Patruzeci de ani de istorie HIV in Romania

40 years of HIV experience in Romania

Mariana Mărdărescu MD PhD

National Institute for Infectious Diseases “Prof. Dr.Matei Balş”, Bucharest, Romania

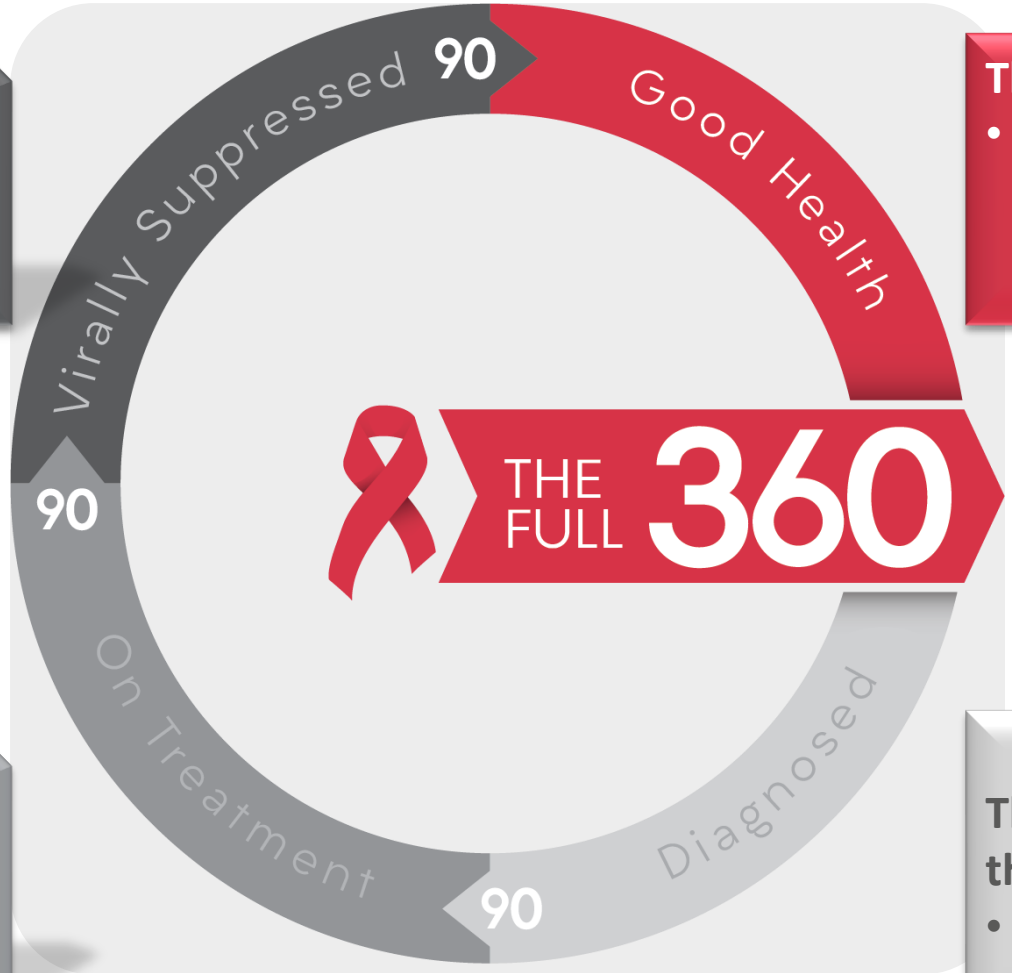
I. Epidemiological situation
II. Past
III. Transition from paediatric to adult care
IV. Present
V. Current standard of care

I. Epidemiological situation

The Full 360
An extended vision on UNAIDS 90-90-90 targets comprising the target of good quality of life for PLWHA[1,2]

The third 90: virological supression for those in ART
- 90% cases in virological suppression

The second 90: ART
- 90% cases in ART



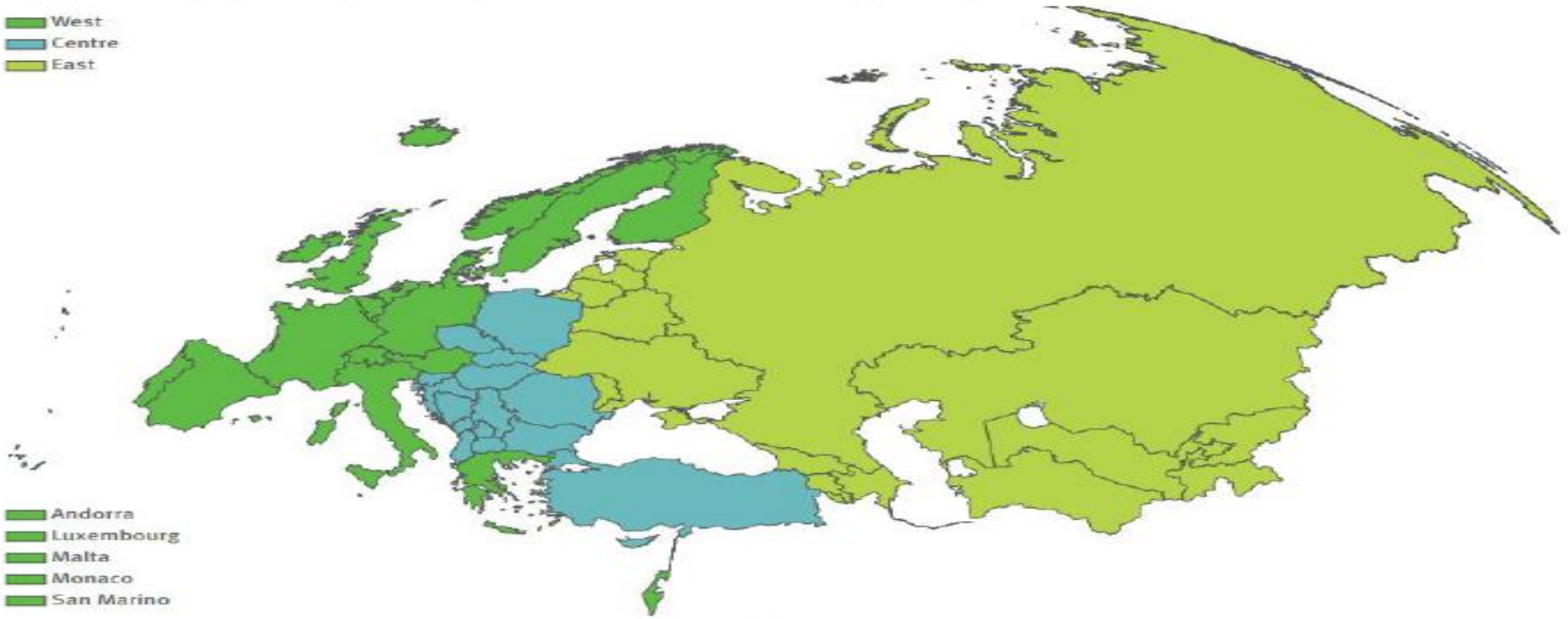
The fourth 90: quality of life
- 90% of cases with good health status throughout their life

