical companies. At the beginning of 2002, a decision of the Romanian Government stated the foundation of the National MultiSectoral HIV/AIDS Commission (CNMS), which was placed under the Prime-Minister authority. The Commission includes representatives of 16 ministries, seven non governmental organizations, of the private sector, United Nations Agencies, as well as other donors. The people living with HIV/AIDS are represented at the Commission level by UNOPA (National Union of the Affected People Associations), which is also a vice-chair of the CNMS.

During 2002, a special law regarding HIV infection prevention and care for PLWHA was adopted. This law foresees benefits as free of charge medical treatment and nutritional supplements for PLWHA. The whole program is funded from public sources, in function of the existing needs. This commitment is mirrored also by the important sum of money allocated to PLWHA care. A new HIV/AIDS Strategy will cover the 2004-2007 timeframe. The main objective of this strategy is to maintain the HIV incidence for 2007 at the level registered in 2002, as well as the significant improvement of the quality of life for the infected and affected people. The main interest areas of the new strategy are the prevention, especially among young people and vulnerable groups, the increase of the quality and accessibility of the ARV treatment, the care, social support and reduction of stigma and discrimination.

### **Mondial and regional context in which the Romanian HIV/AIDS infection is placed**

At the end of the '80, the Center for Disease Control and Prevention (CDC) from Atlanta (USA) and the Public Health Office in England realized the sudden, unexpected manifestation of some diseases characterized by the simultaneous or successive development of some opportunistic infections and cases of Kaposi's sarcoma in men having sex with men (MSM). These observations were published almost simultaneously and in a very similar form in: "Opportunistic infections and Kaposi's sarcoma in homosexual men", *New Engl. J. Med.*, 1981, 305, 1465-1467 and "Kaposi's sarcoma in homosexual men. A report of eight cases" in *Lancet* 1981, 2, 598-600.

As the disease, discovered accidentally, affected apparently only young homosexual men with multiple partners, this fact concentrated the experts' attention on a possible relation between these diseases and a certain sexual behaviour. Very soon, similar cases from a clinical point of view were registered in other populations as heterosexual users of injecting drugs, Haitian origin immigrants and hemophiliacs subject of repeated blood transfusions. From here emerged the temptation of some authors to hurriedly and ironically label these disease, as the 4 H (Homosexual, Heroineman, Haitian, Hemophilic) disease. Very soon, it was proved that the biological support for both Kaposi's sarcoma and the opportunistic infections (having as a prototype the pneumonia with *Pneumocystis carinii*) was an acquired and not congenital deficiency of the immunological system. The CDC in Atlanta established in 1983 that this new disease (that due to its peculiarities is more likely a syndrome than a disease) should be named Acquired ImmunoDeficiency Syndrome – AIDS), nosologic entity with unknown etiologic agent.

The efforts made at the beginning of the decade found their accomplishment in the identification of the etiologic agent of AIDS by Luc Montagnier (France) in 1983, confirmed in 1984 by Robert Gallo (USA); since 1986, the newly discovered virus have bore the name of Human ImmunoDeficiency Virus – HIV, as the International Committee for Virus Taxonomy decision decided.

Important progresses were made in the following years regarding the surveillance of HIV infection spreading, by introduction of serological testing methods for patients and population with high risk of infection, the identification of the heterosexual transmission mode (the most common way for HIV transmission in developing countries), but also the transmission from infected mothers to fetus or newborns.

A second type of HIV (HIV2) was identified in 1985, in West Africa, but the virus initially identified HIV1 (1983) is responsible for the pandemy of AIDS.

According to statistics published by UNAIDS (United Nations Joint Programme for HIV/AIDS) and WHO in December 2003, 34 - 46 million people living with HIV were registered at the global level, 19.2 milion of them being women and 2.1-2.9 milion children.

A large part of the total 34-46 milion people infected with HIV live in Sub Saharian Africa (25-28.2 milion), the second position in this rank being occupied by South and South East Asia with 4.6 – 8.2 milion people. At the opposite pole, the lowest HIV incidence is registered in Australia and New Zealand. Latin America, North America, North Africa and Caraibian have intermediary figures, while significant variations are registered in Western and Central-Eastern Europe.

Statistics made available by UNAIDS and WHO show that 5 million people got infected with AIDS during 2003 (the estimation is between 4.2 and 5.8 million), 3-3.4 million of them living in Sub-Saharan Africa.

About 2.5-3.5 milion HIV/AIDS deaths were reported last year, 2.2-2.4 of them being registered in Sub Saharian Africa.

Since the beginning of the epidemic, at a global level, more then 54 million people were infected, 14 million of them dieing as a result of AIDS.

### **HIV/AIDS evolution in Central and Eastern Europe**

From a geographic point of view Romania belongs to Europe, so we will enter a brief presentation of the available statistics regarding HIV/AIDS and the Central and Eastern part of Europe. For elloquence reasons we decided to use a comparison/parallel between the situation registered in June 2003 and the one at the end of 2002.

At the middle of 2003, the global rate of AIDS cases in Central Europe (less than 6 cases per 1 million inhabitants every year, against 20 cases per 1 million inhabitants in Western Europe) and new cases of HIV infection (7-10 cases per 1 million inhabitants) remain low and relatively unchanged. Poland and Yugoslavia, two of the countries where the HIV infection have spreaded among injecting drug users (IDUs) at the end of the '80, overran the limit of most cases ever reported in Central Europe (Polonia with 52% of AIDS cases and 96% of HIV cases and Yugoslavia with 41% of the AIDS cases, the distribution of the HIV cases by mode of transmission being unavailable). Yet, the HIV epidemic associated with the consume of injecting drugs in these two countries didn't reach the levels registered in some Western countries (as Spain, Italy and Portugal). Few cases of AIDS or HIV were diagnosticated among IDUs in other countries in Central Europe.

At the end of 2002, a total number of 1.427 HIV cases and 539 AIDS cases. The total rates of new diagnosticated cases for HIV (7-10 per million every year) and AIDS (less than 6 cases per million against 20 cases per million in Western Europe) remain low and relatively unchanged. If

we exclude Romania, 280 of the 2002 newly reported HIV cases in Central Europe, respectively 26% were women, while 468 (aprox 43%) were under 30 years old.

Poland and Yugoslavia reported the biggest number of cases among IDUs within Central Europe (Poland: 96% of the total number of HIV cases and 53% of AIDs cases; Yugoslavia: 40% of the AIDS cases, the HIV cases breakdown by transmission mode being unavailable). The homosexual transmission mode was predominant in Bosnia and Hertzegovina, Cech Republic, Hungary, Slovakia and Slovenia, while the heterosexual transmission was the main transmission mode in Bulgaria, Croatia, Macedonia and Turkey.

The four characteristic diseases used as markers for AIDS, as Wasting Syndrme, tuberculosis, Pneumocistis carinii pneumonia and the esophagian candidosis affected 17-20% of the adults/young people (data for Romania were excluded).

At the middle of 2003, the number of new cases diagnosticated with HIV in Eastern Europe continued to grow rapidly, reaching 24.773 cases. The large majority of the new infections continued to be diagnosticated among IDUs (89% in 2001, excluded the cases with unknown risk behaviour). Even if it still represents a small part of all new cases, the number of new infections reported among MSM continued to grow (+53% between 2000 and 2001). The number of cases reported among homo/bisexual men remains extremely low, but this fact can more easily indicate the vulnerability of this risk group, then provide a real epidemiological framework.

The epidemy affects almost all the countries in the Eastern Europe, with incidence or prevalence rates that overran in 2001, 100 per million in four countries (Estonia, Letonia, Russian Federation, Ukraine). The data for the first six months of 2003 show that a new HIV epidemic wave is about to break out in Lithuania, while the new diagnosed cases seem to slow down their increasing trend in Russia.

AIDS reported incidence remains low (less then 3 cases per million), with the exception of Latvia (17.2 cases per million in 2001). More than three quarters of the cases reported within the region are diagnosed with TB, as first opportunistic infection.

**At the end of 2002**, the East European countries reported a total number of 64.222 new HIV cases. About 41% of these (26.197) were registered among IDUs, 6.371 (10%) being transmitted by heterosexual contacts and only 93 (0.1%) were registered among the homosexual/bisexual men; for 27.371 (43%) of the patients the transmission mode wasn't reported. A number of 21.261 (33%) of the people infected with HIV were females and 49.533 (77%) had less than 30 years. The countries belonging to the Russian Federation reported 50.401 cases, 78% of the total number of new cases reported in 2002 in the Eastern Europe.

HIV/AIDS infection was and still is a major public health problem in Romania, with an important social and economic impact. Romania was the first Central and East European country that reported in 1985 the diagnostication of an AIDS case to the WHO's AIDS Surveillance Center in Paris. The first HIV infection cases among children were registrated in 1989, their notification being done starting with 1990.

By the end of 2003, in Romania were registered:

□ TOTAL AIDS CASES (cumulative)	<b>8.457</b>
◆ AIDS cases in children	6.710
◆ AIDS cases in adults	1.757
of which:	
◆ AIDS deaths in children	3.098
◆ AIDS deaths in adults	572
◆ Total AIDS deaths	3.670
□ TOTAL HIV CASES:	<b>5.920</b>
◆ HIV cases in children	4.443

◆ HIV cases in adults	1.477
◆ Total number of people living with HIV/AIDS (PLWHA):	10.278
◆ Total number of HIV/AIDS patients lost from records:	439
◆ Total number of patients under HAART <sup>1</sup> :	5.547
◆ Total number of patients under medical surveillance <sup>2</sup> :	7.771

The comparison of the numbers registered at national level with the one recorded at regional and global level is difficult because of the existing differences between the reporting systems (implemented according to the development of the successive generation of surveillance) and international statistics analysis systems.

The HIV/AIDS situation in Romania revealed in 2003 some particular aspects:

- The global increase of the number of people infected with HIV who asked for medical treatment and care;
- A bigger number of people having access to HAART (5.547 – Romania has the biggest number of PLWHA under treatment in all Central and Eastern Europe). The HAART and opportunistic infections treatment costs are covered from the National Subprogram 1.2 funds, being provided free of charge;
- The large number of long term survivors aged between 13 and 15. They belong to the cohort of children born between 1987-1990, which was successively the main group where HIV/AIDS cases were diagnosed;
- The diagnosis of new pediatric cases with birth year 1988, 1989, 1990, long term survivors and the elimination of the nosocomial transmission after 1994;
- The increase registered in the mother to child transmission (MTCT) after 1994. This fact determined measures as the registration of all pregnant women, systematic implementation of the prophylaxis for prevention of MTCT of HIV;
- The rapid increase of the number of new cases registered among adults, 19 to 49 years old, with heterosexual transmission;
- The perspective of an increased number of new HIV cases among IDUs;
- During 2003, Romania was one of the best prepared countries in its geographic region concerning HIV/AIDS. It has a National HIV/AIDS Strategy (adopted in 1999 and reevaluated for 2003-2007). Starting with 2000, HIV/AIDS has been declared national priority for the public health, this measure being followed by the launch of a National Plan for Universal Access to Treatment and Care;
- The foundation, in March 2002, of the National Multisectoral HIV/AIDS Commission (CNMS), under the authority of the Prime Minister, which includes 16 ministries, civil society, professional associations, the private sector, international organizations;
- The entire field activity was developed under Law 584/2002, regarding preventive measures for AIDS spreading in Romania and protection of PLWHA;
- Availability of an entire range of ARV drugs used in developed countries, as well as international standards equipment for the Regional Centers' laboratories (for immunologic and virologic monitoring);
- Increase number of well trained medical personnel involved in PLWHA assistance and care; expansion of the psychosocial network ensuring PLWHA support.

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<sup>1</sup> Highly Active Anti Retroviral Treatment

<sup>2</sup> Patients who present themselves in one of the Regional Centers for HIV/AIDS monitoring and evaluation and undertake a clinical and biological check up at least twice a year

## **HIV/AIDS surveillance history in Romania**

Romania was the first Eastern and Central European country that reported to the World Health Organization (WHO)'s AIDS Surveillance Center in Paris the diagnosis of an AIDS case in 1985. No HIV/AIDS Public Health Surveillance System (PHSS) was although available till 1990. The Minister of Health's order no. 200 issued on 22 June 1987 stipulated that the notification of HIV/AIDS confirmed cases to the Ministry of Health is compulsory and must be done by the only authorized hospital at that time: "Prof. Dr. Victor Babeş" in Bucharest.

Starting with 1987, the confirmed cases have been also notified to the district public health authorities. These institutions performed epidemiological investigation for contact's identification and epidemiological surveillance of the people infected with HIV. 13 AIDS cases (only adults) were reported following this procedure until the beginning of 1990. The first cases among children were diagnosed in 1989 and have been notified starting with 1990.

A PHSS system, elaborated in collaboration with WHO and CDC (Center for Diseases Control and Prevention in Atlanta)'s experts has been introduced since February-March 1990. It's main objective of acknowledgement of HIV infection diffusion in Romania was also included among the objectives of the Urgent Short Term Action Plan for HIV/AIDS infection. The Preventive Medicine Department and WHO/Global Program on AIDS developed the plan on Ministry of Health (MH)'s request. PHSS' aim was to ensure a systematic and continuous data collection.

PHSS was organized in order to allow a computerized management of data, based on EpiInfo - software tailored by WHO and CDC for the optimization of the epidemiological investigation activities.

A group of WHO's, CDC's and Romanian experts elaborated in March 1990 a new case definition. This was intended to better reflect the extension of HIV symptomatic infection (AIDS). The choice of the definition took in consideration the real possibilities of laboratory diagnosis existing in Romania. These were based especially on the serologic exam and on the opportunistic infections' diagnosis. Another important issues to be considered were the development of the diagnosis capacity (ensuring the transition from one hospital previously authorized to more units all over the country) and the need for specific training of the personnel involved in diagnosis establishment. All these activities involved important financial efforts.

We have to stress that at the beginning of 1990 only 3 laboratories in Bucharest performed HIV serologic testing on regular bases. At that time the funds necessary for ELISA kits were not covered from the state budget.

The case definition above mentioned was an adaptation of the clinical definition of Bangui (1985), based on major and minor clinical signs, with different scores for adults and children. As a difference to the Bangui version, the definition introduced the confirmation protocol for the HIV infection diagnosis –using two ELISA tests (each of them based on a different principle) and, where available, the Western Blot supplementary test. The case definition was elaborated for the PHSS system's needs and didn't take in consideration the implications for the management of the clinical health care.

The Preventive Medicine Department of the Ministry of Health elaborated in 1990 a national database. This was then recommended for implementation in all the districts in order to ensure the management and uniformity of data processing.

The epidemiological surveillance of HIV/AIDS cases was legally introduced through order of the Minister of Health no. 1201 issued on 16 October 1990 - "Epidemiological surveillance, prevention and medical assistance for people infected with HIV". The order stipulated that the

compilation of a new case declaration form based on codes was compulsory, without any reference to the cases already diagnosed. The order authorized an „AIDS specialists Commission” to establish the case definition and the informational procedure. It foresaw as well the need of laboratory confirmation of the HIV diagnosis through two ELISA and one Western Blot tests. The declaration form developed by the commission introduced the age of 13 as boundary for the investigation of the epidemiological risk factors to be gathered during case declaration. The epidemiologists had only to check the accuracy of the data collected in the form and to send it to the special public health department inside the Ministry of Health. The same order established the way in which the medical assistance for patients infected with HIV should be provided and introduced mandatory HIV and HBV testing of donated blood, morbidity/mortality monitoring and trends’ observation for HIV/AIDS. It indicated the reference laboratories for HIV diagnosis (“Ștefan Nicolau” and “Ion Cantacuzino” Institutes) and the main measures needed in order to ensure the respect of the professional secret and the confidentiality. The order foresaw guidance for the public sanitation measures in order to prevent and decrease (towards elimination) some modes of transmission; planning for necessary sanitation services for people living with HIV/AIDS (PLWHA); allocation of a special budget (Lei 11 billion allocated in 1995 for the first time).

The public health system for HIV/AIDS surveillance was developed in parallel with the increase of clinical confirmation possibilities (existing in each residential institution) and serologic testing (in at least one laboratory in every district), with further confirmation available at the level of national laboratories (“Ștefan Nicolau” Institute and “Ion Cantacuzino” Institute).

Epidemiological information was gathered by clinicians and not by epidemiologists. The epidemiologists working in the territory had a fundamental role in the implementation and development of the surveillance system. They ensured the training of the clinicians in charge with case definition use, HIV/AIDS form filling, data collection, processing, analyze and reporting to the Ministry of Health (the national reference point having final responsibility in reporting to WHO).

The strategy of the Ministry of Health allowed a gradually implementation of the computerized management system in some districts. This direction wasn’t considered a priority as a consequence of the unequal geographic distribution of cases. No concern related to the use of a consistent management structure or of the same software was expressed after 1993. Anyway, the system’s structure allowed the development in 1991 (by Popovici; Galan) of a transfer program enabling floppy disk reporting to CEMES.

Since 1990 the data analysis have been made both at a national and district level (including also Bucharest). The analyses were performed quarterly. The same methodology was used for analysis since 1990, allowing comparison of disease’s trends in different times, places and groups. The main variables used in analysis were time, space and person, their interaction offering valuable information.

The system suffered a first modification as a consequence of the order of the Minister of Health no. 912 issued on 11 September 1992 - “Development of the system for HIV infection notification and related implementation methodology”. This order introduced the use of a detailed questionnaire regarding the mode of transmission, preserving at the same time the age of 13 as border for adults/children classification.

The HIV testing procedure for patients with pathologies more often associated with HIV infection was introduced since 1993. Thus, the Minister of Health’s order 1243 issued on 29 September 1993 established HIV testing for patients diagnosed with TB. Two years later, as a result of the order of the Minister of Health no. 544 STIs (sexually transmitted infections) patients testing was also introduced. Even so, not all of the TB or STI patients were tested for HIV.

The surveillance system didn't suffered essential modifications until 1999. In the absence of any initiative of serologic-prevalence studies implementation, the main data sources were and continue to be the hospitals. Due to the fact that the majority of cases were diagnosed and reported by infectious disease experts, the diagnostic criteria applied were CDC ones, although it existed an AIDS definition for epidemiological utilization. In some cases, AIDS diagnosis was assigned to infected people in non-symptomatic stages in order to facilitate their access to social benefits (differentiated in function of the infection stage).

During 1997, The AIDS specialists Commission of the Ministry of Health that changed its denomination in National Commission for Fighting Against HIV/AIDS (CNLAS) began the implementation of the National Plan Fighting Against AIDS for 1997 - 2000. The National Program introduced the concept of territorial surveillance centers for HIV/AIDS. The program stated that the initial evaluation and the status of infection should be determined at these centers' level. It also foresaw that the epidemiological surveys must be conducted by an epidemiologist employed by the local public health authority (public health directorate), the results of the investigations being reported to the National Commission and to the Ministry of Health. The document had attached „The HIV/AIDS declaration and surveillance form” (providing different forms for the two age groups envisaged: 0-12 and over 13), as well as the case definitions for the age groups 0-18 months, 18 months - 12 years old, and over 13. The program introduced the clinical manifestations, immunology and viral markers as criteria for clinical classification and cases' monitoring. New registration forms were introduced by Minister of Health's order. Order no. 889 issued on 5 November 1998 introduced the obligation to ensure pregnant women's access to HIV voluntary testing, in order to allow the enrolment in the vertical transmission prophylaxis. It foresaw routine HIV testing for TB and STIs patients, and recommended the introduction of universal access to HIV testing and counseling for long ride drivers, sailors and people coming back in the country after more than 6 months spent abroad. The implementation methodology of the order 889 defined the prevention of the mother to child transmission (PMTCT) of HIV as a priority.

The Minister of Health's order no.991 issued on 22 December 1998 - "Epidemiological surveillance, HIV infection prevention and health care for people living with HIV" was most probably, the ending stage in the development process of the legal frame regulating the epidemiological surveillance of the HIV/AIDS infection in Romania. The order 991 stipulated the involvement of the family physicians in the surveillance of HIV cases evolution. It also foresaw that declaration forms might be filled in both in hospital and in ambulatory services. Through this order it was reinforced the mandatory testing for HIV, HBV and HCV of all donated blood. Special laboratories were designated for blood testing and reference. The establishment of diagnosis criteria became a CNLAS prerogative, while PHSS remained under Ministry of Health's organization and coordination.

Following the approval of the Ministry of Health and Family (registered the 10th of April 2001, under DB/3799) it was decided that the responsibility of the database regarding HIV/AIDS should be transferred from the General Directorate of Public Health (in the Ministry of Health) to CNLAS. The case registration activity continued on the base of the common reporting forms for HIV, respectively AIDS cases. The same year, an "HIV infection/AIDS evaluation and monitoring department" was founded with the support of the Ministry of Health and Family and UNAIDS, inside the "Prof. dr. Matei Balș" Infective Diseases Institute. It made possible the up dating of case reporting registration, as well as the concentration of all existing data in a common database. This database contains information related to epidemiological, clinical and treatment issues. The data regarding HIV/AIDS evolution were periodically/on-demand transmitted to the different interested institutions: the Ministry of Health and Family, the Regional Centers in Romania, the National Statistics Center, the Regional WHO Center (Euro HIV). It is worth mentioning that Romania is one of the few countries that began to report HIV cases even from the beginning of Euro HIV Center existence.



During October 2002, according with the Order of the Minister of Health no. 771 issued on 1 October 2002, the national database for HIV/AIDS was transferred from “Prof. dr. Matei Balș” Infective Diseases Institute to the Ministry of Health, General Directorate of Public Health, Transmissible Diseases Prevention and Control Office. The two institutions undersigned a collaboration and information exchange protocol. According to this document CNLAS (structure functioning inside “Prof. dr. Matei Balș” Infective Diseases Institute) would focus on clinical and treatment related issues, while the second one would be more interested in epidemiological aspects. The specialized department functioning inside CNLAS continued to introduce data in the HIV/AIDS database.