The first 90: patients know their HIV status
- 90% diagnosed

1. UNAIDS 90-90-90. Available at: www.unaids.org/sites/default/files/media_asset/90-90-90_en.pdf. Last accessed: March 2020; 2. Lazarus J et al. *BMC Med* 2016;14:94.

ECDC's HIV/AIDS surveillance in Europe 2020 2019 data

Figure 3. Geographical/epidemiological division of the WHO European Region



The countries covered by the report are grouped as follows:

West, 24 countries: Andorra, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Liechtenstein, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, the United Kingdom.

Centre, 16 countries: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Hungary, Kosovo[10], Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, Turkey.

East, 15 countries: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Source: https://www.ecdc.europa.eu/sites/default/files/documents/hiv-surveillance-report-2020.pdf

ECDC's HIV/AIDS surveillance in Europe 2020 2019 data

Table A. Characteristics of new HIV and AIDS diagnoses reported in the WHO European Region, the EU/EEA, and West, Centre and East of the WHO European Region, 2019

	WHO European Region	West	Centre	East	EU/EEA
Reporting countries/number of countries[a]	47/53	20/23	14/15	13/15	30/31
Number of new HIV diagnoses	136 449	21 793	6 814	107 842	24 801
Rate of HIV diagnoses per 100 000 population[b]	15.6	5.7	3.4	41.7	5.4
Percentage age 15–24 years	8.5%	10.2%	15.0%	5.7%	10.3%
Percentage age 50+ years	17.8%	22.0%	13.7%	16.1%	20.4%
Male-to-female ratio	1.8	2.9	5.5	1.6	3.1
Transmission mode					
Sex between men	20.7%	39.9%	27.3%	3.9%	38.7%
Heterosexual transmission (men)	26.4%	16.2%	18.2%	36.3%	16.1%
Heterosexual transmission (women)	23.8%	17.8%	7.2%	32.6%	16.7%
Injecting drug use	13.0%	3.4%	2.1%	23.2%	3.9%
Mother-to-child transmission	0.7%	0.7%	0.5%	0.8%	0.7%
Unknown	15.3%	21.6%	44.5%	3.1%	23.6%
AIDS and late HIV diagnosis					
Percentage new HIV diagnoses $CD4 < 350$ cells/mm^3	53.2%	48.8%	55.9%	55.7%	49.7%
Number of new AIDS diagnoses[c]	12 535	2156	802	9577	2772
Rate of AIDS diagnoses per 100 000 population	2.0	0.5	0.4	8.3	0.5

[a] No data received from Andorra, Belgium, Monaco, North Macedonia, Turkmenistan and Uzbekistan.

[b] EU/EEA and West rates are adjusted for reporting delay (Annex 6); the corresponding estimated number of new diagnoses adjusted for reporting delay are (27 231 and 23 971 respectively).

[c] No data received from Andorra, Belgium, Monaco, North Macedonia, the Russian Federation, Sweden, Turkmenistan and Uzbekistan.

Source: https://www.ecdc.europa.eu/sites/default/files/documents/hiv-surveillance-report-2020.pdf

HIV epidemic in Romania
1985-2020

Type of epidemic:

Long terms survivors' cohort (non-vertically infected in the late 1980 and early 1990s):
41% from the overall PLWHA
60% from YPLWHA 29-35 years

New wave:
young heterosexual adults, MSMs, IDUs,

MTCT from the new cases
<2%

Cumulative HIV/AIDS cases 1985-2020:
25486
Approximately 11.000 non-vertically infected children 1988-1990 (at the date of diagnostics)

PLWHA registered in the national HIV/AIDS data base:
16848
YPLWHA:19-34 years (registered in the National Data Base)
55,53%

HIV testing is provided with pre and post test counselling through the National ART Programme, ensured by MOH
19 testing categories of testing

PLWHA UNAIDS estimates 2020:
19.000

In active surveillance:
13594 (80% from the overall PLWHA)

Patients under treatment:
13278 (treatment+prophylaxys)
ART treatment in provided by the National HIV programme of MoH
Access to treatment in Romania is universal

Pts. V.L.* <200 copies from pts. under treatment that were tested:
76% (from the those under treatment)

Source: Compartment for Monitoring and Evaluation of HIV/AIDS Data in Romania <www.cnlas.ro>