**HIV/AIDS evolution between 2001-2003**

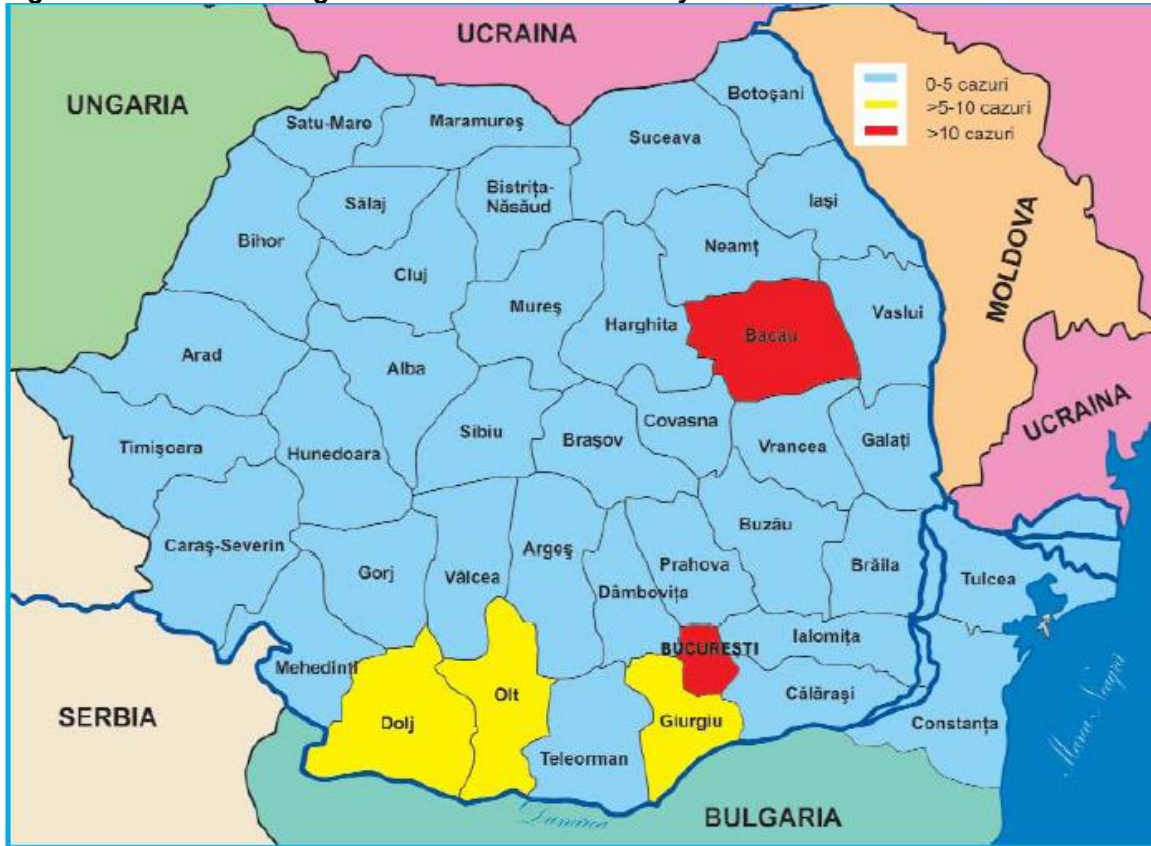
**Figure 1. AIDS cases distribution in Europe, for 2003**



H1 Romania is in the sixth position in the rank of the total number of AIDS cases for 2003 in Europe, the first place being occupied by Spain (with 61.028 cases), followed by France (53.879 cases) and Italy (48.488 cases).

H2 During 2002, more than 10 new AIDS cases were diagnosed only in two areas in Romania, Bacau and Bucharest. Five to ten new AIDS cases were reported in Dolj, Olt and Giurgiu during the same year.

**Figure 2. AIDS cases diagnosed in 2002 breakdown by district**



H3 The number of counties registering more than five new AIDS cases was bigger in 2003 comparing to 2002. Mureș, Neamț, Constanța and Dolj Counties and Bucharest registered more than 10 new AIDS cases, while in other counties five to ten new cases were reported.

**Figure 3. Breakdown of the AIDS cases diagnosed in 2003 by district**



T1 Table 1 presents a comparison of the most important information related to HIV/AIDS in Romania, during the last reporting years (2001-2003). Different aspects of HIV/AIDS endemic in our country will be detailed bellow.

**Table 1. General data on HIV infection/AIDS facts at 31 December 2003**

REPORTING DATE	31.12.2001	31.12.2002	31.12.2003
AIDS CASES AMONG CHILDREN	5.872	6.454	6.710
AIDS CASES AMONG ADULTS	1.303	1.545	1.757
TOTAL AIDS CASES	7.175	7.999	8.467
of which:			
AIDS DEATHS IN CHILDREN	2.358	2.896	3.098
AIDS DEATHS IN ADULTS	341	538	572
TOTAL AIDS DEATHS	2.699	3.434	3.670
HIV CASES AMONG CHILDREN	4.252	4.383	4.443
HIV CASES AMONG ADULTS	1.089	1.293	1.477
TOTAL HIV CASES	5.341	5.676	5.920
PEOPLE LIVING WITH HIV/AIDS	9.704	9.799	10.278
LOST FROM RECORDS	113	442	439
PATIENTS UNDER ACTIVE MEDICAL SURVEILLANCE		8.124	7.771
PATIENTS RECEIVING HAART (Highly Active Antiretroviral Therapy)	4.410	4.769	5.547



T2 Even if we are in the AIDS section, we considered useful to present in Table 2 some information regarding the new HIV infection cases registered in 2001-2003, while Table 3 will present information regarding the new AIDS cases diagnosed during the same period (2001-2003). In this way the reader will be able to make a comparison between HIV infection and AIDS information easier. We want to stress the fact that in 2003 it was registered a decrease of HIV infection cases in children (aged between 10 and 14), both for boys and girls. Another important observation is the increase number of HIV infection cases over the last two years in teenagers (15-19 years old).

**Table 2. New cases of HIV infection registered during the last 3 years**

Age groups	HIV Infection			HIV Infection		
	MALE			FEMALE		
	2001	2002	2003	2001	2002	2003
under 1	2	3	3	0	4	2
1-4	0	2	3	1	1	4
5-9	11	1	0	3	1	0
10-12	115	27	10	87	30	6
13-14	28	33	12	26	29	20
15-19	6	18	25	12	22	29
20-24	11	18	8	20	17	13
25-29	11	16	17	13	21	14
30-34	20	19	20	23	23	10
35-39	16	9	16	9	3	9
40-49	13	18	7	5	9	8
50-59	4	8	4	2	1	3
over 60	1	1	1	1	1	0
<b>TOTAL</b>	<b>238</b>	<b>173</b>	<b>126</b>	<b>202</b>	<b>162</b>	<b>118</b>

T3 Table 3 presents the AIDS cases' breakdown over 2001-2003 period, on age groups and gender. It is important to notice the very low number of cases registered in 2003 among children 0 to 9 years old (1 case in boys under 1 and 2 cases in girls – one under 1 and one in the 1 to 4 years age group).

The number of cases among children aged 10 to 12 registered a significant decrease, most of the cases being registered in 2003 in the age group 15-19 years old, teenagers which are a part of the group that was infected between 1987-1992.

**Table 3. New cases of AIDS registered during the last 3 years**

Age groups	AIDS			AIDS		
	MALE			FEMALE		
	2001	2002	2003	2001	2002	2003
< 1	0	1	1	0	1	1
1-4	1	0	0	0	0	1
5-9	1	0	0	0	2	0
10-12	43	12	4	31	14	1
13-14	22	20	15	10	15	17
15-19	2	18	45	3	7	34
20-24	8	1	3	3	9	7
25-29	9	7	9	4	13	5
30-34	10	11	9	9	8	6
35-39	3	7	5	4	10	4
40-49	10	17	11	8	10	10
50-59	4	7	6	3	1	1
over 60	4	0	3	0	2	3
<b>TOTAL</b>	<b>117</b>	<b>101</b>	<b>111</b>	<b>75</b>	<b>92</b>	<b>90</b>

T4 The number of HIV cases is bigger than the number of AIDS cases for all age groups, with two exceptions: 15-19 years old and 40-49 years old. The biggest number of HIV and AIDS cases (6.184 cases) is registered in the 15 to 19 age group, including 60.16% of all cases reported on all age groups. We consider that the prevention and control measures must target mainly people in this age group, in order to limit in the future the heterosexual and vertical transmission of HIV.

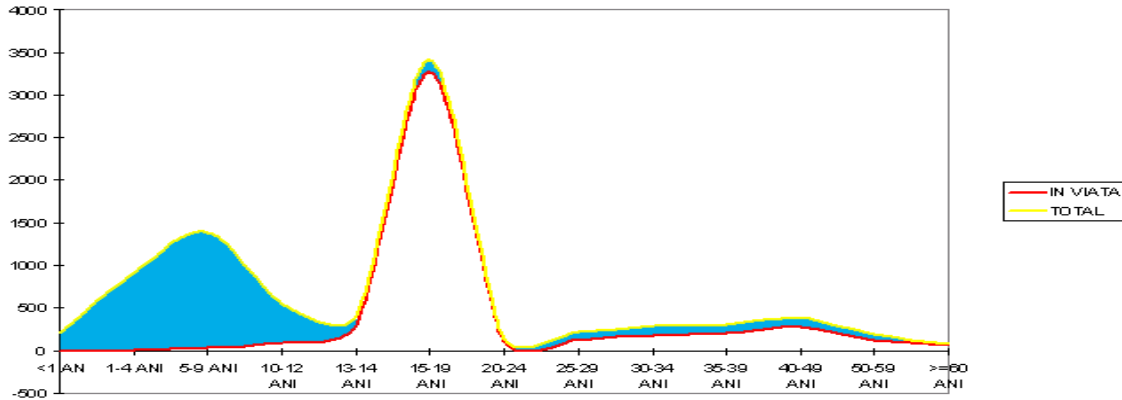
***Table 4. PLWHA breakdown on age groups, taking in consideration the present age***



## AIDS cases evolution between 1985-2000

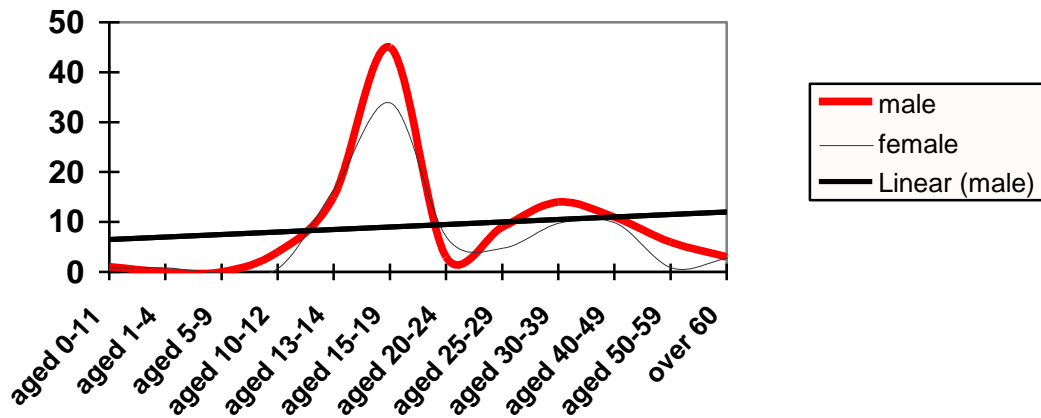
G 01 Figure 1 allows us to see the breakdown of people living with AIDS at 31 December 2003. The representation is realized by age groups, taking in consideration the present age. The majority of the people who died because of AIDS were 0 and 14 years old (3.018 children). The greatest part of the people living with AIDS are now 13 to 20 years old, with a peak for the 15-19 age group. A large part of them were diagnosticated starting with 1990 and are long term survivors.

**Figure 1. Breakdown of people living with AIDS, versus the total number of cumulated cases, by age groups in 2003 taking in consideration the present age**



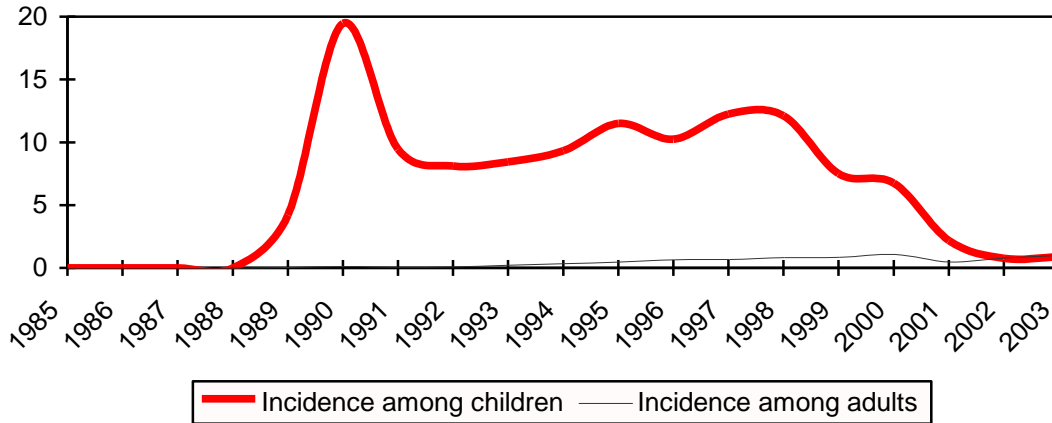
G 02 In Figure 2 we may see the breakdown of new AIDS cases, registered in 2003, by age groups and gender. There are no significant differences regarding the gender distribution, but the number of cases registered among males is bigger. Looking to the breakdown by age groups, the biggest number of cases is registered among people aged 10 to 24, with a “peak” in people between 25 and 39 years old (for males) and between 30 and 49 years old in females.

**Figure 2. Breakdown of the new AIDS cases registered in Romania during 2003 by age groups and gender**



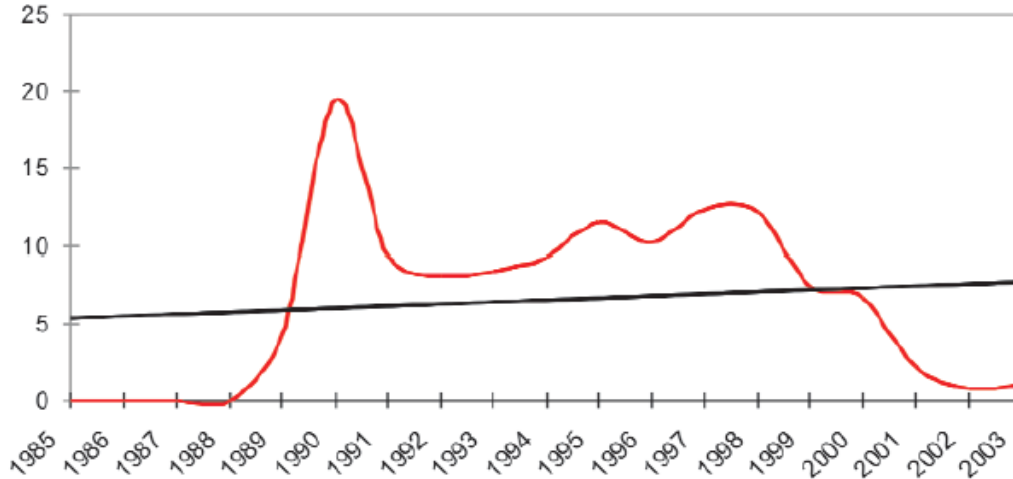
G 03 Figure 3 presents the AIDS incidence among adults and children, since the beginning of the epidemic till the end of 2003. According to the international regulations regarding HIV/AIDS reporting, the infected people aged 0 to 14 are considered children, while people aged 14 and over are counted as adults.

**Figure 3. AIDS incidence among adults and children (1985 – 2003)**



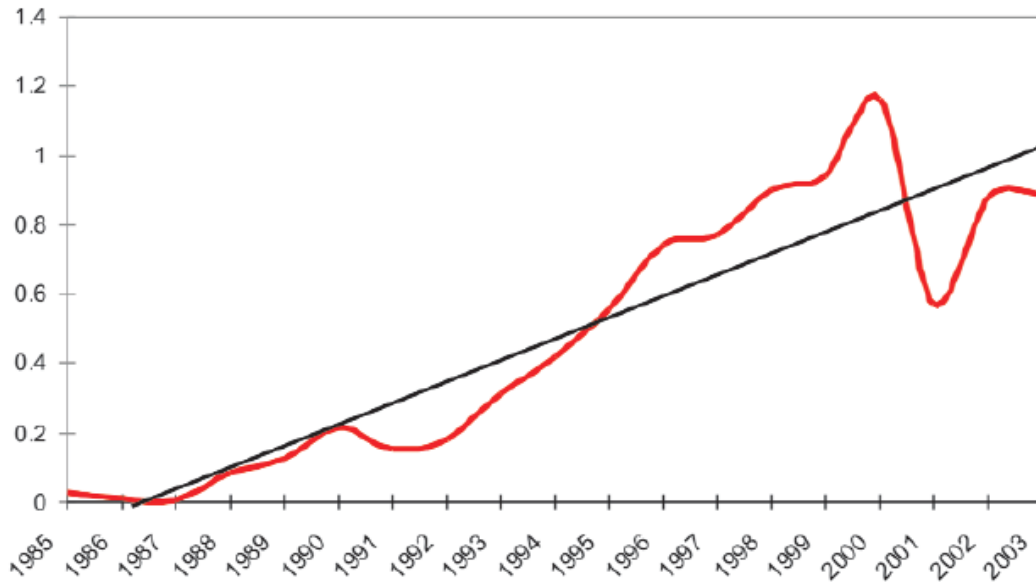
G 04 The incidence of AIDS among children reached its peak value in 1990, with a plateau during 1992-1998, and two apparent “peaks” in 1995 , respectively 1997.

**Figure 4. AIDS incidence among children (1985 – 2003)**



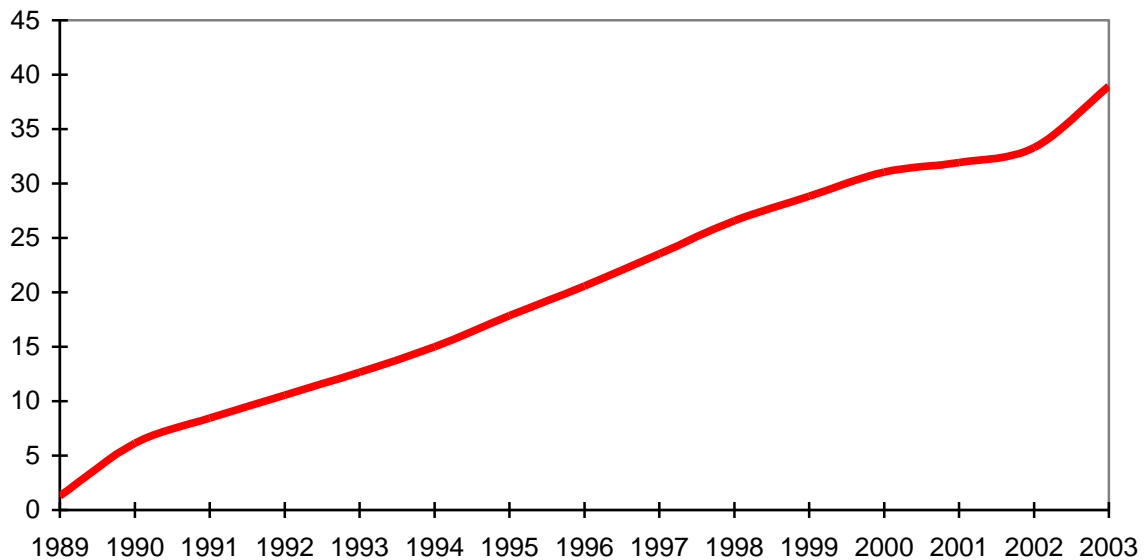
G 05 AIDS incidence in adults it's still somewhere about 1 ‰, the difference between the adults and children being reported in Figure 3.

**Figure 5. AIDS incidence among adults (1985 – 2003)**

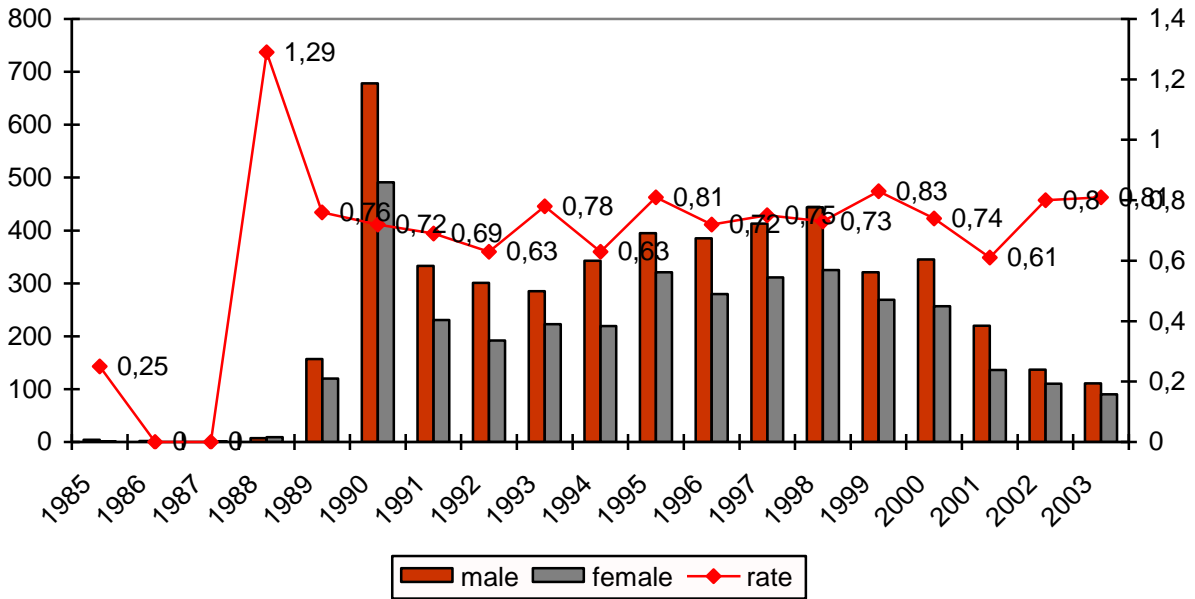


G 06 As we may see in Figure 6, the prevalence of AIDS cases has increased constantly, but moderately over the 1989-2003 period of time.

**Figure 6. AIDS prevalence (1989 – 2003)**



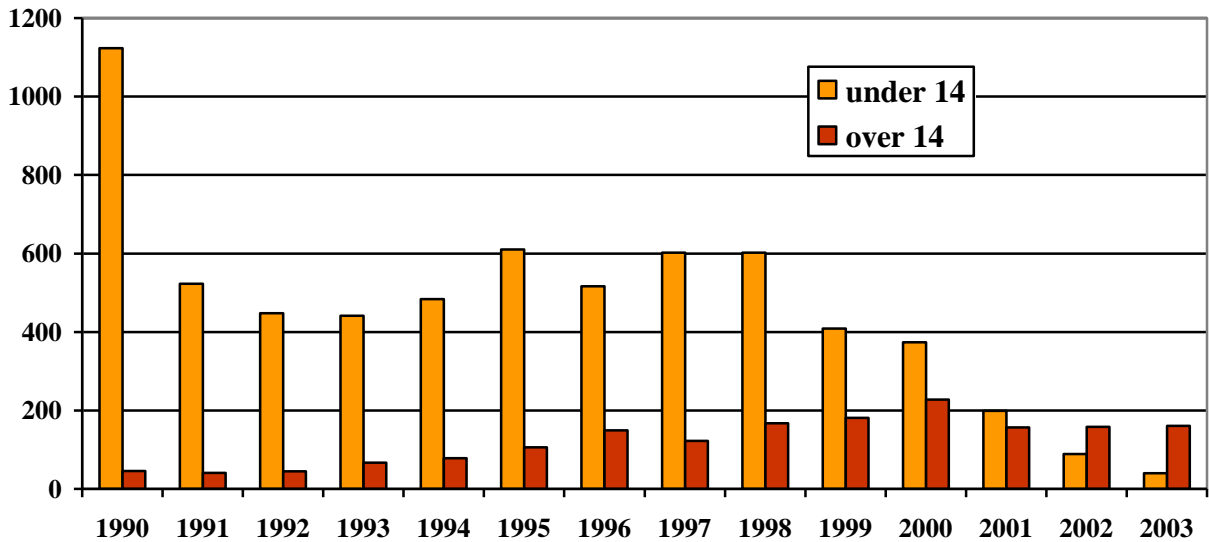
G 07 Figure 7 presents the breakdown of AIDS cases by year of diagnosis and sex, starting with the first case diagnosed in Central and Estearn Europe, in 1985.