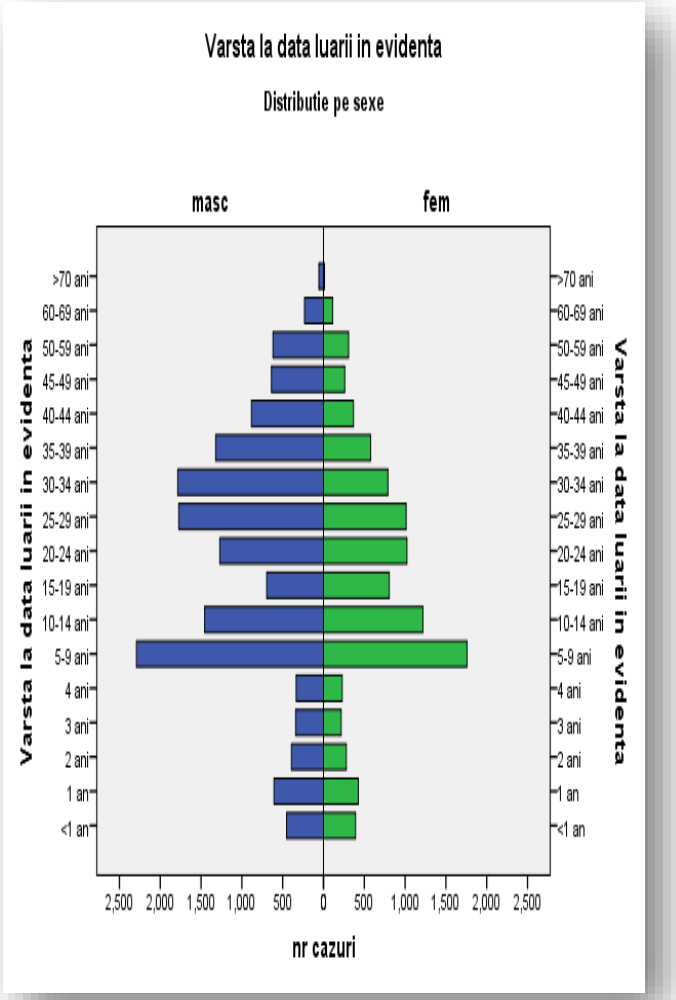
Traits of new HIV cases diagnosed in Romania in 2020

Gender	Age: Young age	Heterosexuals	MSM	IVDU	Viral load	CD4 count
Male- 76%	15-24 yrs: 15%	60% from the overall new cases	28% from the overall new cases	8% from the overall new cases HIV/HCV: 7%, HIV/TB: 13%, HIV/STIs: 6%	52% of new cases (both men&women): detectable viral load: 10.000-100.000 copies/ml	Male:55%<350 cell/mmc
Female- 24%	25-35 yrs: 34%					Female: 44% <350 cell/mmc
HIV Subtype Distribution:				Historically: F1 = 95% New cases: F1 = 77%[1], B = 6.3%[2], C and A = 16.7% CRF14_BG = 20.3% in IDU[3]		
Co-infected HIV/HBV in the Romanian cohort				43.4%		

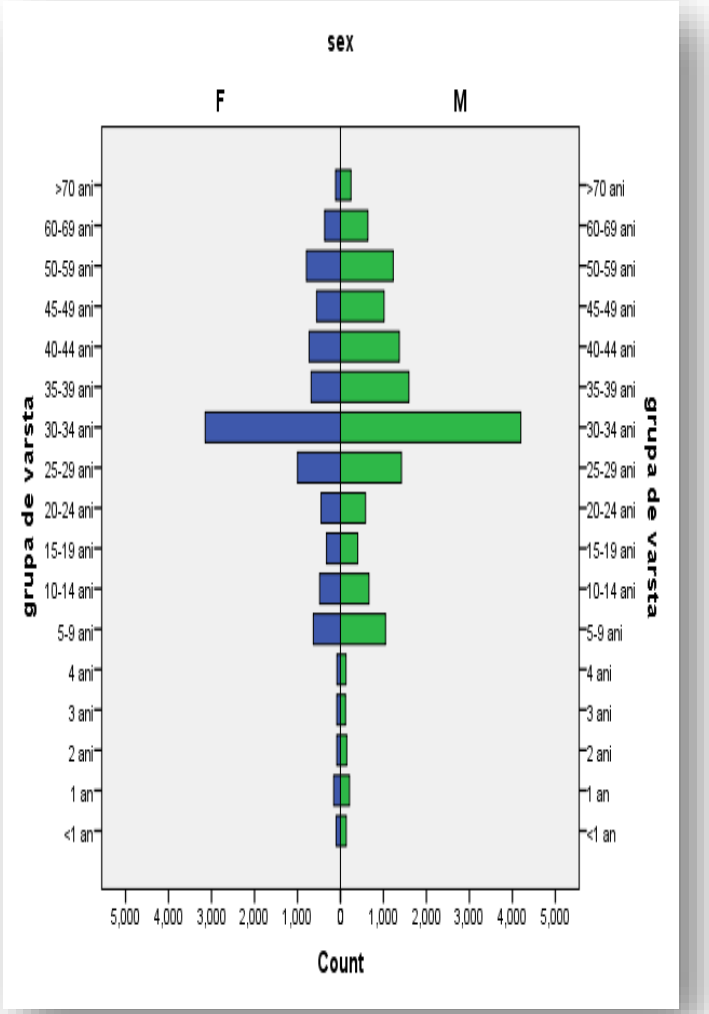
Source: Compartment for Monitoring and Evaluation of HIV/AIDS Data in Romania <www.cnlas.ro>

Distribution of ages

Age at date of diagnosis/notification Cumulative total 1985-2020

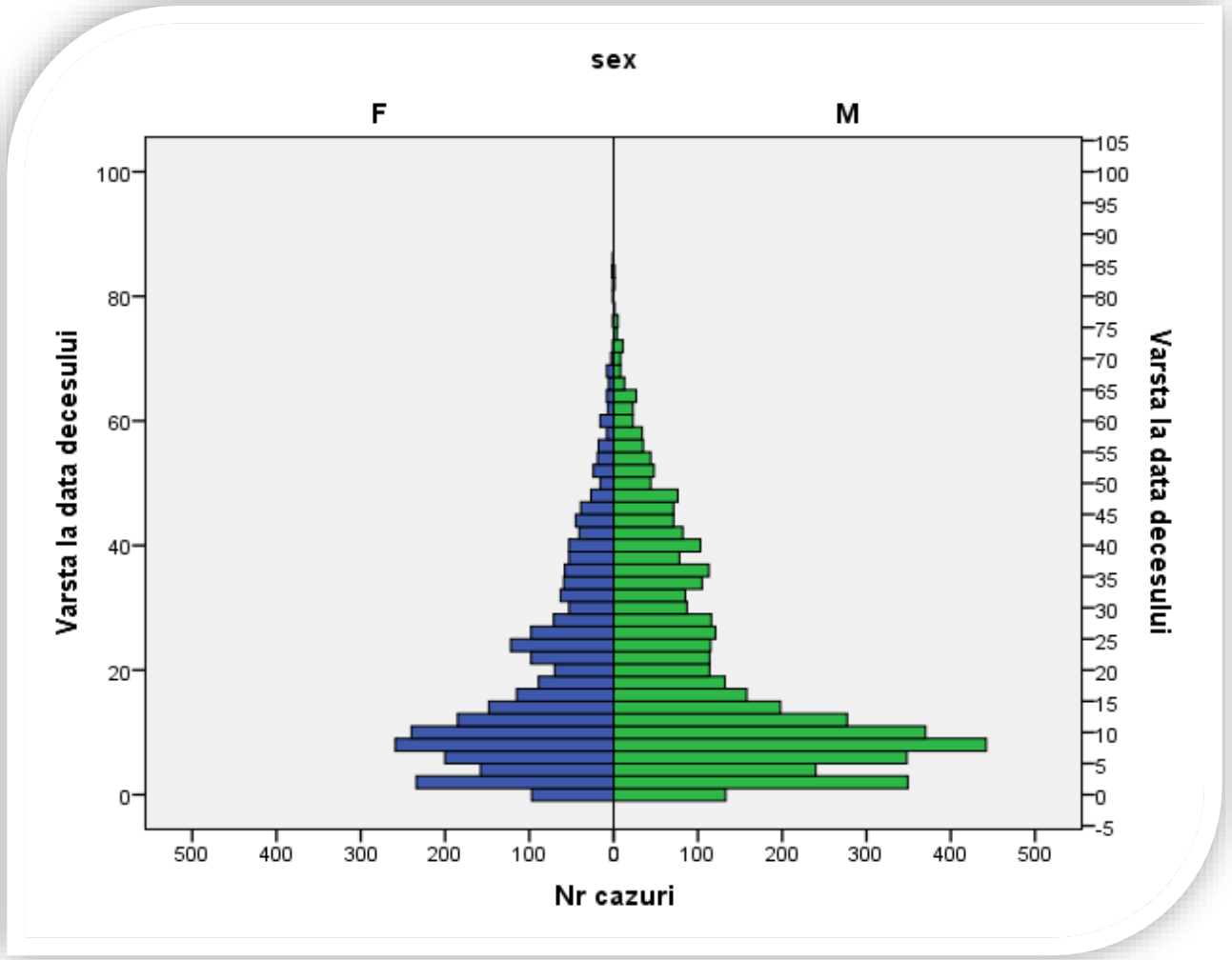


Distribution by age of PLWHA



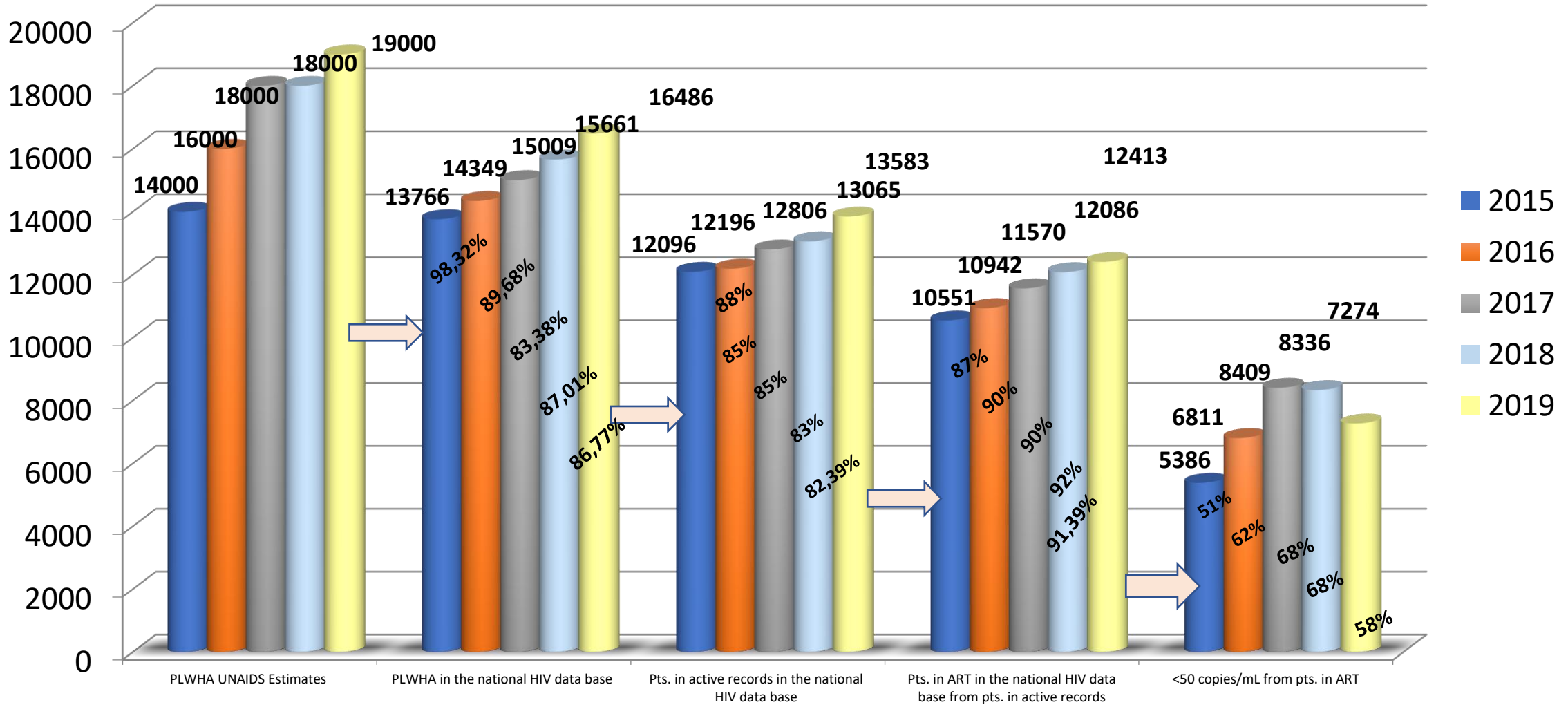
Source: Compartment for Monitoring and Evaluation of HIV/AIDS Infection in Romania INBI "Prof.Dr.M.Balş"