**Figure 7. Breakdown of AIDS cases by gender and year of diagnosis (1985 – 2003)**

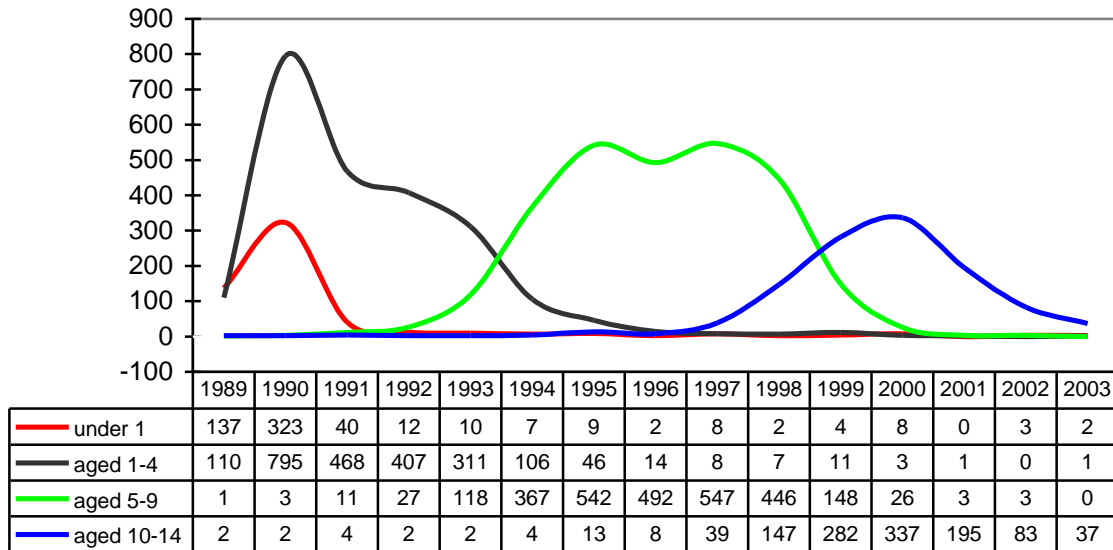
G 08 Figure 8 presents the AIDS cases registered over the period 1990-2003, in a breakdown by year of diagnosis and age groups. The people aged between 0 and 14 are considered children, while the adults are people over 14. Starting with 2002 more cases of people over 14 years old were registered, but they belong without doubt to the same group of children infected during 1986-1991 period.

**Figure 8. Breakdown of AIDS cases by age groups and year of diagnosis, at 31 December 2003**



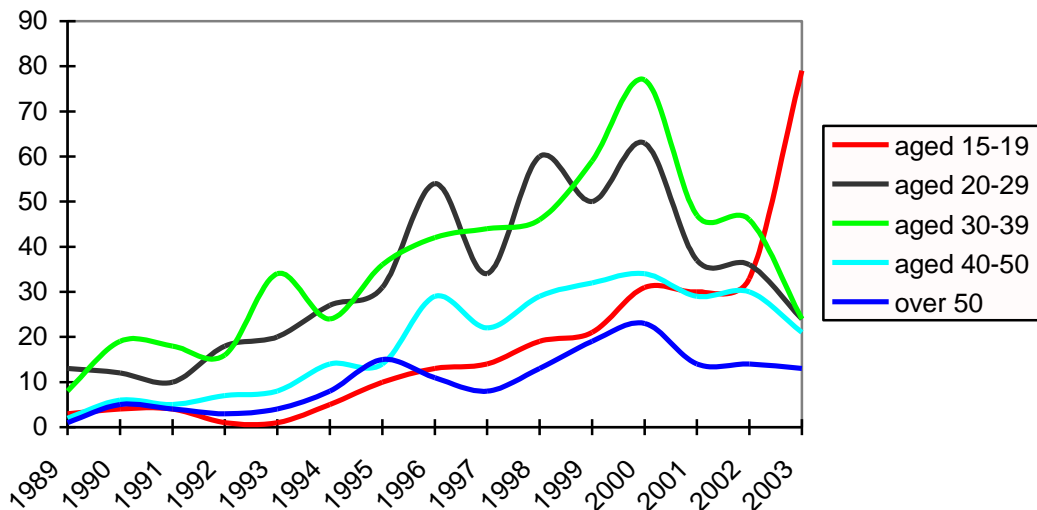
G 09 Even if during the initial period (1989-1992) most of the AIDS cases among children were registered in 0-4 age group, during 1993-1998 most of the cases were reported in children aged between 5 and 9, while since 1999 till 2003 HIV/AIDS affected especially 10 to 14 years old children. The date of birth for these children was around 1986-1990. We may suppose that the HIV/AIDS phenomenon didn't burst in Romania in 1989, but it emerged (in a dramatic way) starting with that date.

**Figure 9. Breakdown of AIDS cases among children by age groups and year of diagnosis (1989 – 2003)**



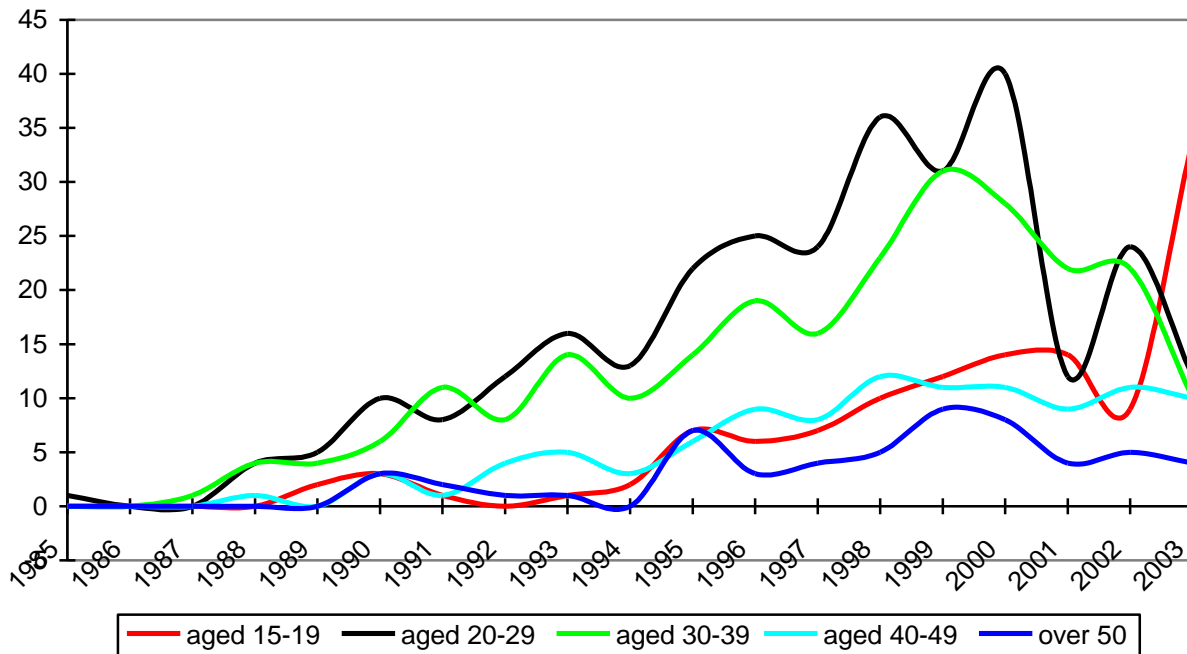
G 10. The number of AIDS cases among people 20 to 39 years old has been decreasing since 2000 (as a result of the delays registered in case reporting). The number of cases recorded in people aged 15 to 19 was in 2003 twice the number of cases reported for the same age group in 2002. The teenagers included in this category were born in the period 1986-1990.

**Figure 10. Breakdown of AIDS cases in adults by age groups and year of diagnosis (1989-2003)**



G 11 The AIDS cases distribution by age groups and year of diagnosis among females (Figure 11) and adults (Figure 10) have more similarities. An essential difference is the apparent, but important decrease of the number of cases in the 20-29 age group in 2001 (perhaps because of reporting delays). The number of AIDS cases in girls aged between 15 and 19, in 2003, is 5,66 times bigger than the number of cases for the same age group, in 1996. For females over 40, the number of AIDS cases is smaller and maintains a „plateau” evolution during the last years, with a slight decreasing trend.

**Figure 11. Breakdown of AIDS cases in females by age groups and year of diagnosis (1985 – 2003)**



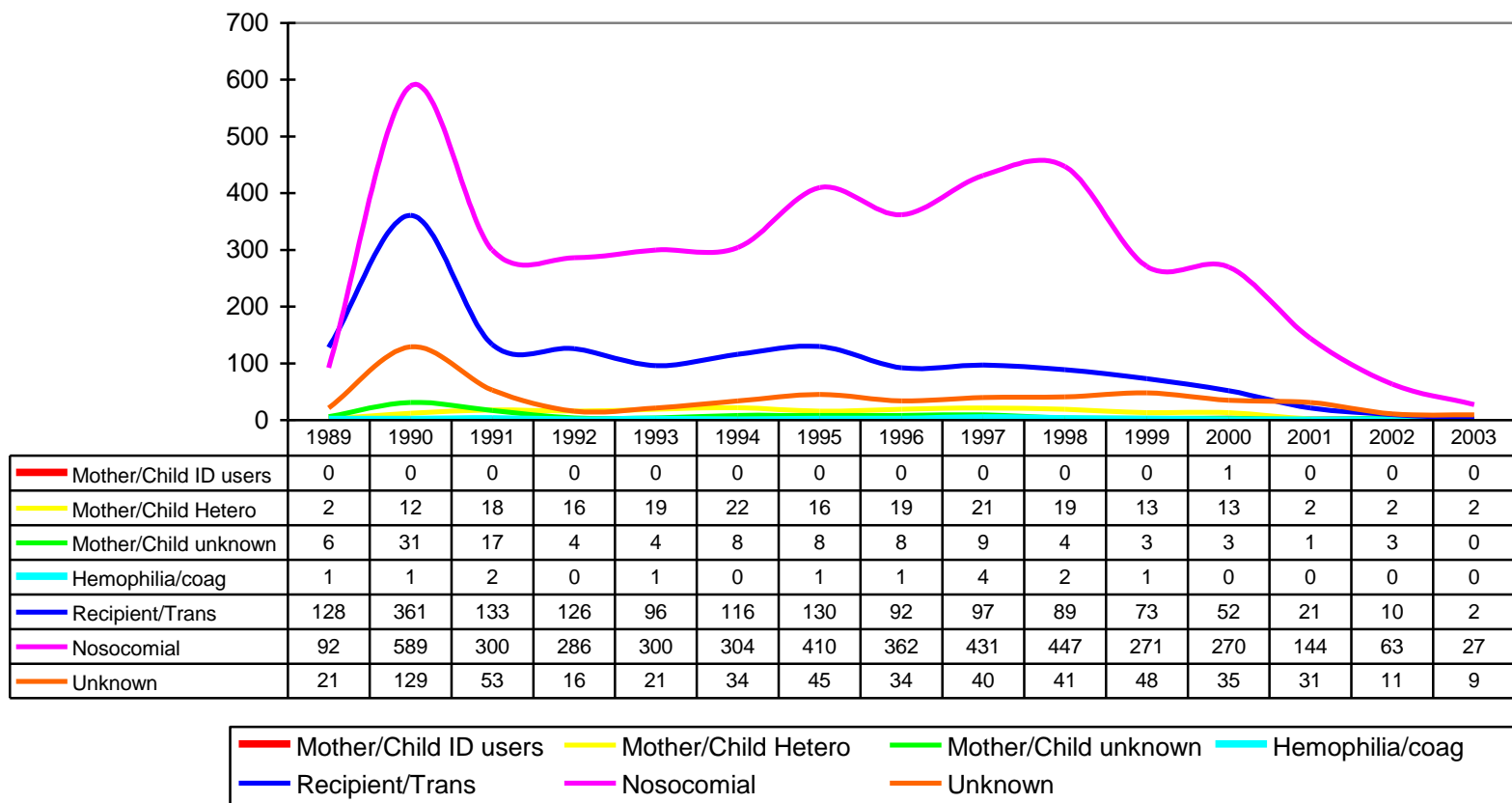
T 05 The information provided in Table 5 help us observe that the great part of the children diagnosed in 1989 were 0 to 2 years old. Analyzing their cases' breakdown by age groups and the date of first positive testing, we may suppose that the great part of the children were infected during 1986-1990 period, the diagnosis being established in a time frame of 1 to 14 years. This proves that the epidemic started before 1989.

**Table 5. Number of cases of HIV infection/AIDS diagnosed in children and the age of the first HIV positive testing (1989-2003)**

Age	Date of the first HIV positive testing														
	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03
0	162	579	83	24	23	15	15	8	13	14	14	8	4	8	7
1	106	761	172	57	39	8	7	5	6	4	4	0	0	2	1
2	17	293	250	136	32	8	5	5	2	5	1	1	2	0	1
3	0	38	137	236	119	22	13	2	3	1	0	0	1	0	1
4	0	8	24	106	212	122	33	14	6	2	9	1	1	0	1
5	0	3	9	21	117	289	134	29	12	3	6	3	1	0	0
6	0	2	0	6	24	140	334	182	35	11	2	2	2	1	0
7	0	0	1	3	5	32	163	291	178	37	11	1	1	1	0
8	1	0	1	1	5	8	37	143	285	167	26	9	3	1	0
9	0	1	0	0	0	3	12	32	150	226	123	25	5	1	0
10	2	0	1	1	0	1	7	9	29	84	188	112	31	5	1
11	1	0	1	0	0	0	5	2	11	21	72	191	105	10	5
12	0	1	0	0	1	2	3	6	8	5	24	75	132	47	10
13	0	1	2	1	2	3	0	4	2	2	8	17	62	74	48
14	0	0	2	0	0	2	4	4	4	0	5	12	16	34	67

G 12 Looking of the breakdown of AIDS cases among children by mode of transmission and year of diagnosis, we may underline that during 1989-2003 period, the majority of registered cases had a nosocomial transmission mode. This conclusion is „reinforced” also by the definition that the Euro –HIV Center gives to the nosocomial transmission. For a large number of children it was reported the transmission through blood and blood products. It’s worth mentioning that all the 27 children reported as infected in a nosocomial way in 2003 were born in 1990.

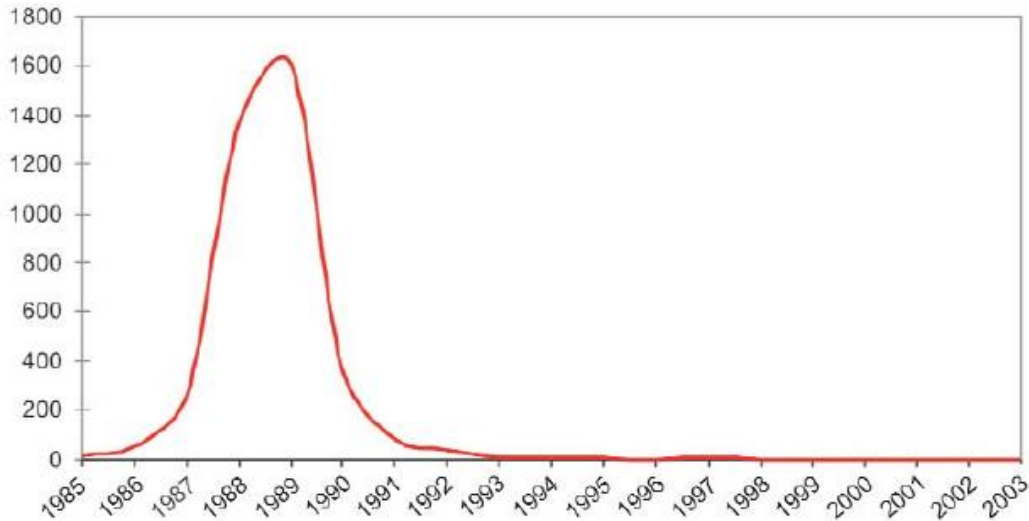
**Figure 12. Breakdown of AIDS cases among children (under 14) by mode of transmission and year of diagnosis (1989 – 2003)**





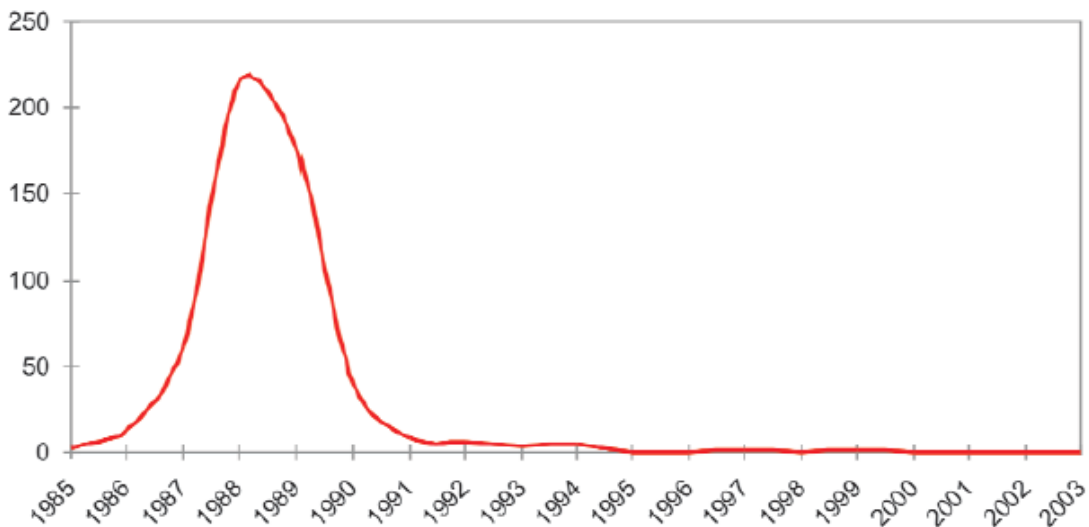
G 13 In Figure 13 we may observe the breakdown of AIDS cases among children by „nosocomial” way of transmission and the year of birth, between 1985-2003. Most of the children were born between 1985-1992, the “peak” being represented by the children born during 1987-1990.

**Figure 13. Breakdown of AIDS cases among children by „nosocomial” mode of transmission and year of birth (1985 – 2003)**



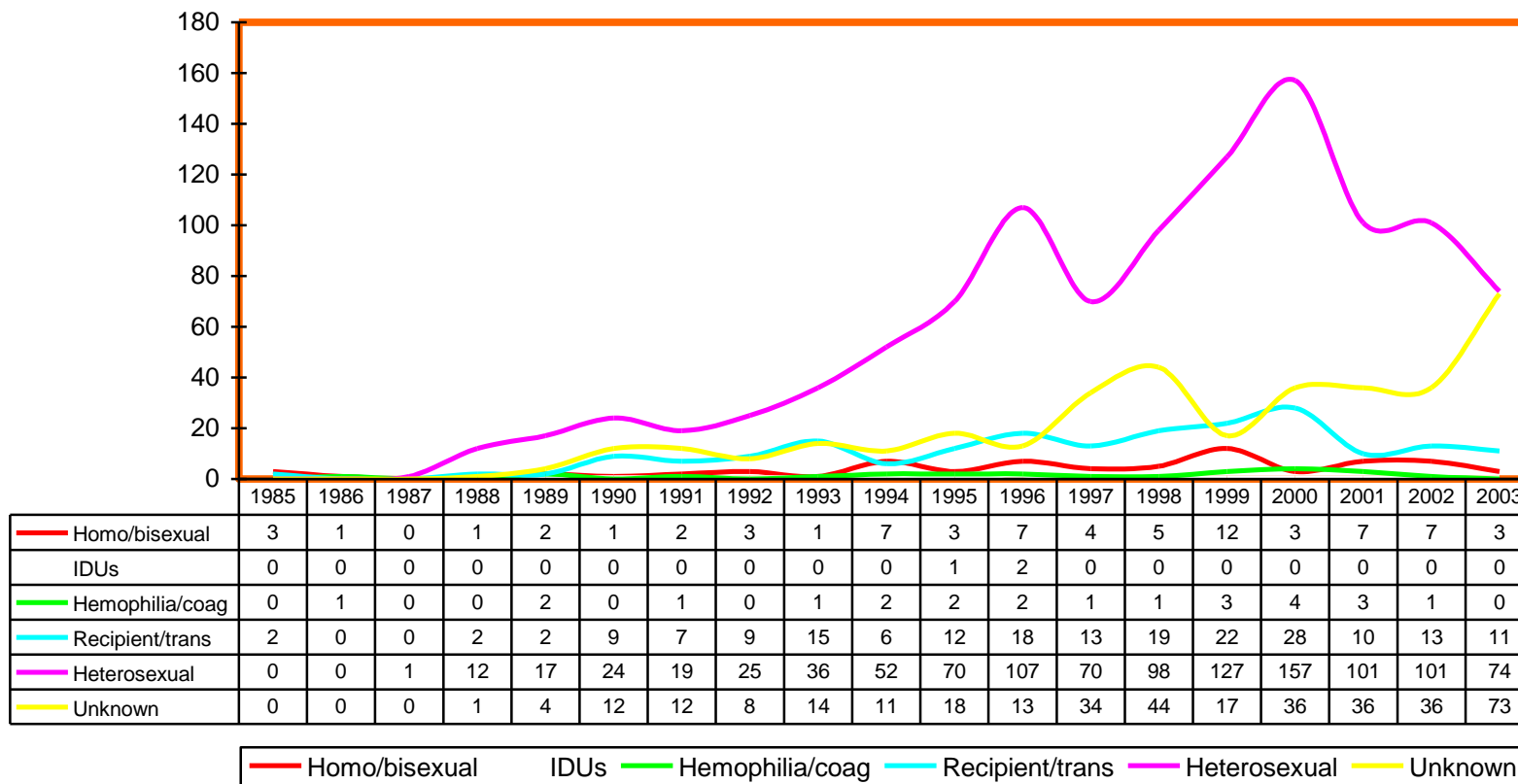
G 14 For an important number of children (530) it was not possible to establish the mode of transmission. The majority of these children were born during 1985-1994. For children born after 1995, in only 2 cases the mode of transmission was not determined. Overlapping this graphic to the precedent one can result in the conclusion that for the large majority of cases with an unknown mode of transmission we are dealing in fact with a nosocomial mode of transmission.