Age at the time of death



Source: Compartment for Monitoring and Evaluation of HIV/AIDS Infection in Romania INBI “Prof.Dr.M.Balş”

Cascade of HIV cares in Romania
2015-2019

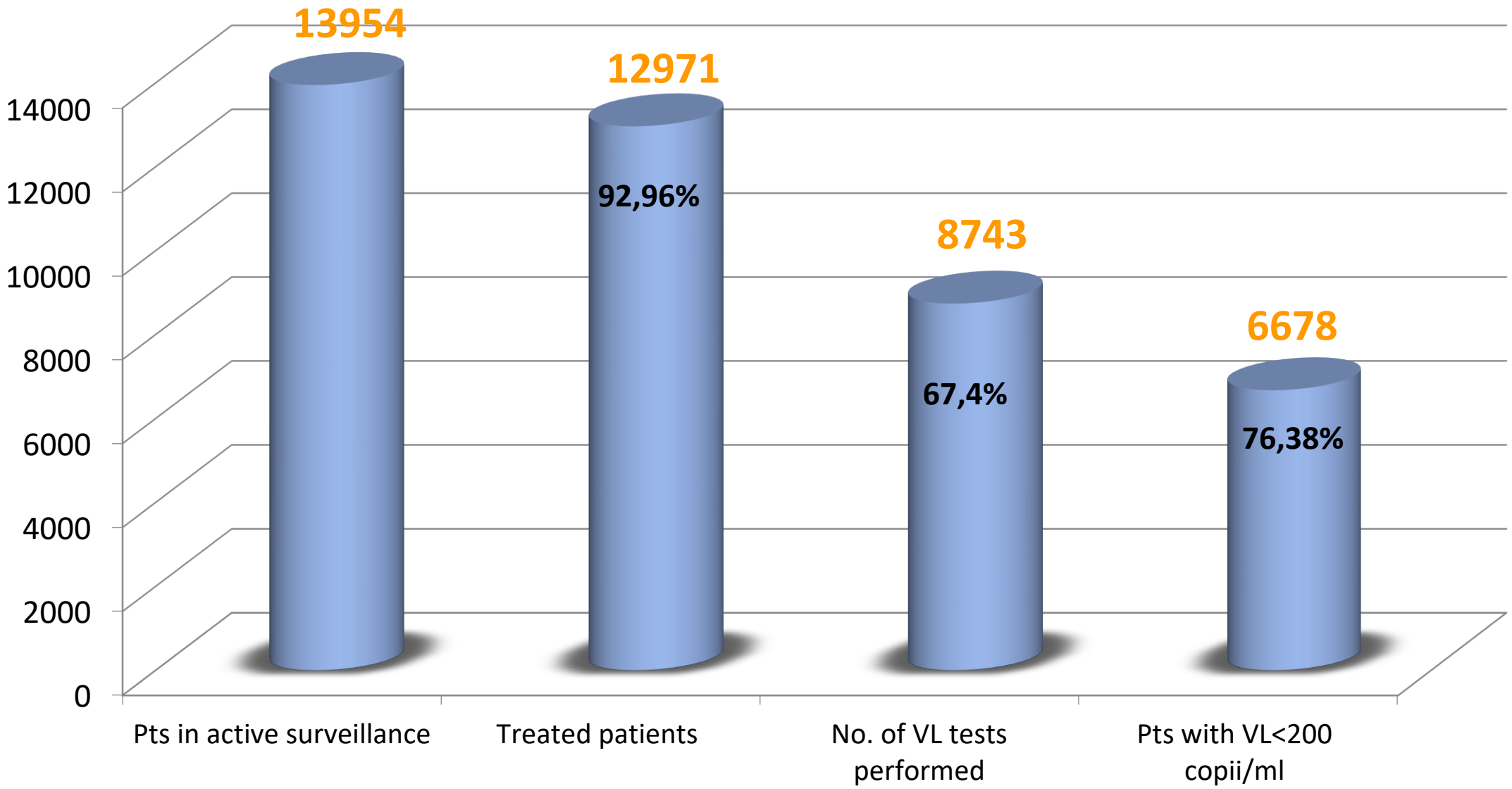


*2017; 2018 V.L. < 200 copies/ml

Source: Compartment for Monitoring and Evaluation of HIV/AIDS Data in Romania

www.cnlas.ro

Cascade of HIV cares in Romania 2020



Source: Compartment for Monitoring and Evaluation of HIV/AIDS Data in Romania
www.cnlas.ro

II. Past
Patching the history
of the HIV epidemic in Romania

- *1985 - 1989: 69 reported AIDS cases: 16 in adults, 53 in children*
- *Jul. 1989 - Dec. 1990 →*
  - ✓ *1090 pediatric AIDS cases identified*
  - ✓ *97% <3 years;*
  - ✓ *62% living in institutions at that moment*
- *An estimated 10,000 children infected (via horizontal transmission), of whom 9.287 Registered in the National Data Base and cared by the HIV Pediatric Wards.*

Dec 1990 - the cumulative number of AIDS pediatric cases in Romania > cases reported from all the other countries in the WHO European region combined

Source: Hersh et al. Lancet 1991; WHO Report Wkly Epidemiol Rec 1991; Mbisa et al. AIDS Res Human Retrovir, 2012A.Streinu-Cercel. Specific Challenges of the HIV Epidemic in Romania. EACS Brussels, 2013.

1985 - 1989

- *First pediatric cases identified, reported internationally.*
- *Children under care in a single pediatric unit*

1990

- *Identification and reporting of more than 1000 cases in children, non-vertically infected*
- *Social impact in Romania*
- *Impact in international media*
- *How and why?*

A State of SHOCK

Recollections of Romania

By Darrell L. Paster

Since 1969, Darrell L. Paster has been concerned with health issues involving poor people. He helped set up the Appalachian Health Project which established and ran seven health care clinics in remote areas from Tennessee to West Virginia. After that, Paster worked for a labor union, organizing hospital and public service workers in Tennessee, Mississippi and Alabama. He went to law school in 1972, and for 12 years was in criminal law, first with the Civil Division of the New York City Legal Aid Society and then with the Federal Defender Services of Legal Aid. He is currently working for the Criminal Division, Legal Aid Society, in New York City.

The following are recollections of his recent visit to Romania.

I had heard about the problem of pediatric AIDS in Romania from a friend, Carolyn Burr, a nurse who works with a pediatric AIDS program. The National Pediatric AIDS Resource Center gave me more information about the situation and introduced me to the American Romanian Humanitarian Society, a group dedicated to improving relationships between the U.S. and Romania. They have taken on the problem of children with AIDS in Romania as their first project. After meeting with them, I made calls to groups like the World Health Organization (WHO) and the Centers for Disease Control.

The group I traveled to Romania with found it impossible to find a conduit to dispense aid in Romania. Nor did we know exactly what to expect. We had also heard wildly different reports on the extent of the AIDS problem in Romania. Rumors were that a half to two-thirds of the children in the orphanages, and what are called the dysentrophic centers, had HIV infection. (Romanians describe dysentrophy as what we call failure to thrive. Dysentrophic centers are homes for underdeveloped infants.)

Speaking with WHO, we were advised that people in Romania were also trying to determine the extent of the problem. It was finally decided that the best way to find out what was going on was to go and see for ourselves.

We set four objectives. The first was to determine the breadth of the problem in terms of how many people — especially children — were ill and what stage of the disease they were in. We also wanted to investigate the organizations that provide aid.

Health care in Romania is a governmental function, provided by the Ministry of Health and its various arms, and the Romanians we were working with were extremely skeptical of working with them. There is also rampant corruption in Romania — not that Romanians are any more dishonest or criminal than any other people — but their currency has been so debased and their economic system so totally destroyed that it's simply a matter of survival to participate in the second economy, the black market.

The third objective was to see if there were connections that we could draw between Romanian and American institutions. Because of my friendship with people at Children's Hospital in New Jersey, I was aware that medical people had developed extremely innovative ways for dealing with children with AIDS. In Romania we found that over 90 percent of the children diagnosed with AIDS were in the hospital, or in an orphanage or dysentrophic center. In New Jersey, 10 percent of the children were hospitalized and 90 percent were at home.

Finally, we thought that to the extent that we could, we would seek to publicize the problem in order to try to obtain help for those who were suffering from the disease.

My first visit to a hospital left me in a state of shock. We went to Victor Babes Hospital, which is one of two hospitals for contagious diseases in Bucharest. There was a wall about eight feet high around the compound. The hospital is made up of numerous buildings and a wooded area, and the wall is topped with barbed wire. The second and third floor windows have chain links over them.

There was a guard at the gate, and they had to open a steel gate for your car to get in. There was absolutely no one walking around the grounds. I've

PHOTOS: DARRELL L. PASTER

Source: Darell. L. Paster. *A State of Shock. Recollections of Romania.* On the issues. Vol. XVI, 1990. Pg. 18-21.

1990 - 2001

1995

How do we treat?

We started to treat only in a few Infectious Diseases

Wards- monotherapy

1995 - 2001

The effort to define a national HIV programme and to obtain funding for all patients, irrespective of age.

The first National HIV Guideline

2001

Universal access to ART (Romanian cohort& other PLWHA)

Treatment as prevention for all patients, considering the particular type of epidemic.

The General Assembly Special Session on HIV/AIDS on June 25-27, 23 June 2001

- *First, to ensure that people everywhere*
- *particularly the young — know what to do to avoid infection;*

- *Se c o n d, to stop perhaps the most tragic of all forms of HIV transmission — from mother to child*

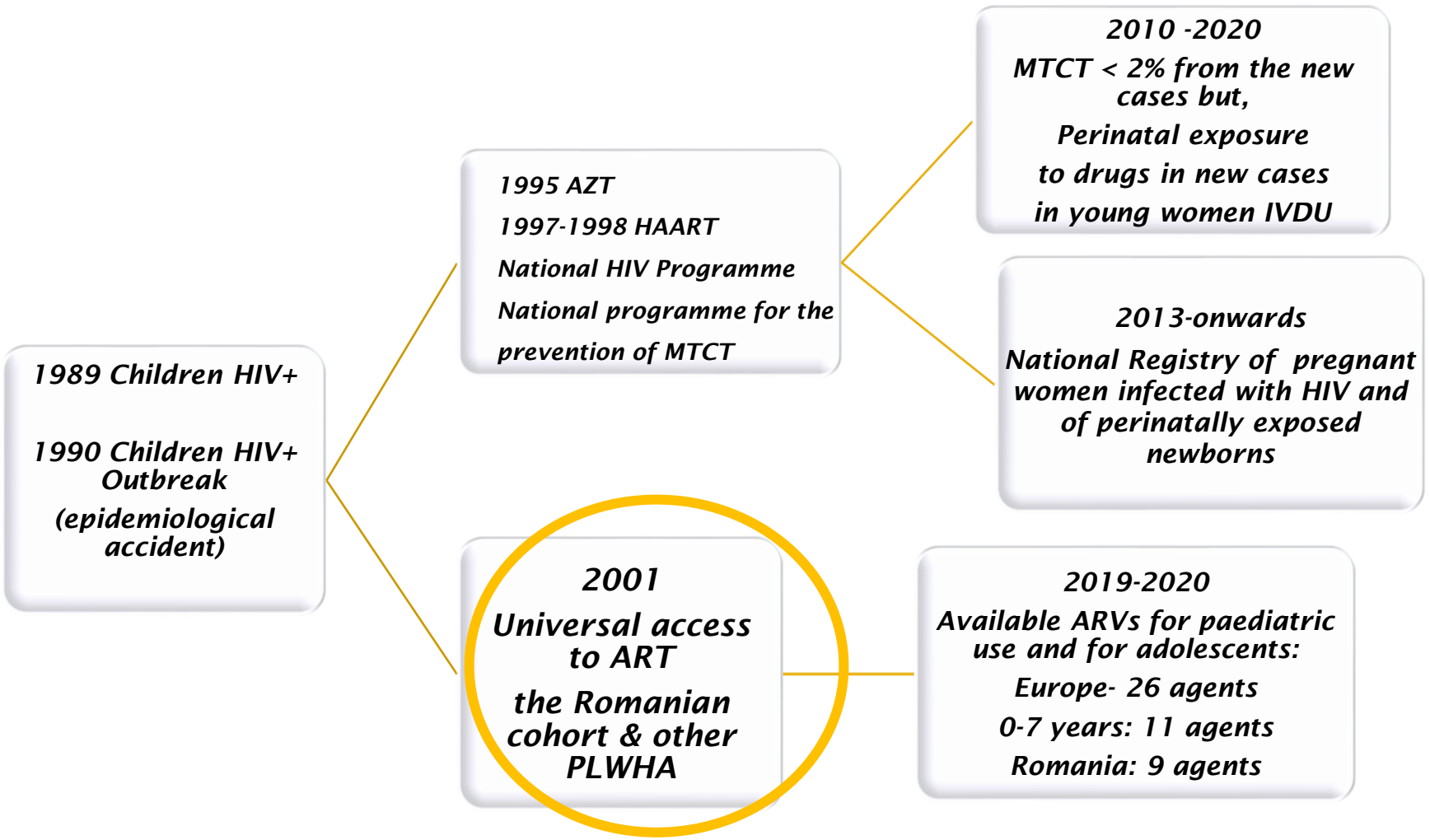
- *T h i rd, to provide treatment to all those infected*