**Figure 14. Breakdown of AIDS cases in children by „unknown” mode of transmission and year of birth (1985-2003)**



G 15 Figure 15 presents the breakdown of the AIDS cases among adults (cumulative total) by mode of transmission and year of diagnosis. The heterosexual way of transmission is incriminated in the majority of the cases, with an increase over the last years. The transmission between IDUs is reported in 3 cases over 1996-1997. The number of HIV testing among IDUs was very small, only some hundred tests being performed during 2001 - 2003.

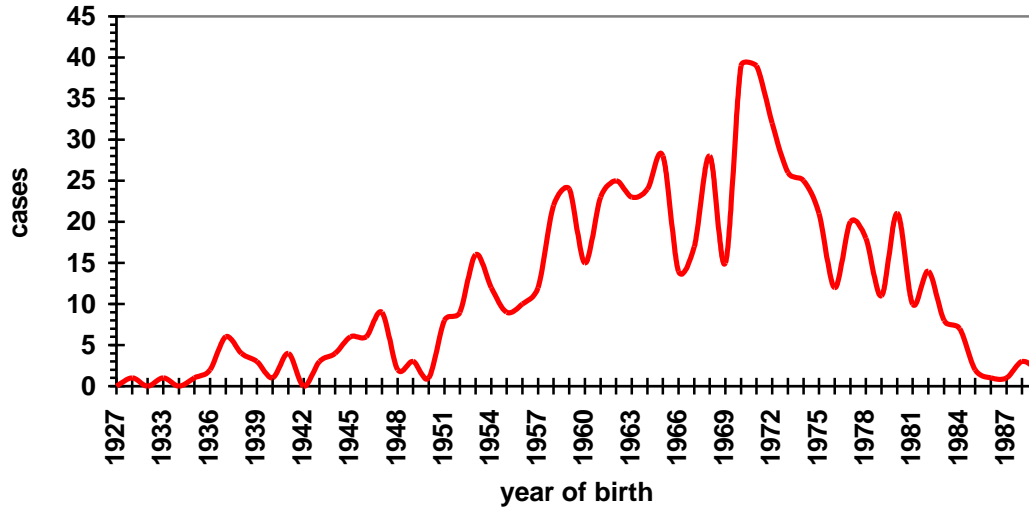
**Figure 15. Breakdown of AIDS cases (cumulated total) among adults by mode of transmission and year of diagnosis (1985-2003)**





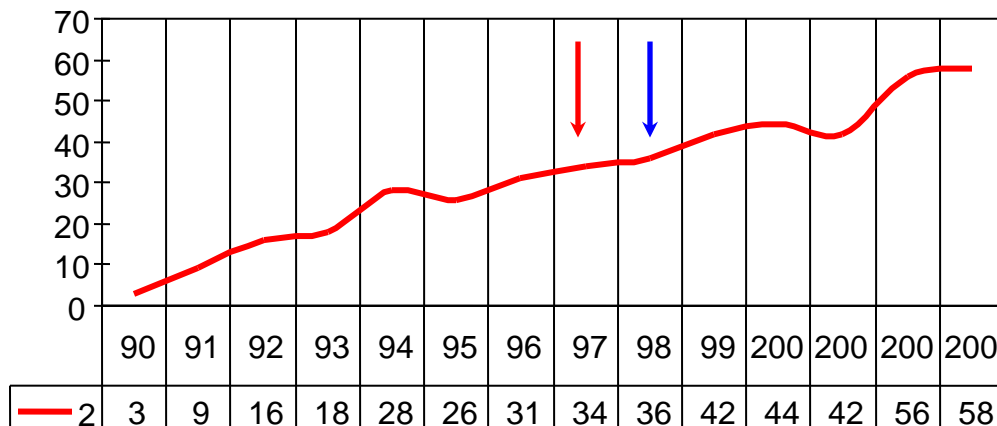
G 16 Taking into account only the heterosexual transmission mode and the year of birth, we may observe in Figure 16 the „peak” registered in adults born between 1970-1974, which during 1986-1990 period were 16 to 20 years old. There are some cases (6) of people born between 1987-1989. Anyway, the majority of the adults were born during 1958-1980.

**Figure 16. Breakdown of AIDS cases among adults by „heterosexual” mode of transmission and year of birth**



G 17 The median/average life expectancy for PLWHA raised almost 20 times during 1990-2003. An important role was played by the introduction on a large scale of the HAART therapy during 97 – 98 and the accomplishment, starting with 2002, of the universal access to HAART. We may stress that although a great part of the patients are still alive, the calculation was made based on the difference between the death registration and the start date of the therapy. We may say that the median life expectancy overruns the calculated value of 58 months. For 2001 there were problems related to case reporting, some changes occurred in the data processing system, as well as interruptions of the ARV treatment.

**Figure 17. Median life expectancy (months) for people living with AIDS (1990 – 2003)**



introducing the double HAART



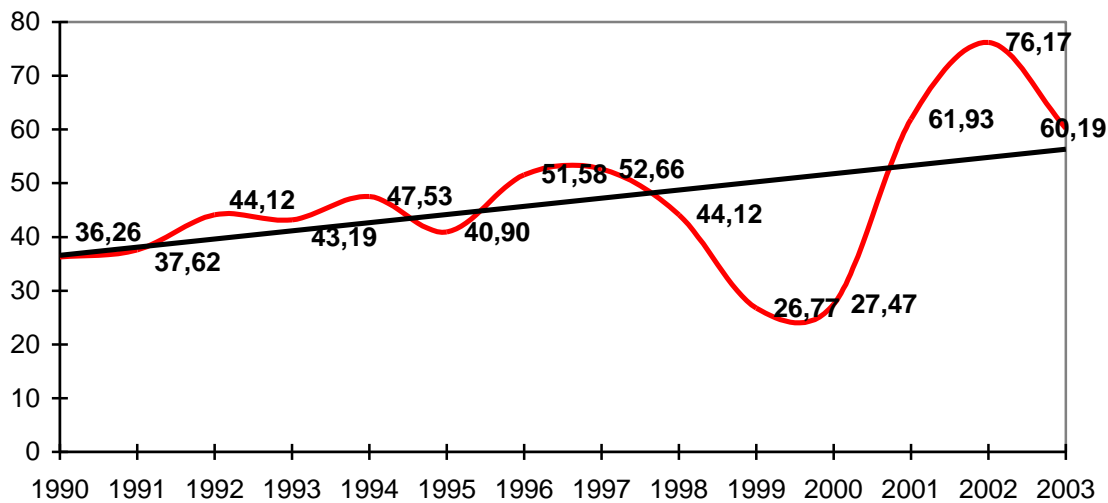
introducing the triple HAART

G 18 In line with the information provided in Figure 17, Figure 18 allow us to observe the rate of mortality by AIDS during 1989-2003. The “peak” was reached in 1990. The rate of mortality by AIDS increased countinously during 1993-1997. The rate of mortality by AIDS began to decrease once the ARV treatment have been introduced in 1997. We may notice an increase of the mortality by AIDS in 2001, caused most probably, by ARV treatment interuptions during the year.

**Figure 18. AIDS induced mortality rate (1989 – 2003)**

G 19 The specific trend for AIDS fatality calculated during 1989-2003 has a countinously ascending evolution and most probably represents the real situation, although in Figure 19 we may also observe a steep descending evolution during 1999 followed by an important increase in 2002 and a decrease in 2003.

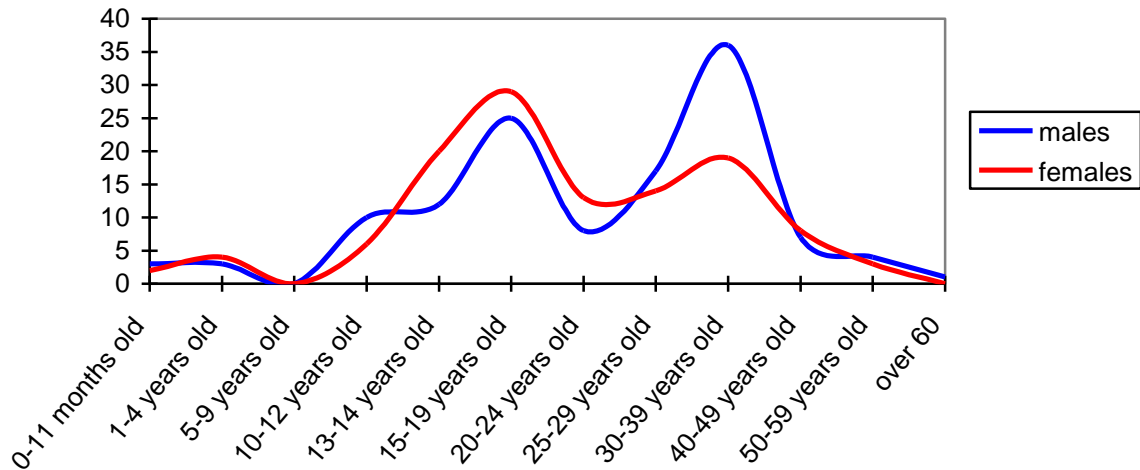
**Figure 19. Specific AIDS fatality in Romania, (1989 – 2003)**



## HIV SITUATION IN ROMANIA 1992 – 2003

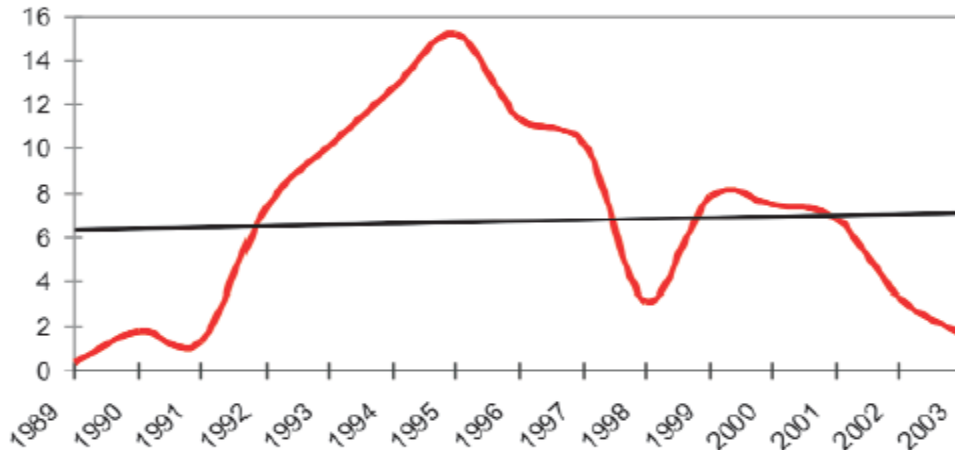
G 20 Figure 20 helps us observe the distribution of the new HIV infection cases, registered in 2003 in a breakdown by age groups and gender. There are no significant differences regarding gender distribution, with the exception of the 30-39 age group where the number of cases registered among males is almost double in respect of the number of cases registered among females. Analysing the age groups, the biggest number of cases was registered among people aged between 13 and 19, with another “peak” in people between 30 and 39 years old.

**Figure 20. Breakdown of the new cases of HIV infection registered in Romania during 2003, by age groups and gender**



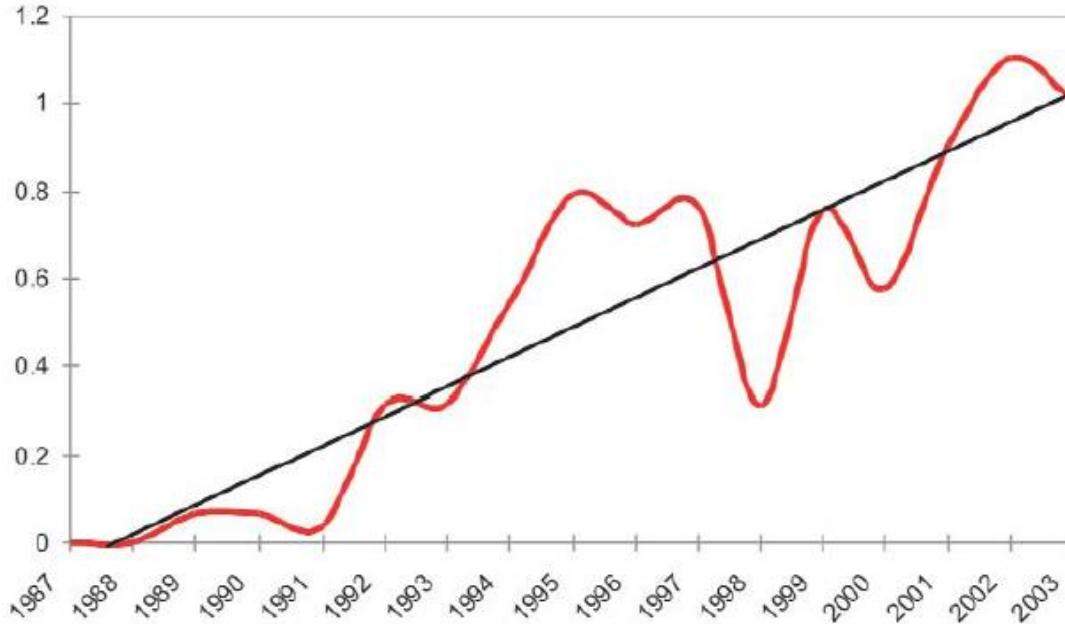
G 21 The prevalence of HIV infection among children reached its maximum value in 1995, followed by a significant decrease (4,89 time less) till 1998, an increase in 1999 and a relative “plateau” for the following years and an important decrease till 2003. At the beginning of the endemic, the large majority of the children were directly reported in the AIDS category, according to case definitions by CDC and OMS. The incidence decreased over the last years as the cases which may be linked to the epidemiologic accident registered during 1986 – 1990 were exhausted. We may observe also that in the total number of new HIV cases registered during the last years the weight of the MTCT cases is increasing.

**Figure 21. Incidence of HIV infection among children (1989-2003)**



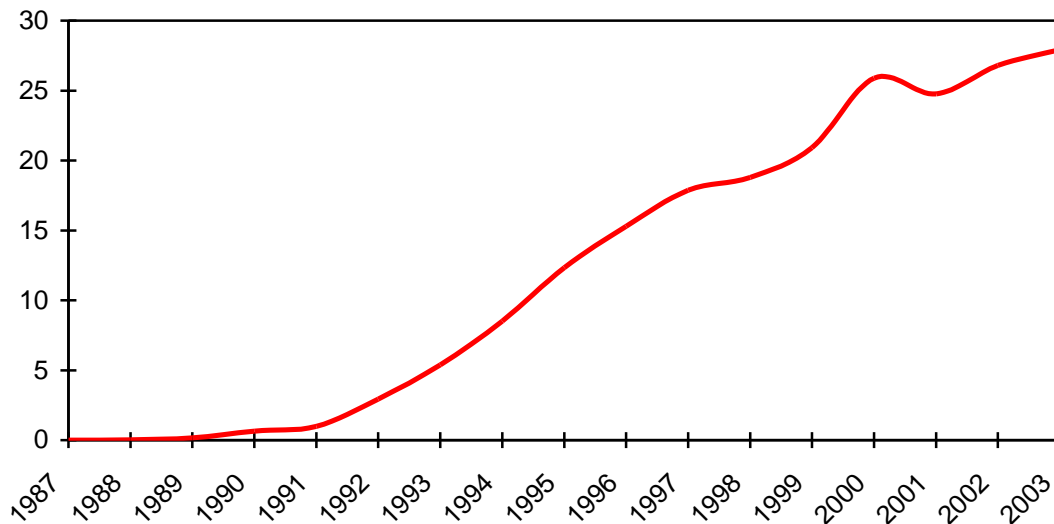
G 22 The incidence of HIV infection in adults reached raise in 2001 to almost 1 ‰, value exceeded during the following two years and bigger than the value registered for AIDS among adults in 2002-2003. We may underline the increase of the HIV incidence in adults, almost continuously till 1995, with a “plateau” for the period 1996-1997, a sudden decrease in 1998, followed by an almost continuous increase till 2002. The trend registers an exception in 2000 (incidence value under 0,6 ‰), probably as a consequence of reporting delays.

**Figure 22. Incidence of HIV infection among adults (1989-2003)**

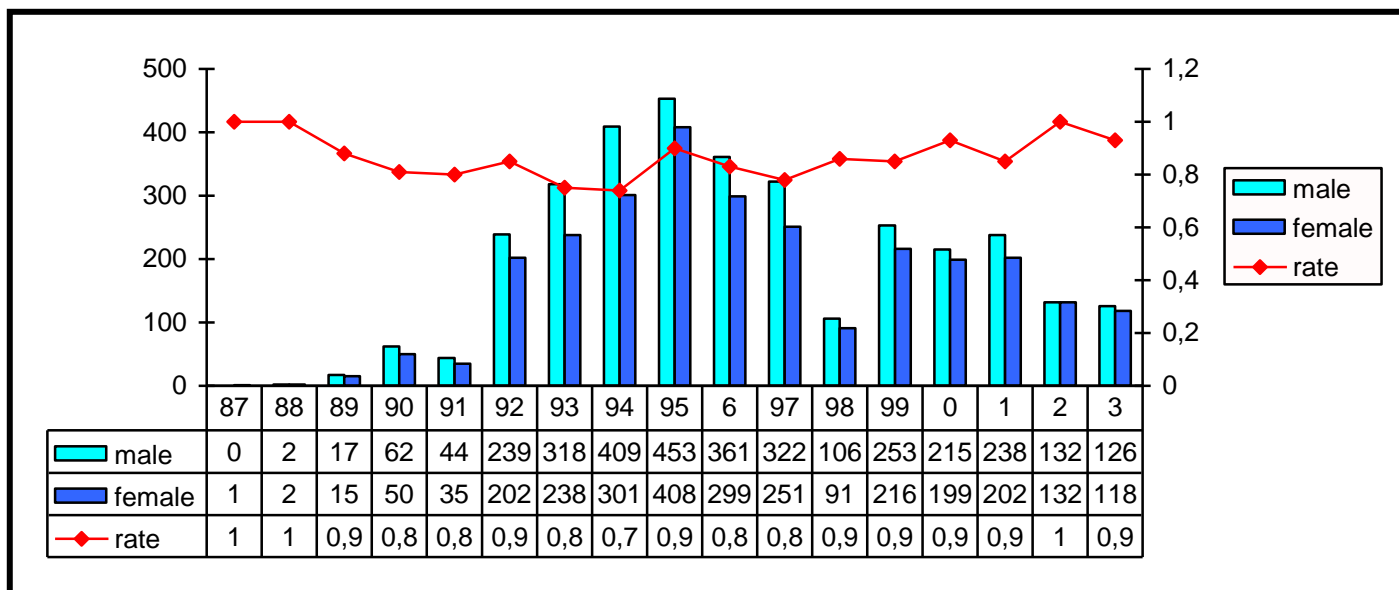


G 23 As we may notice in Figure 23, the prevalence of HIV infection cases grew constantly during 1990-2003, the same evolution being foreseen for this epidemiological indicator for the following years (the slight decrease of the prevalence during 2001 is due more probably to problems in the reporting system)

**Figure 23. Prevalence of HIV infection (1987-2003)**



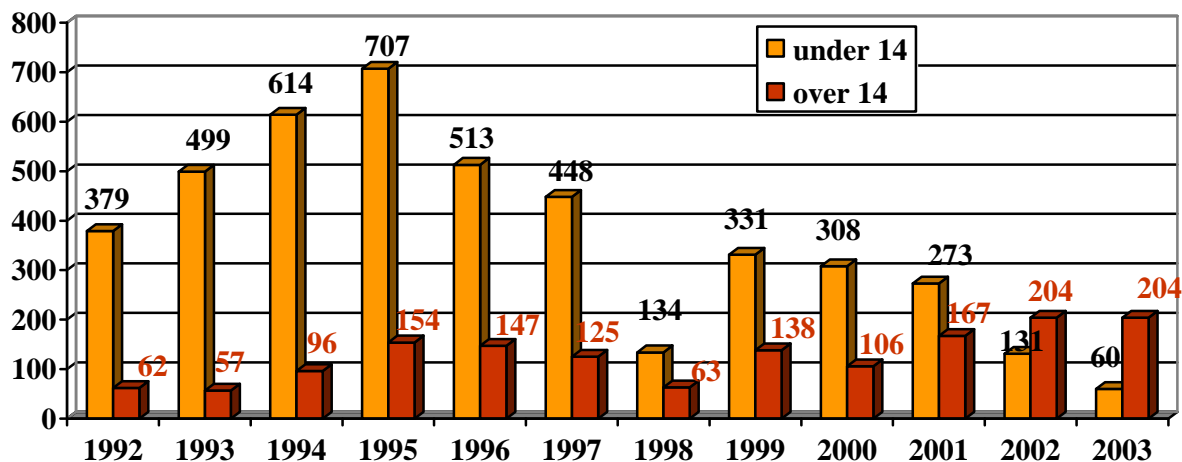
G 24 Figure 24 presents the distribution of HIV infection cases by the year of diagnosis, starting with 1989, year in which the majority of the HIV cases among children were directly registered under AIDS category. In the same graphic, but on another scale, we may notice the ratio between the number of cases registered among females and among males. From this point of view we recommend the interpretation starting with 1989. Every year the number of cases registered in males was bigger (2002 is an exception, the number of cases being the same for both males and females).