- *Fourth, to redouble the search for a vaccine, as well as a cure; and*

- *Fifth, to care for all whose lives have been devastated by AIDS, particularly more than 13 million orphans.*

Source: UN Photo/Eskinder Debebe
http://www.un.org/en/events/aidsday/

Paediatric milestones in HIV infection in Romania



M. Mardarescu et All. Risk factors involved in late detection of HIV mother to child transmission - data from the National Registry of HIV pregnant women and perinatally exposed children in Romania. 2nd Vilnius Summit on Communicable Diseases. Oct 4-7, 2017. 14th Congress of the BADV , October 5-7, 2017. Vilnius, Lithuania

Accelerating access to HIV/AIDS care in Romania

Mariana Mărdărescu MD PhD

A partnership between Romania, the United Nations System and the Private Sector

Geneva, 2001

Source: WHO/UNAIDS General assembly, Geneva 2002.

Specific objectives
2001- 2003

- *To create a supportive environment for the implementation of effective programs of treatment and care*
- Strengthen the capacity of the health care system for universal access to treatment
- Ensure multi-sectorial coordination and mechanisms for policy development
- Ensure universal and sustainable access to HIV/AIDS treatment and care
- Ensure minimal mother-to-child transmission and increase the capacity for voluntary testing and counseling

Source: WHO/UNAIDS General assembly, Geneva 2002.

In June 2001 the partnership between Romania, the United Nations System and the Private Sector was launched with the objective: To ensure universal access to free treatment, care and support (including access to anti-retroviral drugs) for people living with HIV/AIDS in Romania

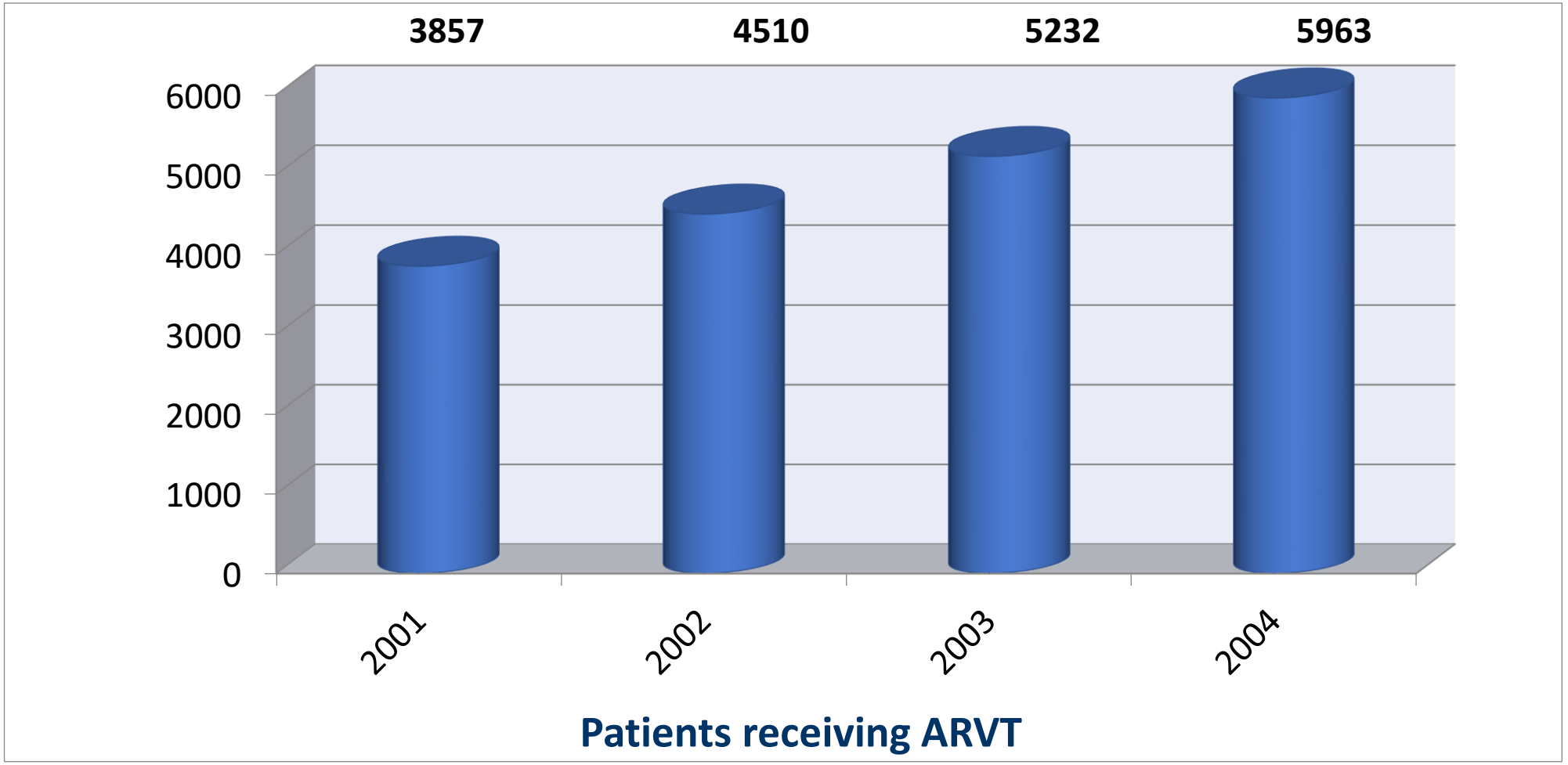
Negotiations on price reduction with pharmaceutical companies ROMANIA