**Figure 24. Breakdown of HIV infection cases by year of diagnosis and gender (1987-2003)**

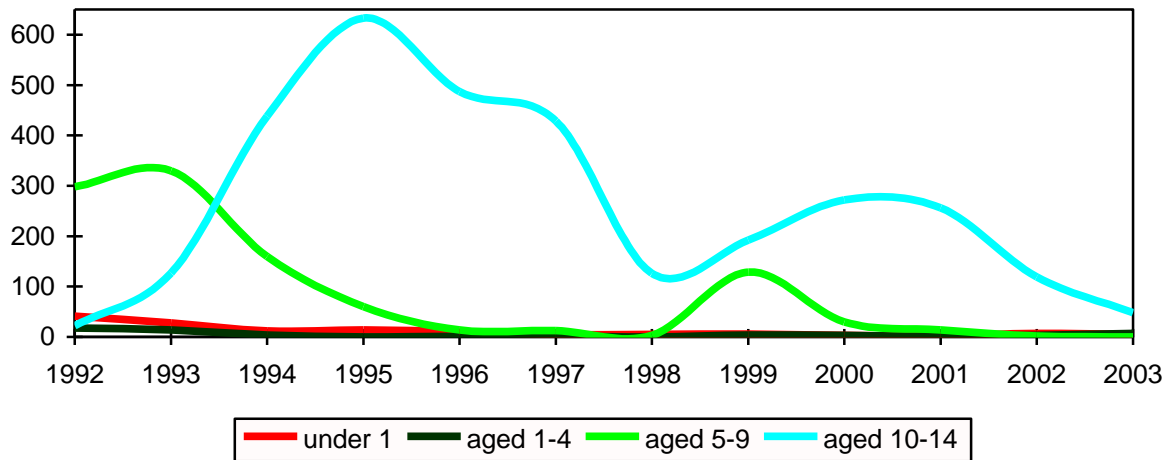
G 25 Figure 25 presents the HIV infection cases registered during 1992-2003, by year of diagnosis and age groups. Starting with 2002 more cases were registered among people over 14 years old. The total number of HIV infection cases decreased constantly during 1995-2003. The year 1998 presented itself as a peculiar situation in the reporting system. The database especially dedicated to the HIV infection was completely separated of the one regarding AIDS until 1998, year when the two databases were unified.

**Figure 25. Breakdown of HIV infection cases by age groups and year of diagnosis**



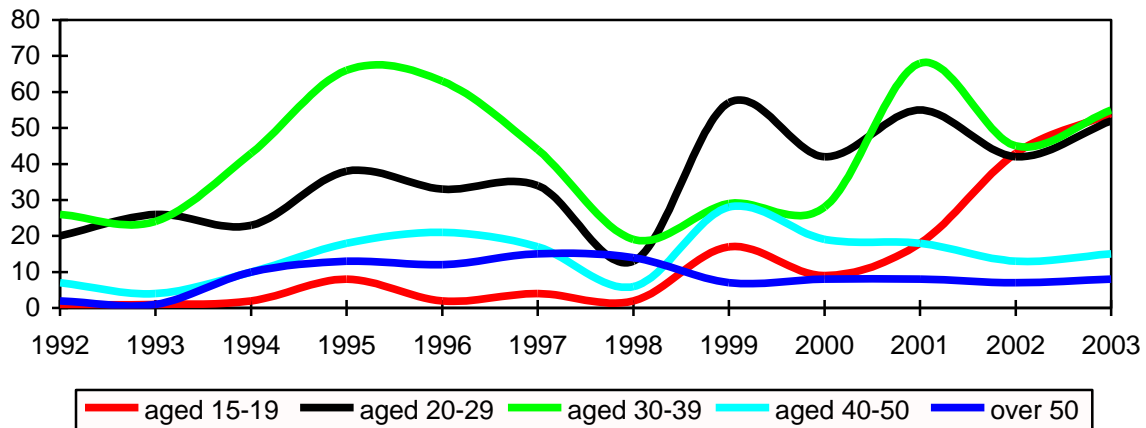


G 26 In Figure 26 we may notice the distribution of the HIV infection cases among children in a breakdown by age and diagnosis year, during 1992-2003. If initially (1992-1994) most of the HIV cases among children were registered in the age group 5-9, afterwards the most of the cases were reported among children aged between 10 and 14. During 1998-2000 we noticed a new “peak” among children in the 5-9 age group. For those children the date of birth is placed during 1990-1995 period. Children who in 1992 were 5-9 years old and were diagnosed with HIV infection were born between 1983-1987. This fact strengthens the hypothesis that the HIV phenomenon appeared before 1989 becoming dramatically an evidence starting with this year. **Figure 26. Breakdown of HIV infection cases among children, by age and year of diagnosis (1992-2003)**



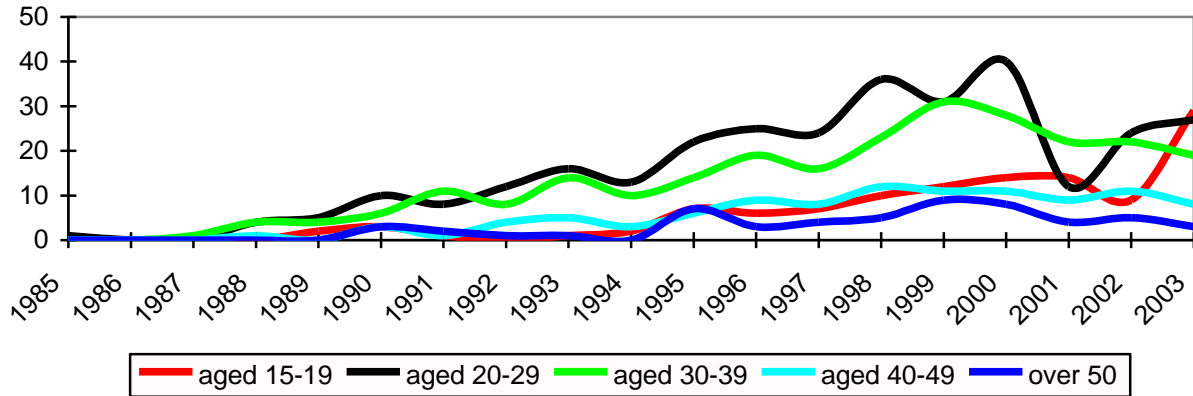
G 27 If we look to the breakdown of HIV infection cases among adults, by age groups and year of diagnosis, the number of HIV infection cases among people aged between 40 and 50 is decreasing since 1999. The number of cases reported among people 15 to 39 years old has an ascending evolution since 2002, but the most important increase is registered in patients aged between 15 and 19, the number of cases reported during 2003 exceeding 6 times the same indicator for 2000. The teenagers in this age group are born between 1986-1990, and find themselves at the beginning of their sexual and reproductive activity. It is very important that all necessary measures are taken in order to prevent the sexual or MTCT of HIV. We may also add that for age groups 15-19, 20-29 and 30-39 the graphics are almost overlapping. As a consequence a focus of public health measures targeting people 15-40 years old, sexually active is necessary.

**Figure 27. Breakdown of HIV infection cases among adults by age and year of diagnosis (1992-2003)**



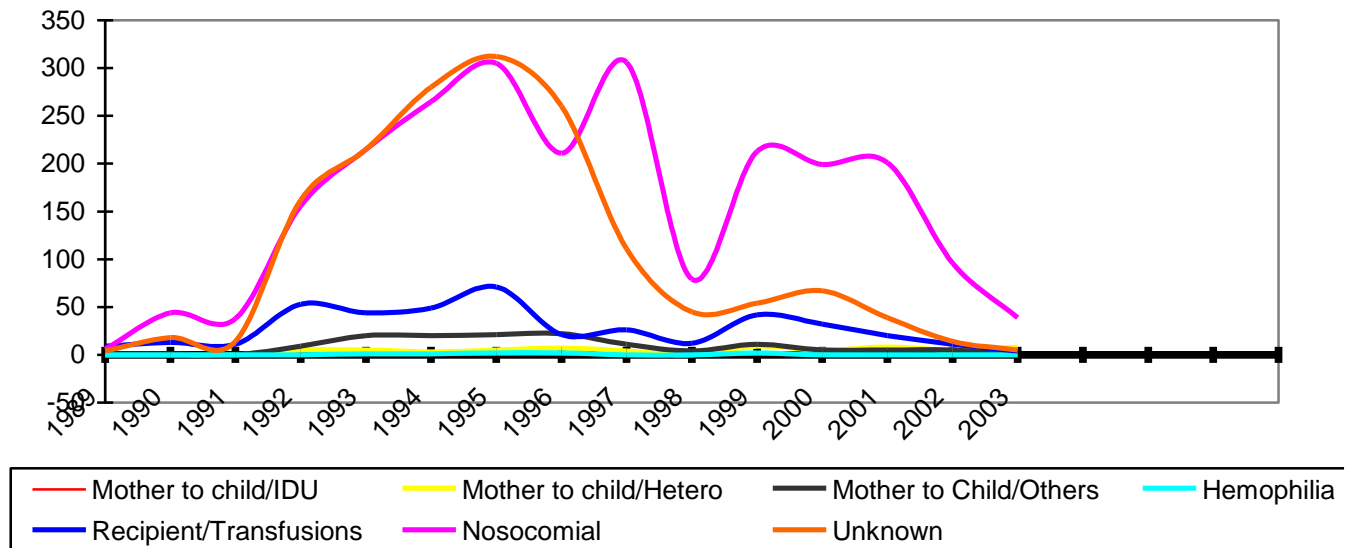
G 28 There are some similarities regarding the breakdown of HIV infection cases in females (Figure 28) and the data included in Figure 11. The number of HIV infection cases among females over 40 years old is maintaining a relative „plateau” during the last years, while the 30-39 age group have registered a decrease since 1999. Is important to notice the significant increase of the number of HIV infections among people aged between 15 and 29, starting with 2001. The number of HIV infection cases among females, 15 to 19 years old is in 2003, three times bigger than the same indicator registered in 2002. These aspects stress once again the need for consistent measures of prevention of sexually and mother to child transmission.

**Figure 28. Breakdown of HIV infection cases among females by year of diagnosis and age groups**



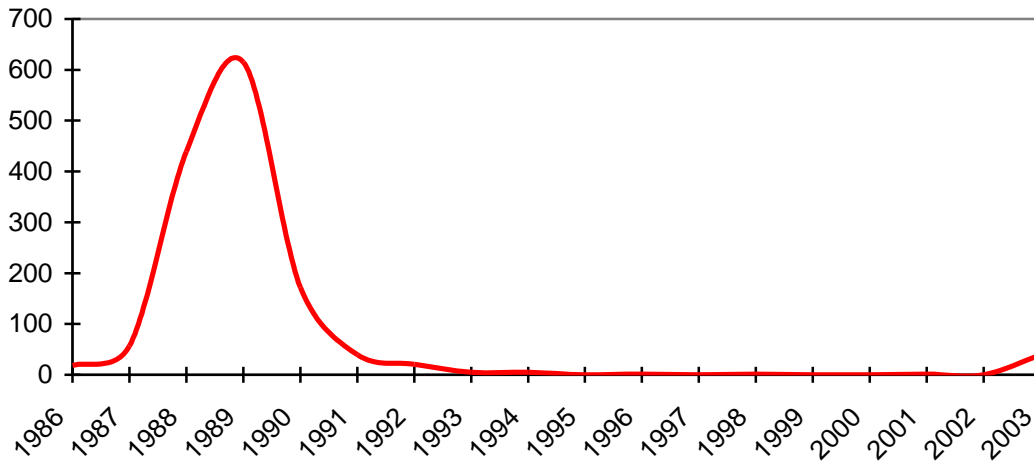
**G29 Figure 29** presents the breakdown of HIV infection cases among children by mode of transmission and year of diagnosis, during 1989-2003. For the large majority of cases during this period the transmission was nosocomial (51,5%). This conclusion is „enforced” also by the definition that Euro-HIV Center gives to the nosocomial transmission as above mentioned. For 34,9% of the children the mode of transmission is unknown. During 1999-2003, 737 children were reported to be nosocomial infected, all these children being born between 1986-1990.

**Figure 29. Breakdown of HIV infection cases among children by mode of transmission and year of diagnosis (1989-2003)**

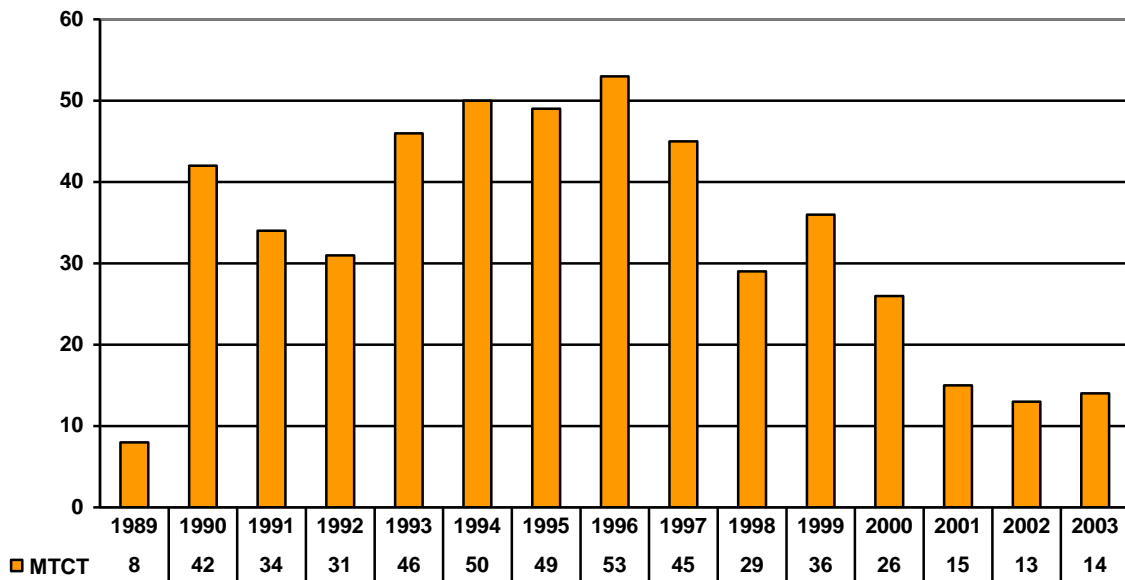


**G30** In Figure 30 we may observe the distribution of HIV infection cases among children, in a breakdown by “ nosocomial ” transmission mode and the year of diagnosis, between 1985-2003. Most of the children are born between 1985-1992, the “peak” being represented by the children born in 1987-1990 period.

**Figure 30. Breakdown of HIV infection cases among children by „nosocomial” mode of transmission and year of diagnosis**



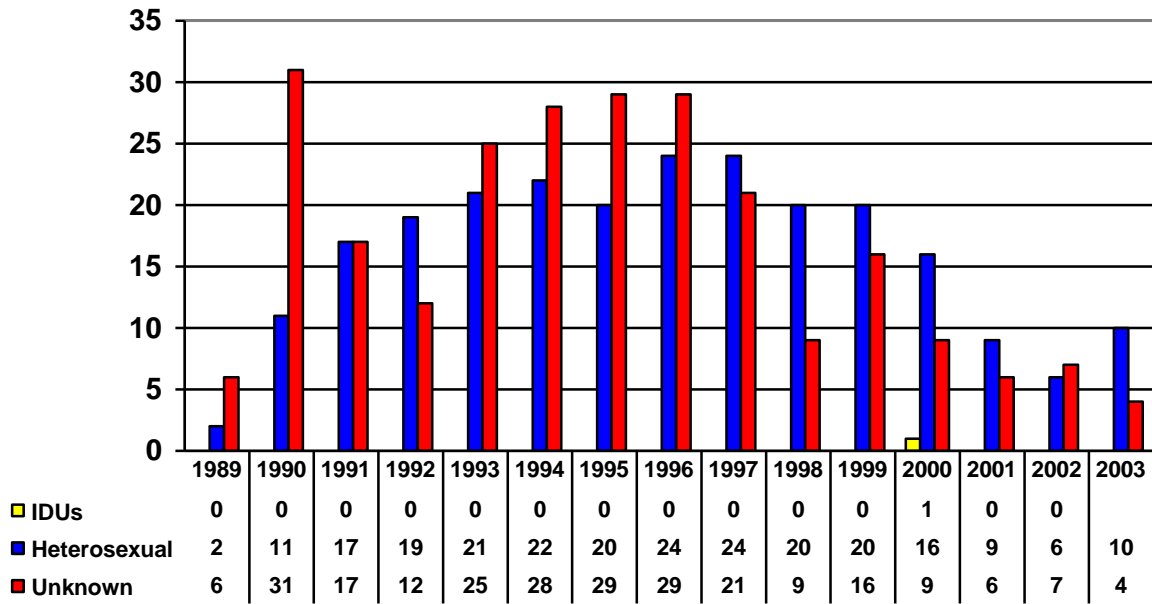
**G 31** During 1989-2003, 491 vertical transmission (mother to child) cases were reported, as we may see in Figure 31. The number of diagnosed and reported cases increased during 1992-1996 and then decreased, maintaining a relative constant value during 2001-2003. It is considered that the real number of cases is bigger than the reported one, as a consequence of some lacks in the initial enrollment procedure. Initially, the HIV testing was made among children, the target group (for testing activities), becoming afterwards the mothers.



**Figure 31. Mother to child transmission (MTCT) by year of diagnostic**

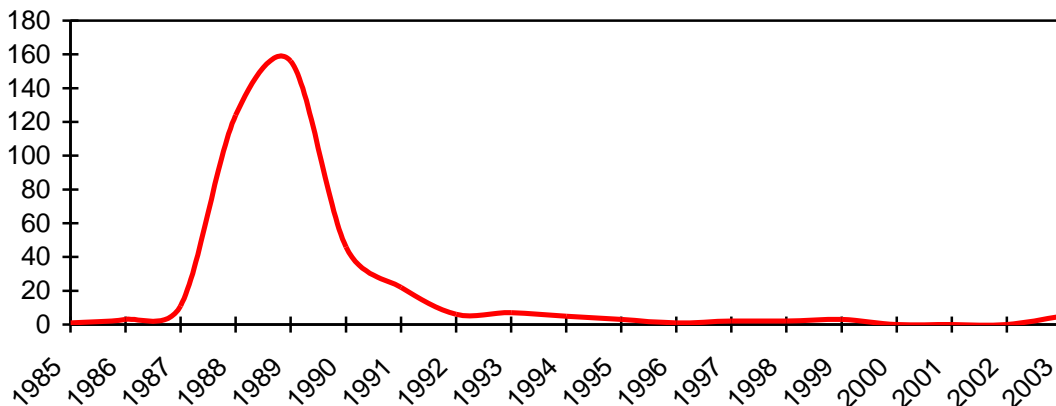
G 32 Figure 32 presents the risk factors for the HIV+ mothers, for the extent in which these data could be registered. It is important to notice that in the great majority of the cases we are dealing with heterosexual contacts or there are no risk factors that could be identified. These results can suggest the fact that the methodologies used in epidemiological surveys, as well as for forms compilation must be improved. On the other side, for an important number of cases where the risk factor is „unknown” we are confronted with the situation of children abandoned in hospitals, cases in which the information about the mothers were not available.

**Figure 32. Risk factors for the mother**



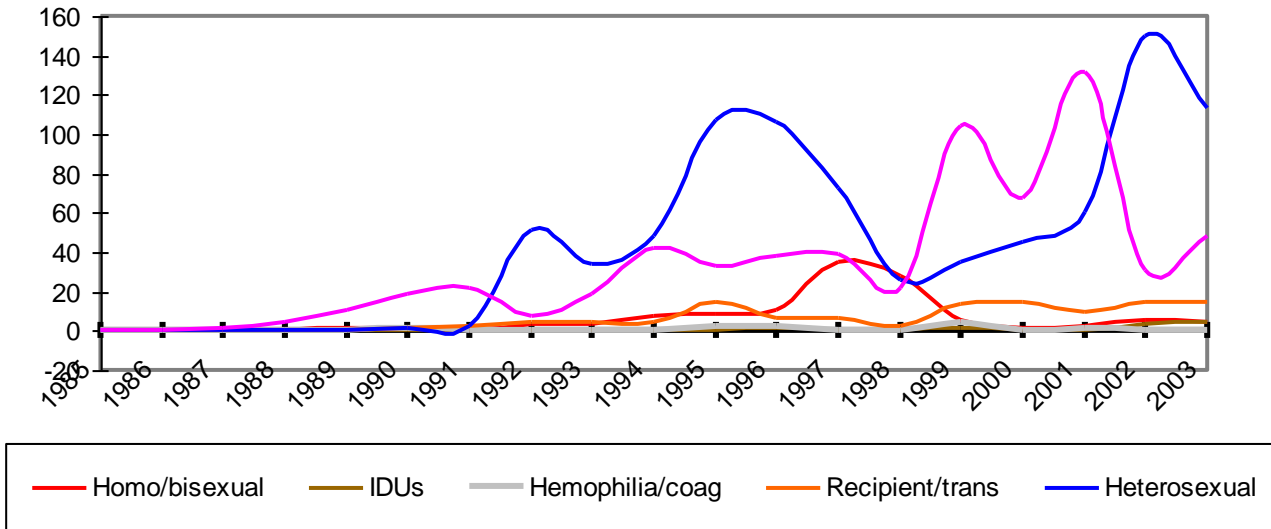
G 33 For an important number of children (397) we were not able to establish the mode of transmission. The majority of these children are born between 1985-1994. For children born after 1995, the transmission mode was not identified in only 2 cases. The majority of the children were diagnosed as HIV+ in the 1988-1990 period.

**Figure 33. Breakdown of HIV infection cases among children, by „unknown” mode of transmission and year of diagnosis**



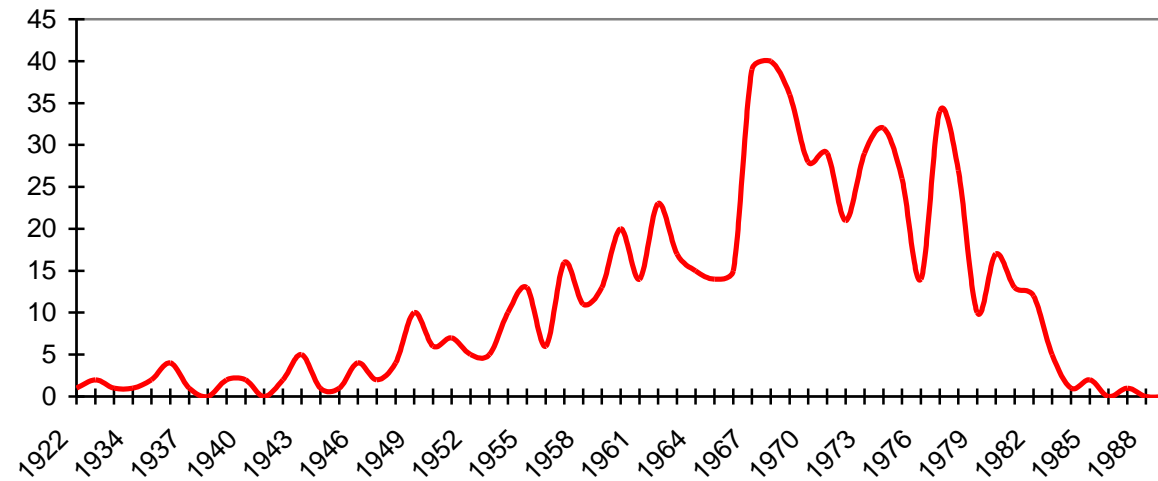
**G34** Figure 45 presents the distribution of HIV infection cases among adults, in a breakdown by mode of transmission and year of diagnosis, during 1989-2003. The heterosexual mode of transmission was established for the majority of cases, with an increase over the last years. The transmission among IDUs was mentioned for 3 cases during 1996-1997 and for other 4 cases in 2003, in the conditions of a limited testing campaign among this group at-risk.

**Figure 34. Breakdown of HIV infection cases among adults by mode of transmission and year of diagnosis (1989-2003)**



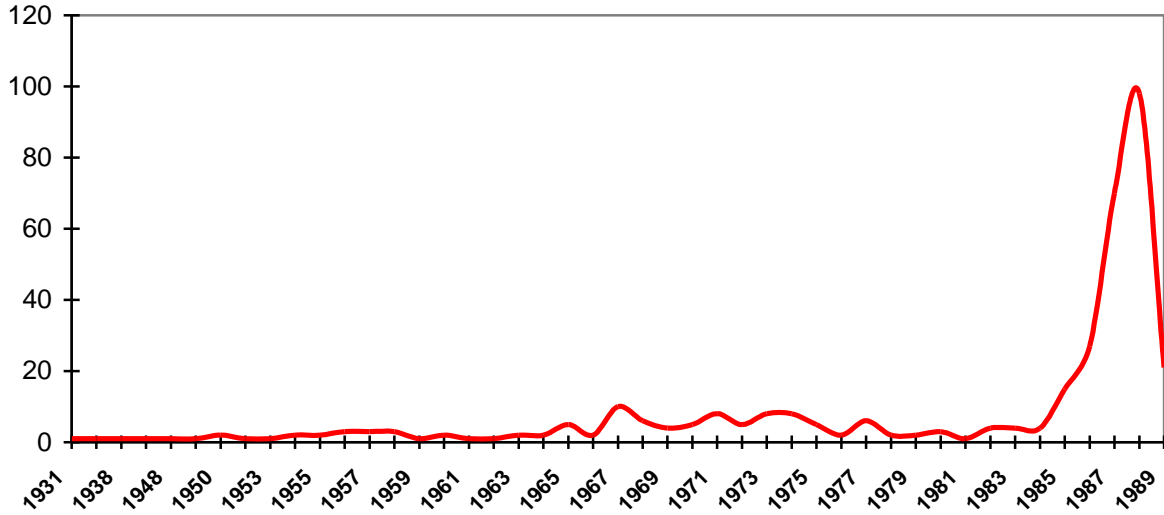
**G 35** Considering the heterosexual mode of transmission and the year of birth, we may notice in Figure 35 the presence of a „peak” in the adults born during 1967-1971, aged between 19 and 23 years old in 1986-1990 period. Otherwise the majority of the registered people infected with HIV are born during 1967-1980 and an important part of them began their sexual life before 1990.

**Figure 35. Breakdown of HIV infection among adults by „heterosexual” mode of transmission and year of birth**



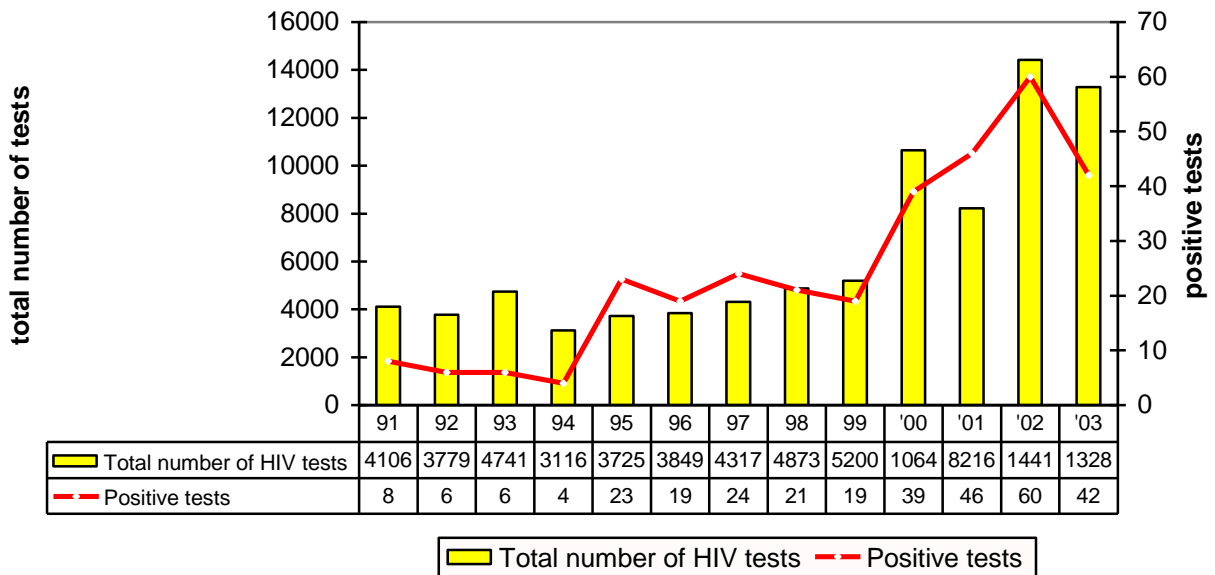
G 36 For 357 adults infected with HIV we were not able to identify the mode of transmission. Taking into account the year of birth we registered a „peak” in people born 1985-1989, peak that may be associated with the accidental nosocomial transmission.

**Figure 36. Breakdown of HIV infection cases among adults by „unknown” mode of transmission and year of birth**



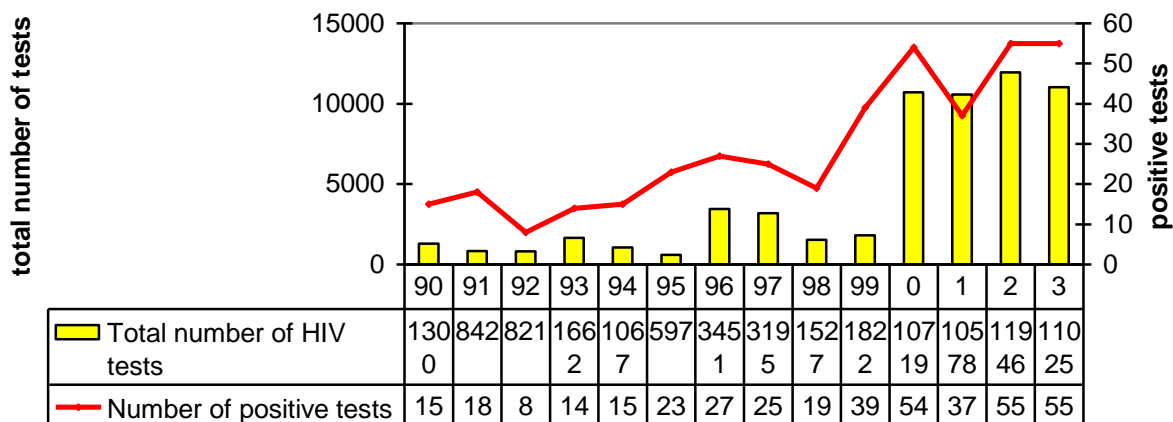
G 37 Figure 37 presents the total number of HIV testing among patients with sexually transmitted infections (STI) during 1991-2003. The number of tests performed was relatively constant between 1991-1997 and registered then an increase (except for 2001). The number of positive tests for HIV, which varied from the percentage point of view between 0,13% for 1993 and 1994, respectively 0,62% for 1995 is represented at another scale on the same graphic. During 2003 0,31% of the cases serologically tested were determined to be positive for HIV.

**Figure 37. Total number of HIV tests among STIs patients (1991-2003)**



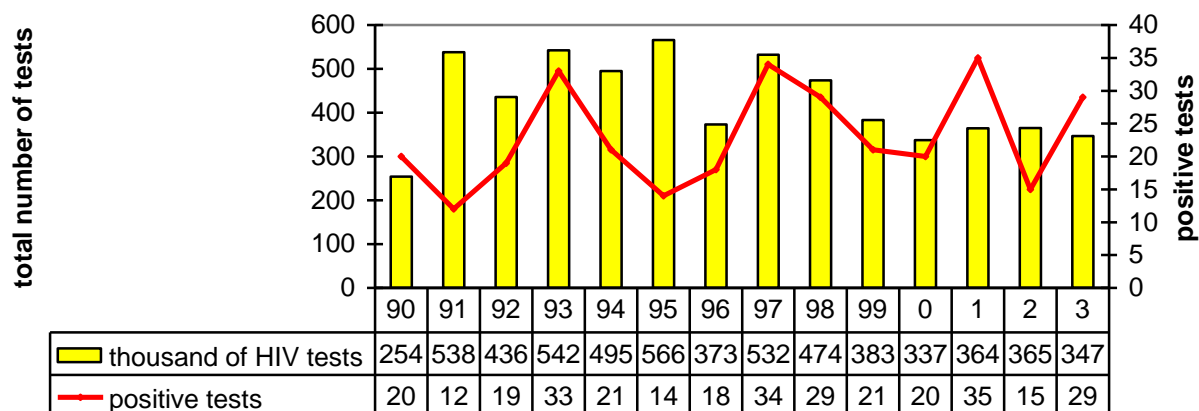
G 38 During 1990-2003, 60.552 HIV tests were performed among tuberculosis (TB) patients, most of them during 2000-2003, although a Health Minister Order (no. 1243) establishing the HIV testing for all TB diagnosed patients was issued in 1993. During 1994-2003, 20.000 new cases of TB were reported every year. From a general point of view we may stress that only 0,67% of the tests performed in TB patients turned to be positive, percentage inferior to the one registered in the Western Europe and USA, where TB is considered to be a potential marker of the HIV infection. Only 0,5% of the tests performed during 2003 were positive.

**Figure 38. Total number of HIV testing among TB patients (1990-2003)**



G 39 The reports received from the National Institute for Hematology and Transfusion "Prof.C.T.Nicolau" register 6.013.274 tests among blood donors between 1990-2003, higher during 1991, 1993-1995, 1997-1998 and lower in 1999-2003. The number of HIV testing is coherent with the number of blood donors. During 1990-2003 320 positive tests were registered. Reported for the total number of tests performed all over the period they result in a percentage of 0,005 % positive tests. Thus, the real HIV infection prevalence among donors is of 5,3 cases every 100.000 inhabitants, overrunning the value calculated on the base of existing information regarding the adult population in Romania, also for 1999.

**Figure 39. Total number of HIV testing among blood donors (1990 – 2003) – data collected by the National Institute for Hematology and Transfusion "Prof.C.T.Nicolau"**



## HIV testing on populational groups during 2001-2003

HIV testing results performed in different types of laboratories and different population groups are showed bellow. They represent the number of tests performed and not the number of people tested. Anyway, those figures offer a perspective image on the level of tests performed annually. Part of these results is used for building estimations for different international reports. In the UNAIDS 2004 Report on the global AIDS epidemic, launched in the occasion of the XV International AIDS Conference in Bangkok- 2004, the testing results were used for estimation of the total number of PLWHA in Romania. It resulted a 6.500 people estimation, number that is inferior to the official number of PLWHA registered. This is a special situation that can be only explain by the fact that a large part of the PLWHA in Romania have been infected during the epidemiological accident registered in 1987-1991. This kind of accidental events can not be quantified by the formulas used for estimation at this moment. The correct interpretation of data is that the estimation given by UNAIDS refers to people infected outside the epidemiological accident and in order to have an image closer to the reality we should add the UNAIDS estimation with national estimation on the number of people infected through the epidemiological accident. The result of this sum should be around **14.000-19.000 PLWHA in Romania**, if we consider that about 7.500-12.500 people were infected in the epidemiological accident.

Table 5 shows a significant number of tests performed among pregnant women, on request (during 2003), for TB and STIs patients. The high figure of positive results among testing performed on request does not show an increase incidence among the general population, but rather that the HIV diagnosis is confirmed through more than two ELISA tests (as recommended).

For other groups (commercial sex workers, IDUs, men having sex with men) considered to be at risk, the number of testing performed is a lot smaller than for the groups mentioned above. Even if they are few in number, the testing among risk groups shows important prevalence figures among commercial sex workers and low ones for IDUs. HIV low prevalence among IDUs is opposed by the results of the research showing high HBV and HCV prevalence rates and risk behaviors in the same population - HCV (40-70%) and HBV (20-40%). At this moment we can only say that HIV didn't yet entered among IDUs groups and there is still a possibility to prevent this to happen. In order to have a clearer image of the phenomenon, sentinel surveillance studies have to be developed among those risk groups.



**Table 5. Cumulative reporting of tests performed during 2001-2003**

Year	2001		2002		2003	
	Total no. of tests	No. of positive tests	Total no. of tests	No. of positive tests	Total no. of tests	No. of positive tests
Public Health Directorate	65.009	653	92.797	1.466		
Hemodialyzed/trans.			1.113		1.148	
Medical personnel			2.239	4	5.612	4
Prisoners	88				1.043	2
On request					78.915	1.349
Maternity hospital	7.515	3	1.769	4	334	5
Pregnant women	26.064	15	43.024	33	51.978	27
STI patients	8.216	46	14.414	60	13.283	42
TB patients	10.578	37	11.946	55	11.025	55
Pre-nuptial control	2.271		5.272	2	6.249	5
HIV contacts	769	7	655	19	977	36
IDUs	6		651		392	4
Commercial sex workers	88		114	7	92	5
Drivers	2		7			
Sailors	2		42		5	1
Men having sex with men					19	2
Travelers that enter the country after at least 6 months of absence	23		165		43	
Work abroad	169		902	2	84	1
Blood donors	364.739	35	365.455	15	235.384	67
<b>TOTAL</b>	<b>486.158</b>	<b>797</b>		<b>1.667</b>	<b>406.583</b>	<b>1.605</b>

## **Highly Active Anti Retroviral Therapy (HAART) in Romania, 2001 – 2003**

The Anti Retroviral Therapy (TARV) is ruled by the Law 584/2002, which foresees that the treatment is provided free of charge, on non-discriminatory bases and without interruptions to all patients eligible for treatment from a clinical and immunology point of view, according to the National Treatment Guide, elaborated on WHO and CDC recommendations.

Romania is the only Central and Eastern European country that ensures universal access to HAART. Health Ministry's National Plan for Universal Access to HIV/AIDS Therapy and Health Care was implemented during 2001 – 2003. It's development was facilitated by the UN System. The negotiations for the inclusion of Romania in the UN initiative for Rapid Access to HIV/AIDS Therapy were based on this plan. Romania's inclusion in this initiative conducted to price cuts and facilities, as well as important ARV drugs donations from six big pharmaceutical companies: Merck Sharp & Dohme, Glaxo Smith Kline, Boehringer Ingelheim, Bristol Myers Squibb, Abbott and Hoffman La Roche.

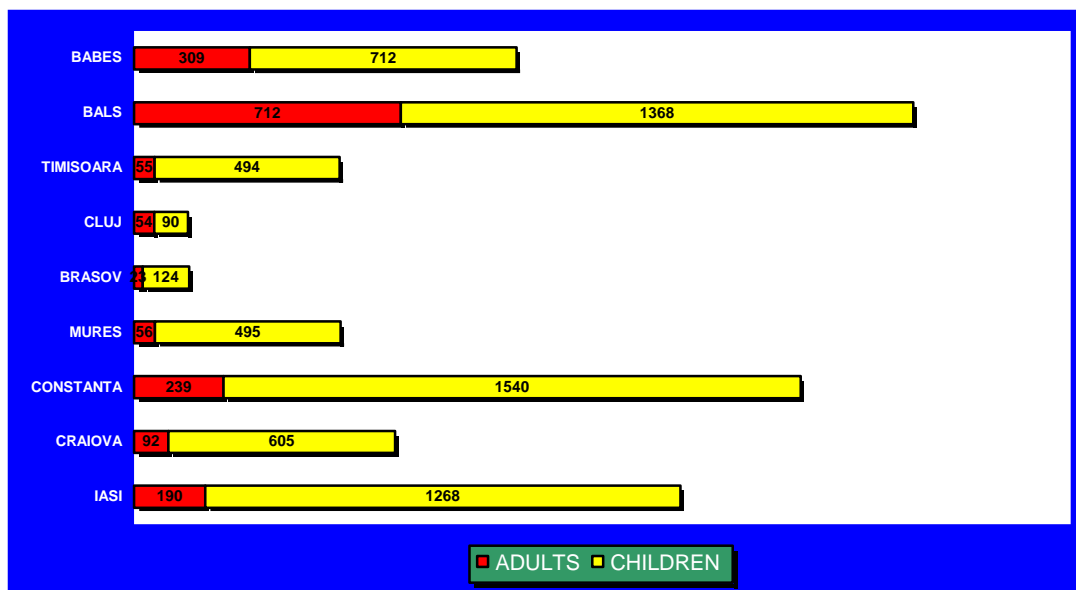
In 1999 it was created a specialized infrastructure for HIV/AIDS treatment made off nine Regional Centers established in Bucharest (2 centers), Iași, Constanța, Timișoara, Brașov, Târgu Mureș, Cluj Napoca and Craiova. These regional Centers are responsible for ARV therapy enrollment for the patients in their area of competence. They also have all necessary equipment in order to ensure the clinical and biological monitoring of these patients. Once established the treatment schedule, it may be administrated to the patients by the hospitals or the infectious diseases wards inside district hospitals. The Regional Centers are in charge with updating the database of HIV/AIDS patients and ensure the continuous medical training of the medical and paramedical personnel involved in HIV/AIDS patients' health care.

National Health Insurance House (NHIH) finances the HAART program on the bases of the information provided by the Regional Centers. The ARV drugs are purchased at central level both by the Ministry of Health and NHIH. The funds allocated for HAART registered a constant increasing trend since 2001 (US\$ 21 million) till 2003 (US\$ 30 million).

A significant increase of the number of patients enrolled in HAART and a qualitative improvement of the therapy was registered during 2001 – 2003. A joint WHO/UNAIDS mission evaluated in 2003 the treatment system. It reported that Romania has a well functioning HIV/AIDS treatment and health care system and all the people infected which are in need of treatment have access to it. The average annual price of the triple therapy in Romania is about 2,700 USD. This is lower than the one registered in the western countries, but higher than the one obtained by some African Countries. WHO and UNAIDS experts recommended that efforts should continue until the cost of HAART will be further reduced. This could be accomplished by negotiations with the pharmaceutical producers, reductions in taxes granted by the state and better procurement procedures. One first step was registered in 2004, when the Romanian Government approved the reduction of VAT from 19% to 9%.

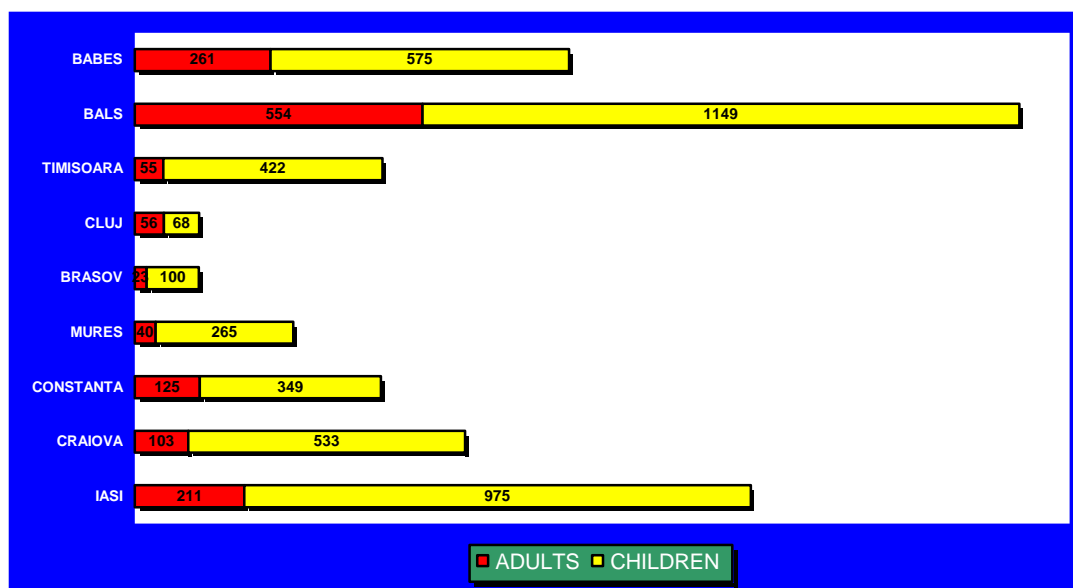
G 40 Most of the AIDS cases are treated in the Regional Centers (RC) in Bucharest (Infective Diseases Hospital “Prof. Dr. Victor Babeș”, Infective Diseases Institute “Prof. Dr. Matei Bals”), Constanta and Iasi. In each of the RCs the number of the children receiving treatment and care is higher than the number of adults. The ratio between the number of children and adults varies between 6,44 for the RC in Constanța and respectively 1,66 for the RC in Cluj.

**Figure 40. Breakdown of the cumulated number of AIDS cases at 31. 12. 2003 by Regional Centers**



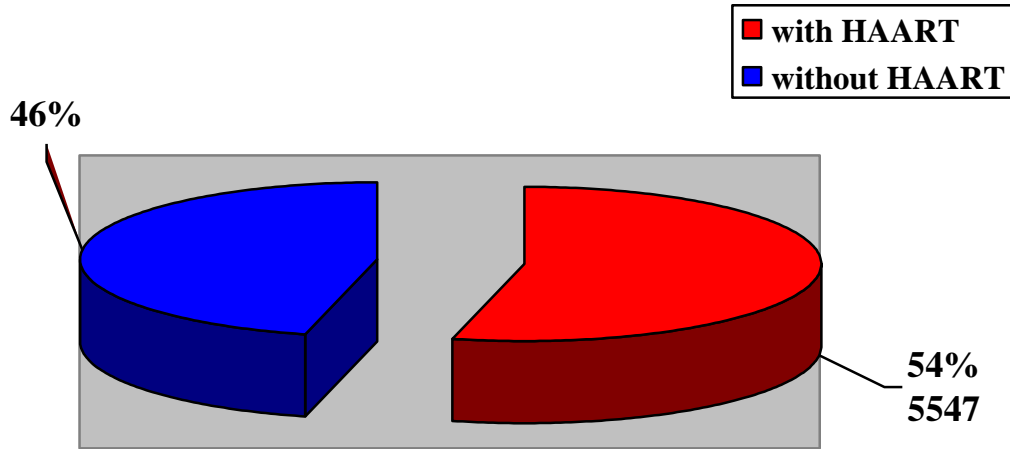
G 41 Most of the HIV infection cases receive treatment and care in Bucharest, Craiova and Iași. In each of the RCs the number of children registered is bigger than the number of adults. The ratio between the number of children and adults varies between 7,67 in the RC in Timișoara and 1,21 in the RC in Cluj.

**Figure 41. Breakdown of the cumulated number of HIV infection cases at 31. 12. 2003 by Regional Centers**



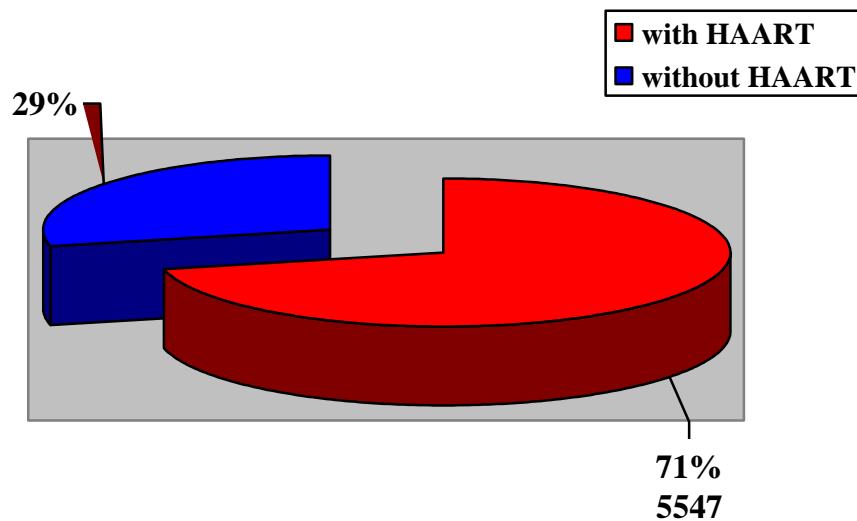
G 42 At 31 December 2003, in Romania, there were 10.278 PLWHA, 7.771 of them being under Regional Centers' active medical surveillance (at least one medical check up during the last 2 years). Figure 42 presents the percentage of people with HIV/AIDS benefitting of HAART treatment, respectively 54% of the total of people living with HIV/AIDS.

**Figure 43. Percentage of patients receiving HAART from total number of people under current medical surveillance, at 31 December 2003**



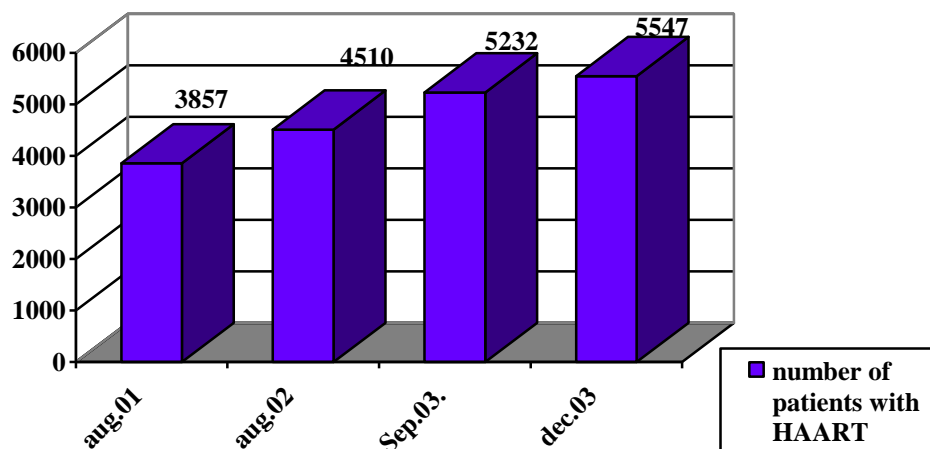
G 43 Figure 43 presents the percentage of the people under active medical surveillance benefitting of HAART, respectively 71% of the total number of people under active medical surveillance.

**Figure 43. Percentage of patients receiving HAART from total number of people under current medical surveillance, at 31 December 2003**



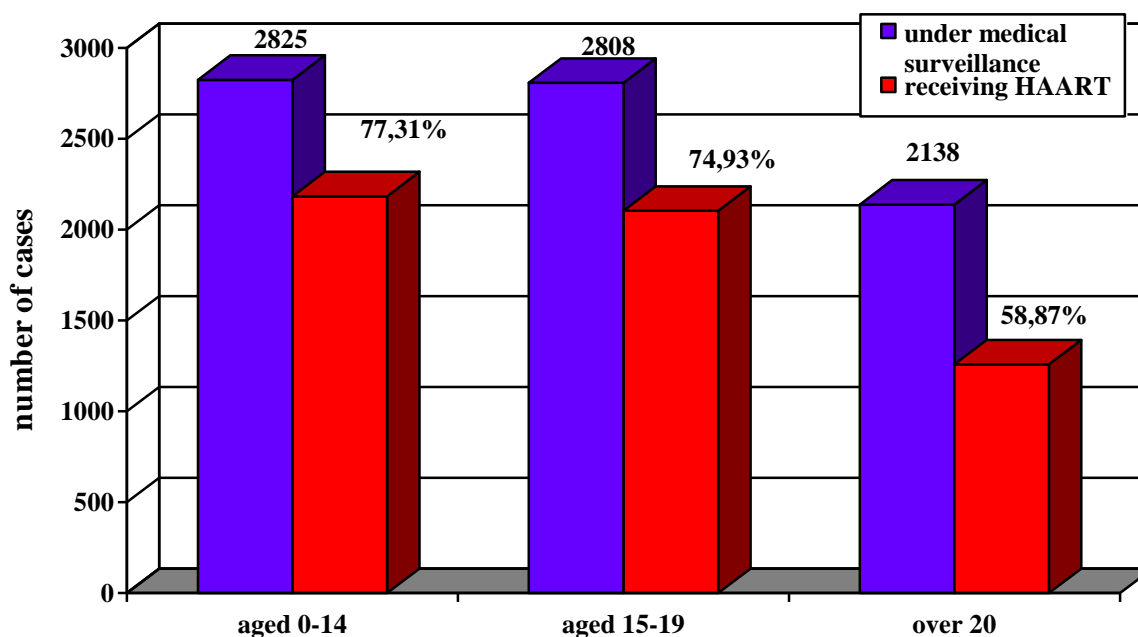
G 44 As it can be seen in Figure 44, between 2001-2003 it was registered a constant increase of the number of PLWHA benefitting from HAART. Thus, only during the last 3 months of 2003 (October-December) the number of people receiving HAART increased by 315 patients. The number of patients treated increased with 1.690 (43,81%) from August 2001 to December 2003.

**Figure 44. Evolution of the total number of patients receiving HAART (August 2001 – December 2003)**



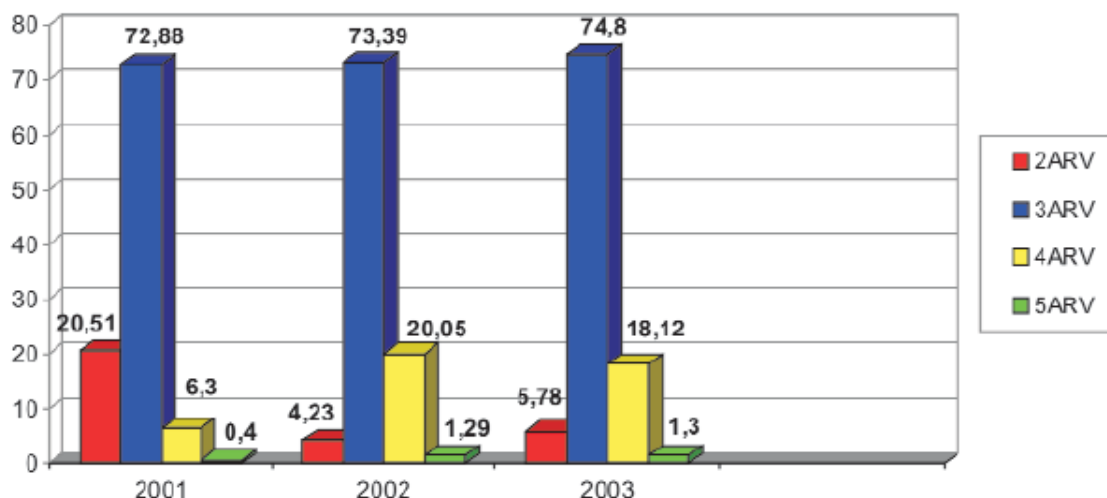
G 45 The breakdown on age groups of the people with HIV/AIDS under active medical surveillance shows similar values (2.825 people 0-14 years old, 2.808 people 15 to 19 years old, respectively 2.138 people over 20 years old). The weight of the people receiving HAART is bigger for the age group 0-14 (77,31%) and lower for the people over 20 years old (58,87%).

**Figure 45. Age groups' weight among people receiving HAART, at 31 December 2003**



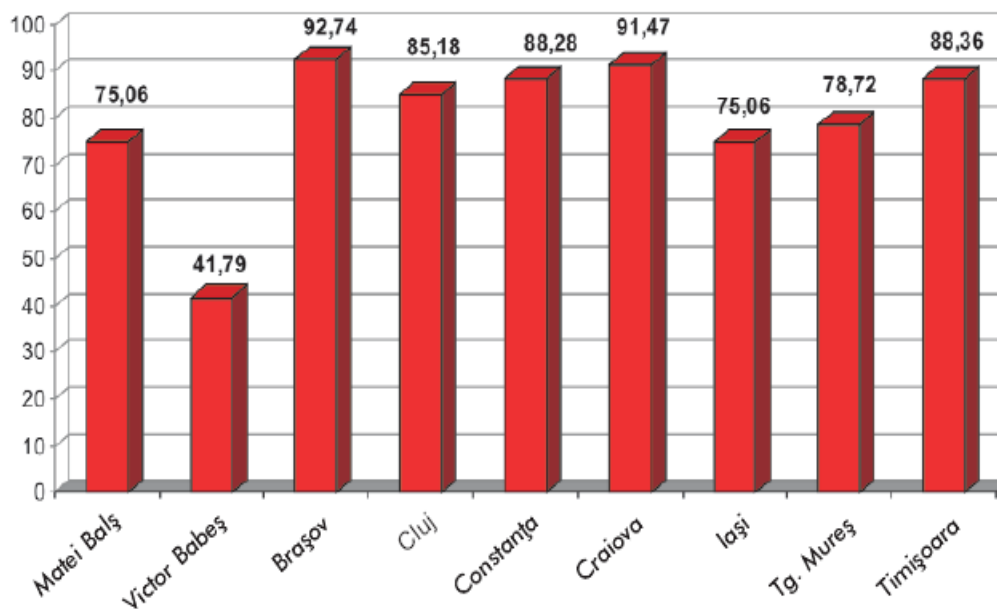
G 46 Besides the increase of the number of PLWHA receiving HAART, qualitative improvements of the therapy schemes were registered as well. The number of people receiving double therapy decreased about 4 times (from 20,51% in 2001 to 5,78% in 2003). The weight of people receiving triple therapy registered a slight increase and the number of people under tetra therapy is now 3 times bigger. These changes, determined mainly by an increased access to ARV drugs, illustrate the implementation of HAART in Romania. On another side, as a consequence of the therapeutic failure registered in people treated before with different ARV schemes, emerged the need to introduce more complex treatment schemes.

**Figure 46. HAART dynamics in Romania- % of total cases receiving HAART**



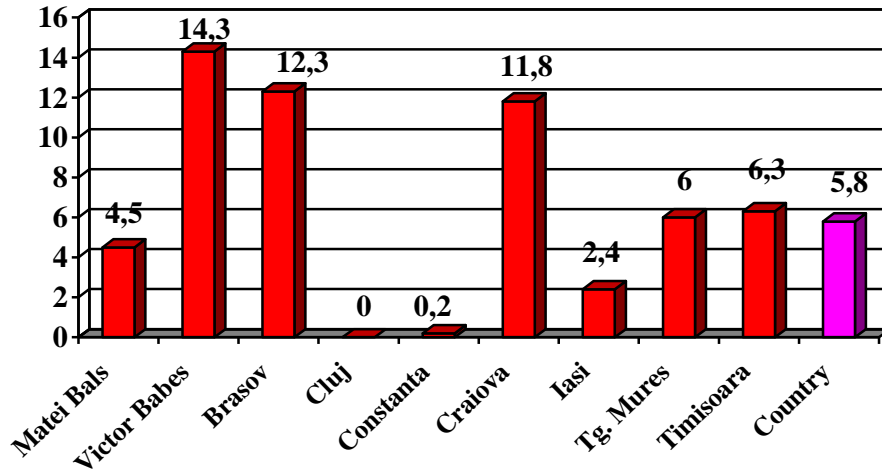
G 47 If we look to the percentage of the people treated from the total number of people under active medical surveillance from a breakdown by Regional Centers perspective we may conclude that it varies between 41,78% (RC Victor Babeş, Bucharest) and 92,74% (RC in Braşov).

**Figure 47. Weight of patients receiving HAART on the total number of people under medical surveillance by Regional Centers**



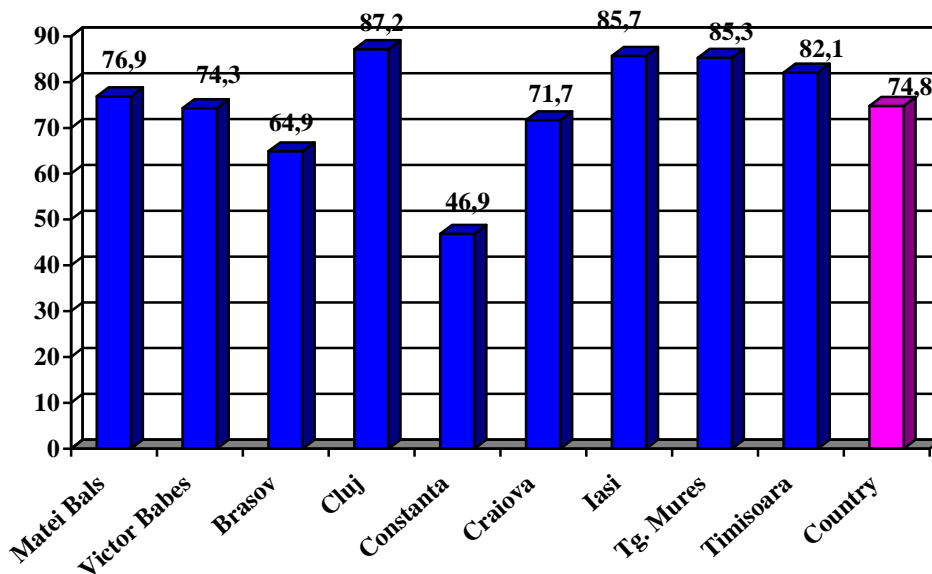
G 48 The schemes including 2 ARV drugs were used in the Victor Babeş-Bucharest, Braşov and Craiova Regional Centers two times more often than the national average (5,8%), being rarely used in Cluj, Constanţa and Iaşi Centers.

**Figure 48. Breakdown of double therapy beneficiaries by Regional Centers**



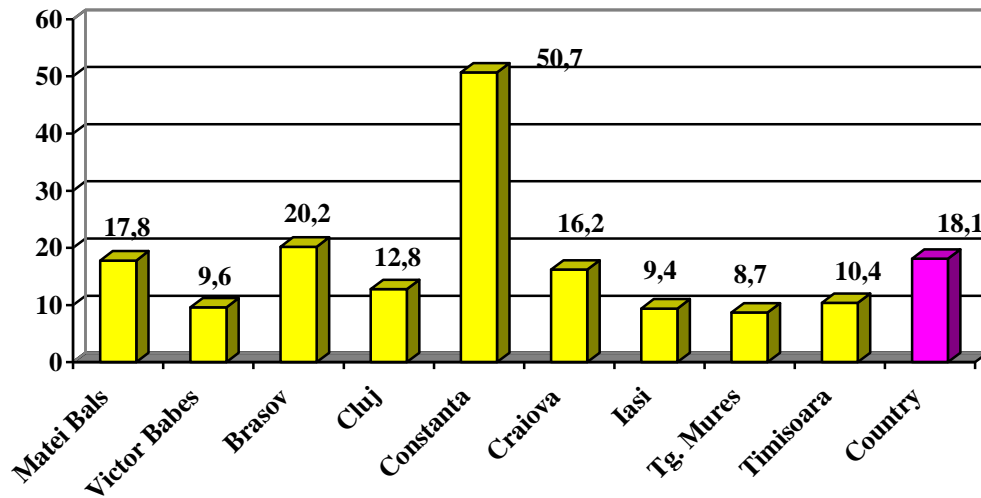
G 49 The schemes including 3 ARV drugs are used a lot more in Cluj, Iaşi, Mureş and Timișoara Centers (if we take in consideration the median national percentage of 74,8%), being rarely used in Braşov (64,9%) and Constanţa (46,9%) Centers.

**Figure 49. Breakdown of triple therapy beneficiaries by Regional Centers**



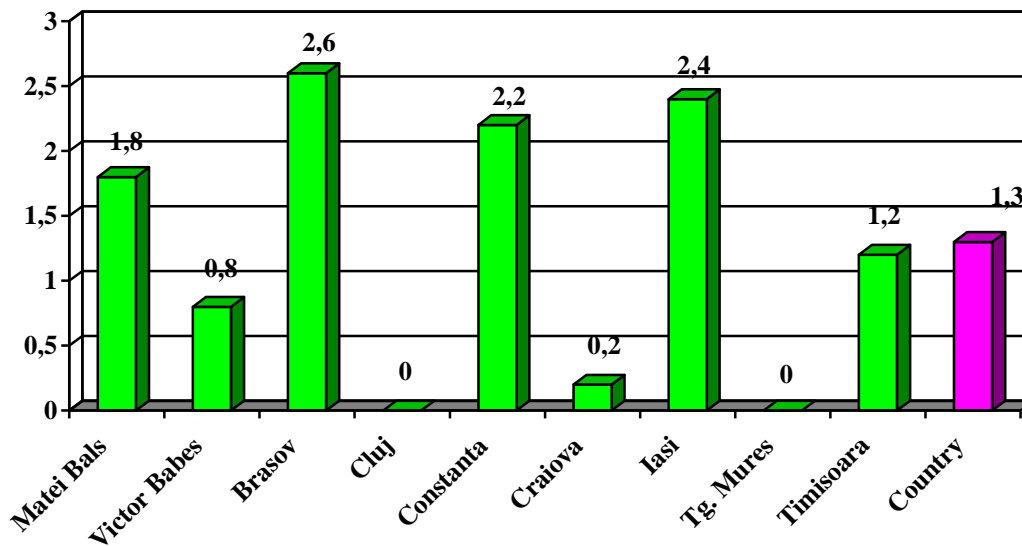
G 50 Figure 50 helps us observe data regarding HAART tetra therapy in Romania (national average - 18,1%). Values similar to the national average were registered in Matei Balș - Bucharest, Brașov and Craiova Centers, while the percentage in Constanța RC was 3 times bigger than the national average.

**Figure 50. Breakdown of tetra therapy beneficiaries by Regional Centers**



C 51 Taking in consideration Figure 50 and 51 we may see that the therapy schemes based on more than 4 ARV drugs (summing data registered for 4 and 5 ARV drugs cocktails) are used in Constanța and Brașov a lot more often than in the other centers.

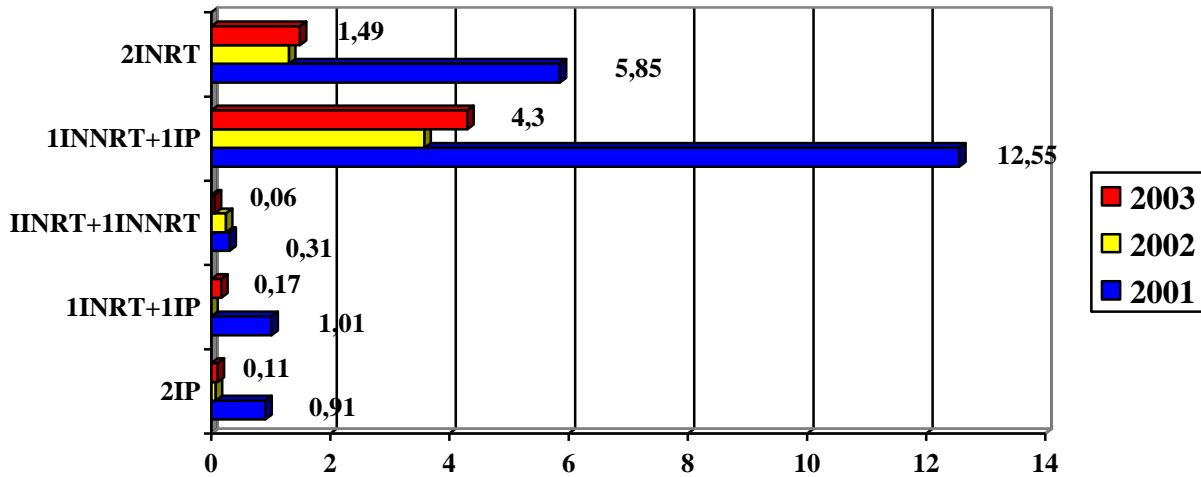
**Figure 51. Breakdown of penta therapy beneficiaries by Regional Centers**





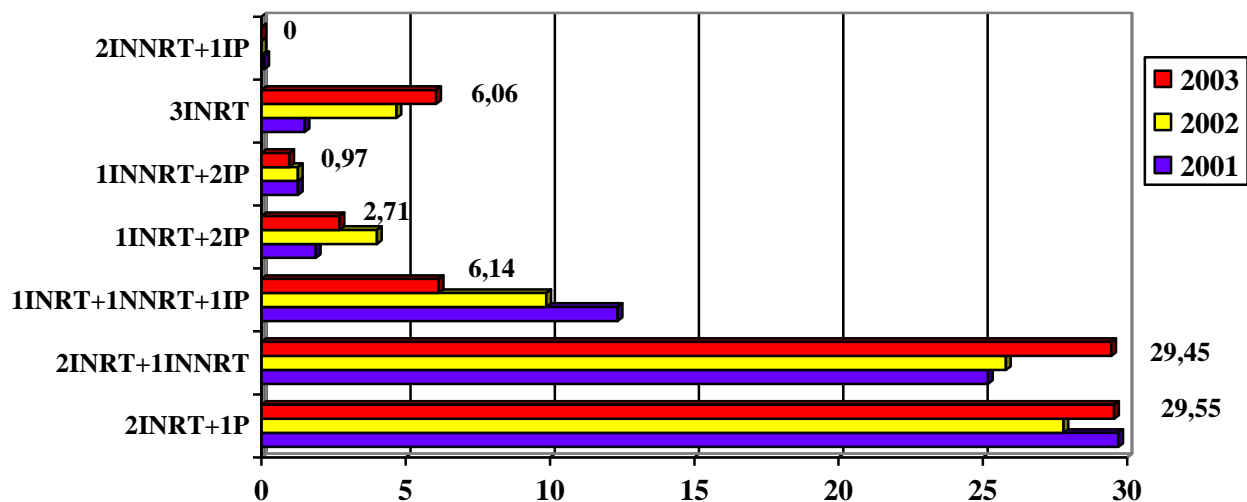
C 52 Figure 52 presents the evolution of double therapy during 2001-2003. The decrease registered by the weight of the double therapy was made by the decrease of the number of people on 2 ARV drugs therapy schemes, mainly through decrease in 2 INRT, respectively 1INRT + 1INNRT therapy schemes use.

**Figure 52. Double therapy dynamic (2 HAART) - % from the total HAART schemes**



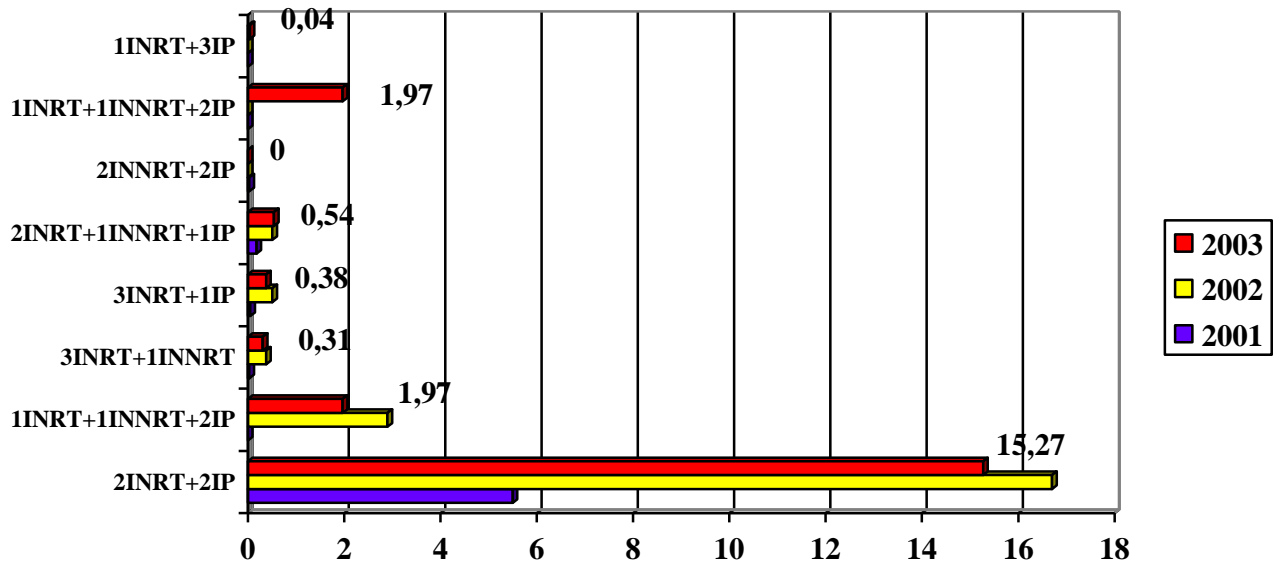
C 53 The evolution of the triple therapy during 2001-2003 may be observed and analyzed in Figure 53. The slight increase registered by the therapy schemes including 3 ARV drugs was realized mainly by the increase in the percentage of people receiving therapy schemes based on 2 INRT + 1INNRT, respectively on therapy schemes with 3 INRT; at the same time the weight of people using 2 INRT + 1IP didn't register any modification. The percentage of people receiving triple therapy in therapy schemes based on one representative of each ARV drugs family decreased by half.

**Figure 53. Triple therapy dynamic (3 HAART)- % from the total HAART schemes**



C 54 In Figure 54 we may observe the evolution of the tetra ARV therapy. The increase of the weight of the therapy schemes including 4 ARV drugs was realized by increasing the number of people receiving therapy schemes with 2 INRT + 2IP or 1 INRT + 1INNRT + 2IP.

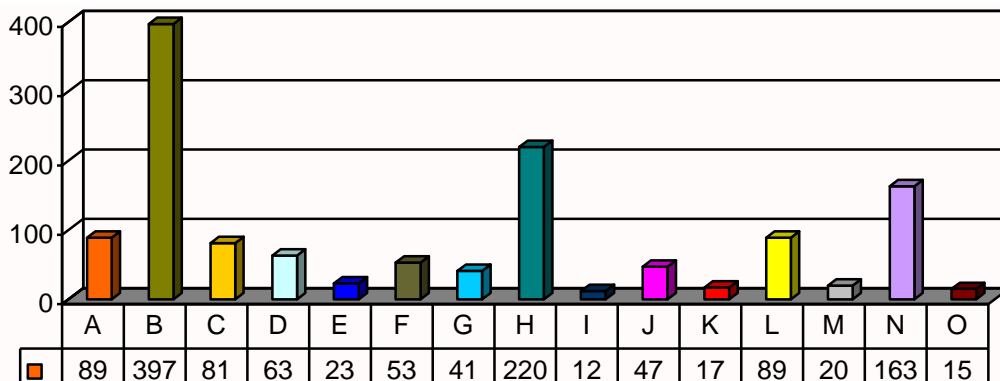
**Figure 54. Tetra therapy dynamic (4 HAART) - % of total number of cases**



G 55 Among the infectious diseases registered in patients with AIDS during 2003, the highest number was reached by the infections with *Candida spp.* (354 infective episodes). There were also registered 220 episodic bacterial pneumonia. It is important to observe the low number of pulmonary tuberculosis (if we consider by another hand the high number of TB cases in Romania) and respectively the low number of PCP (if we compare it with the data existing in the scientific literature).

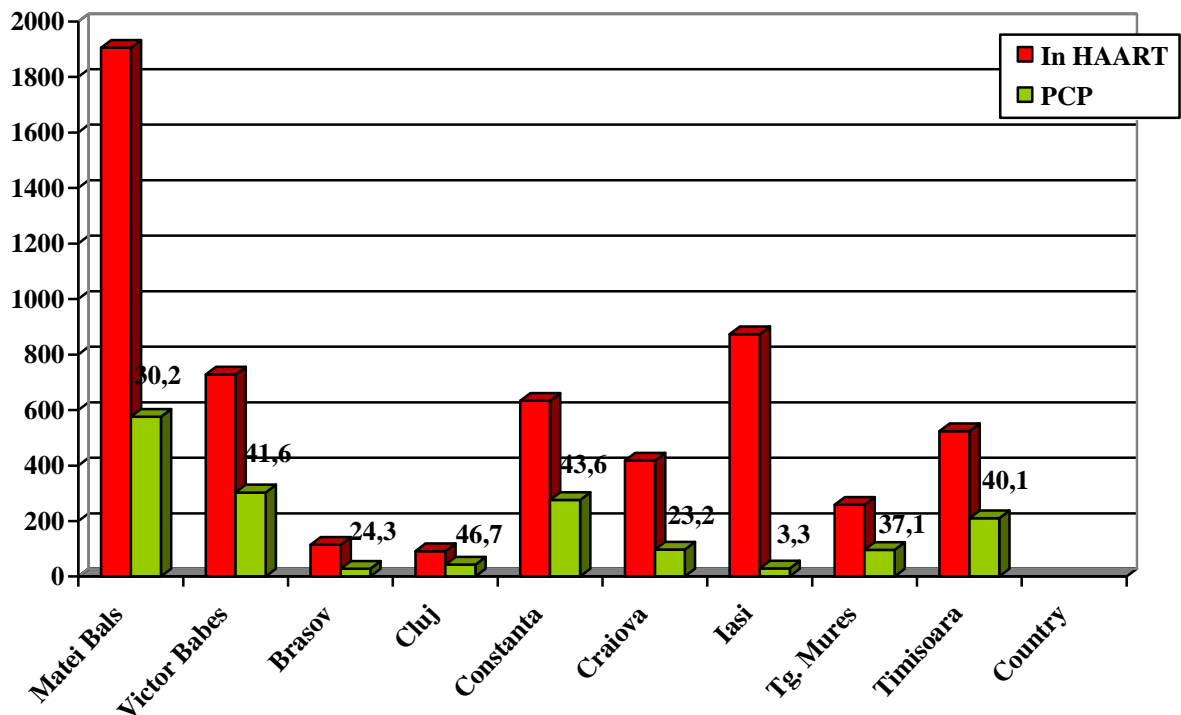
**Figure 55. Opportunistic infections registered among adults and children in 2003**

A = chronic diarrhea; B = oral- pharyngeal candidiasis; C = persistent fever; D = zoster herpes; E = HIV hepatitis; F = ponderal hypertrophy; G = peripheral neuropathies; H = episodic bacterial pneumonia; I = pulmonary tuberculosis; J = esophageal candidiasis; K= CMV infections; L = HIV encephalitis; M = *Pneumocystis carinii* pneumonia; N = Wasting Syndrome; O = cerebral toxoplasmosis



C 56 Some of the opportunistic infections benefit from drug based prophylaxis. Figure 56 presents data regarding the *Pneumocystis carinii* (PCP) prophylaxis. The level of primary/secondary use of prophylaxis for PCP could be interpreted as a marker of the incidence and infection confirmation possibilities. It also indicates the level of consciousness of the importance of such a therapy or as a marker of the people with CD4 level lower than 200 cells/cu. mm. From the graphic we may note the fact that over 40% of the total number of people under active medical surveillance in Cluj, Victor Babeș, Constanța and Timișoara Centers received chemoprophylaxis for PCP. The lowest values (3,3%) were registered in Iași.

**Figure 56. Primary/secondary therapy for PCP**



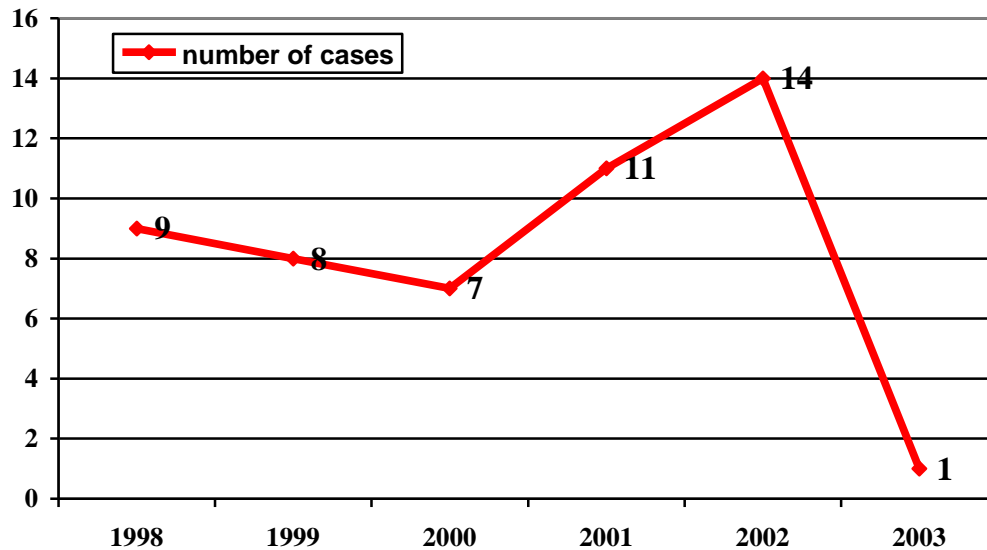
## Mother to Child Transmission of HIV

The prevention of the vertical transmission was a constant concern in the Ministry of Health's program. Minister's Order no. 889 implemented since 1999 stipulated that HIV testing counseling in pregnant women is compulsory and approved the health care management guide for MTCT. The order didn't produce a spectacular increase in pregnant women's access to testing. Although, the number of tests conducted in pregnant women between 2000 and 2003 doubled (from 25,000 to 50,000). At its maximum level, this indicator represents about a quarter of the total number of births. One reason for the low number of testing performed is the overall situation of the prenatal system of health care, a lot of pregnant women (40% in 2002) presenting themselves to the physician for the first time for child delivery. Starting with 2004 the HIV testing have been a part of the prenatal package of services covered by the social insurances. In parallel, the Ministry of Health is now implementing in partnership with Romanian Angel Appeal a national program aimed to increase the access of pregnant women to HIV testing during the first quarter of pregnancy. The goal of the project is that 90% of the women from the targeted district may have access to counseling and voluntary HIV testing (VCT).

### Study

G 57 Given the increasing trend of the number of adults with HIV infection and, implicitly, the risk of vertical transmission of the infection, there have been evaluated the methodology of implementation and the efficiency of the prophylaxis measures adopted for MTCT of HIV infection. The study was realized during January 1998 - March 2003 on 50 couples of HIV+ mother and child, from Bucharest. The analysis of the cases' breakdown by year of birth indicates an increase of the number of children born from HIV+ mothers in 2001 and 2002.

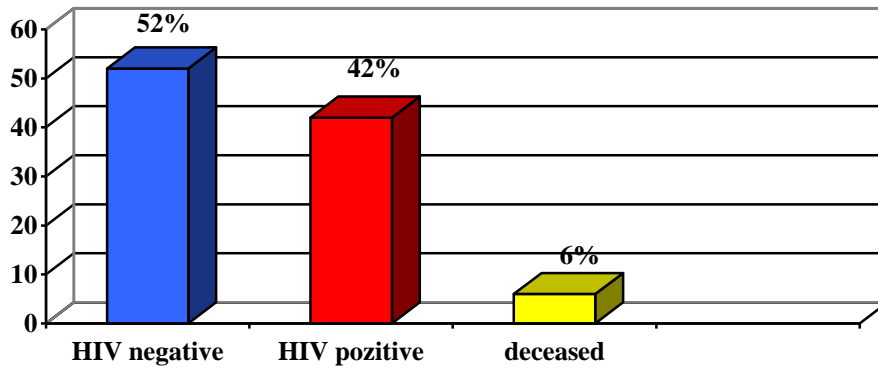
**Figure 57. Breakdown of cases by year of birth (January 1998- March 2003)**



G 58 Figure 58 let us see that 52% of the children born from HIV+ mothers were not infected with HIV, while 42% turned positive (percentage that is highly superior to the one registered in the

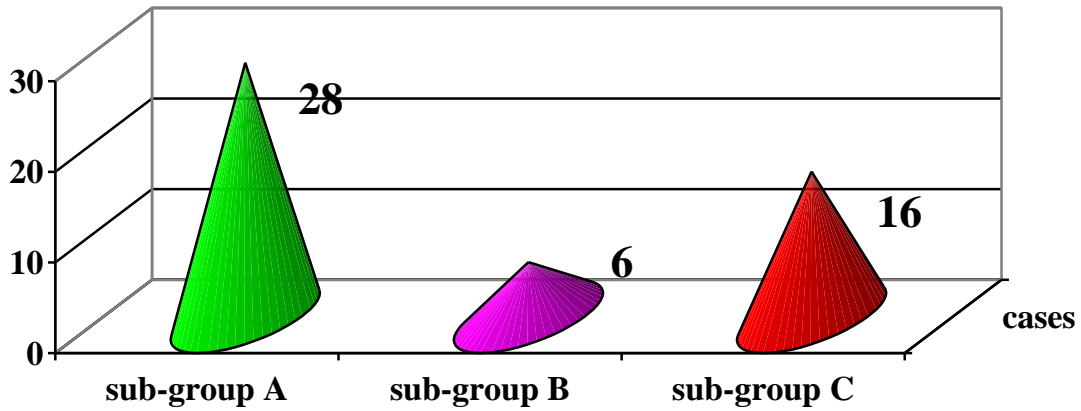
Western Europe and USA). For 6% of the children we could not apply the case definition used for MTCT as they died before the age of 18 months.

**Figure 58. Evolution of the children born from HIV+ mothers**



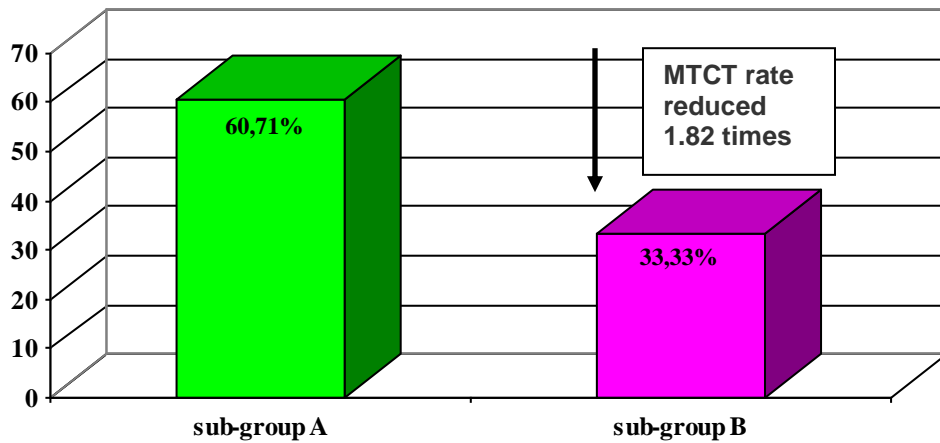
G 59 The exposed mother (HIV+) – child couples were divided in 3 sub-groups. For sub-group A, made off 28 couples (56%), no prevention method for MTCT was used due to the fact that the majority of the mothers were not counseled and HIV tested in due time. For sub-group B, made off 6 couples (12%), the postpartum prophylaxis was used and the newborn children were artificially fed. For sub-group C, with 16 couples (32%), complex, but still unsteady measures of MTCT of HIV infection were used.

**Figure 59. Breakdown of the weight of the 3 groups by prophylactic MTCT methods**



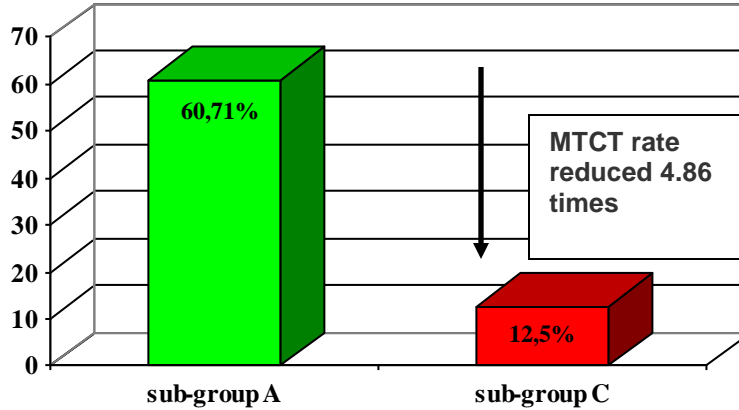
G 60 Comparing the percentages of HIV infected children in sub-groups A and B, we may notice that an early beginning of the ARV postpartum prophylaxis and the artificial feeding of the new born conducted to a 1,82 times higher reduction of the MTCT rate for HIV infection.

**Figure 60. HIV infection MTCT rate in sub-group B versus sub-group A**



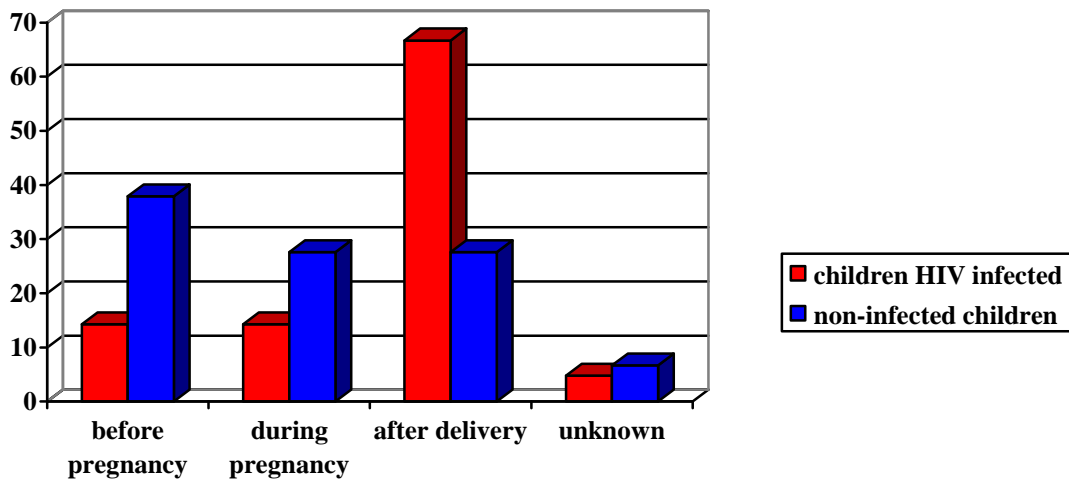
G 61 Comparing the percentages of HIV infected children in sub-groups A and C, we may notice that the application of complex prevention methods even if in a unsteady use, determined a 4,86 times reduction of the mother to child HIV infection transmission rate.

**Figure 61. HIV infection MTCT rate in sub-group C versus sub-group A**



G 62 The date of the diagnosis in mother was different for each analyzed group, influencing in an important degree the access to prevention methods for mother to child HIV infection transmission. The high weight of mother with AIDS inside A (42,9%) and B (50%) sub-groups dramatically influenced the HIV MTCT rate in these sub-groups. It is necessary to identify and implement methods that may allow the reduction of the HIV infection transmission rate to values more similar to the ones registered in developed countries.

**Figure 62. Timing of the HIV infection's diagnosis in the mother**



*Annexes*

*Definitions*

**INCIDENCE** = NUMBER OF NEW CASES x 100.000 / TOTAL POPULATION REGISTERED AT 1st JULY 2003

**PREVALENCE** = NUMBER OF NEW AND OLD CASES x 100.000 / TOTAL POPULATION REGISTERED AT 1st JULY 2003

**SPECIFIC FATALITY** = NUMBER OF DEATHS PRODUCED BY A CERTAIN DISEASE REGISTERED IN A PERIOD OF TIME x 100 / TOTAL NUMBER OF SICK PEOPLE/PATIENTS SUFFERING FROM THE SAME DISEASE FOR THE SAME PERIOD OF TIME

**ESTIMATED INCIDENCE** = INCIDENCE'S EVOLUTION OVER MORE CALENDARISTIC YEARS

**BRUTE RATE OF MORTALITY (MORTALITY)** = NUMBER OF DEATHS REGISTERED DURING A YEAR x 100.000 / TOTAL NUMBER OF INHABITANTS AT 1st JULY 2003

**RATE OF MORTALITY CAUSED BY** = NUMBER OF DEATHS BY A CERTAIN CAUSE REGISTERED DURING A YEAR x 100.000 / TOTAL NUMBER OF INHABITANTS AT 1st JULY 2003

**TREND** = IT REFLECTS THE CHANGES IN THE MODELS OF DISEASES' DISTRIBUTION IN THEIR EVOLUTION; IT SHOWS IF THE EVOLUTION OF THE FREQUENCY OF SOME DISEASES IS INCREASING OR DECREASING, OR IF THERE ARE COLLAPSES OR PEAKS IN EVOLUTION THAT MAY PRESENT AN INTEREST FOR TREND APLICATIONS. THE TREND IS USED ALSO FOR PREDICTIONS RELATED TO THE FUTURE EVOLUTION OF THE FREQUENCY OF SOME DISEASES OR DEATHS.



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HIV/AIDS MONITORING & EVALUATION BUREAU**

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