Baku, Azerbaijan, 24-25 February 2005

Eduard Petrescu, UNAIDS National Officer Romania

- Price of triple ARV therapy dropped from $10 - 12,000 per year per patient in 2001 to $2,800 in 2002
- Number of patients in treatment increased from 3,500 in 2001 to 6,000 in 2004
- No treatment interruptions, increased quality of life, reducing mortality and increasing life expectancy
- **Universal access goal achieved in 2003**

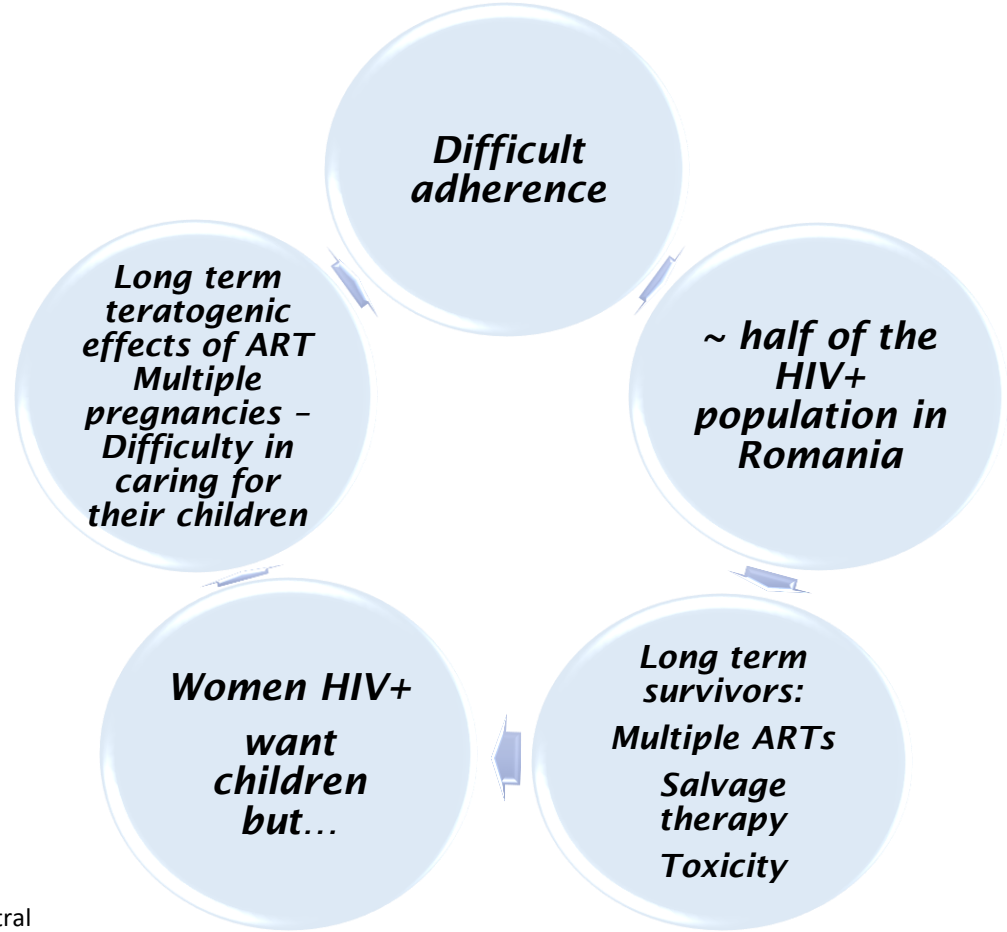
Number of patients in ARV treatment



More than 90%- children

III. Transition from paediatric to adult care
"1987-1990" Romanian cohort

The largest cohort in Europe: 29-35 current age group that was taken into medical surveillance during the first years of the 1990s (non-vertical transmission)



Source: M. Mardarescu. Results of long-term follow-up of children infected with HIV. VI International Eastern Europe and Central ASIA AIDS Conference. April 2018, Moscow.

The Romanian care system addressed to the HIV/AIDS cohort has relied, during the last two decades, on multiple social and psychological determinants, among which:

- ✓ *The patients' age at the time of diagnosis*
- ✓ *Living with the biological family (YES or NO)*
- ✓ *The family's level of education*
- ✓ *Acceptance on behalf of the society/level of discrimination*
- ✓ *Transition from the paediatric ward to the adult ward is accepted with difficulties by the young patients*

- ✓ *Social behaviour - the same as the uninfected young population*
- ✓ *ART adherence that depends entirely on the time of initiation > 20 years in Romania*
- ✓ *ART treatment- difficult to individualise and adapt during the early 1990s*
- ✓ *Counselling on self perception, on body image and acceptance of one's status*
- ✓ *Marital status, serodiscordant couples, unplanned pregnancies*
- ✓ *They want children and families of their own, but are not prepared for this due to their health status*
- ✓ *Specialized family planning services*

IV. Current standards of care adapted to the epidemic in Romania 2020

PLWHA

Instrumentes National HIV/AIDS Registry

- Young people "aged" by treatment
- Therapeutic fatigue
- New cases of HIV infection: young persons, in their fertile age, late presenters in the medical system
- Important increase in HIV cases in MSM

ART

National registry of patients in ART

National Guideline or adaptation of EACS Guidelines with emphasis on Romano's epidemic

- Most ARTs- available in Romania. Universal access to ART
- Treatment irrespective of CD4 count- since 2001
- Suboptimal therapeutic regimen- during the first weeks of life
- Toxicity associated to ART

Sursa : A. Streinu-Cercel. cnlas.ro: *Specific Challenges of the HIV Epidemic in Romania*. EACS 2013.

M. Mardarescu. Et All. *Risk factors involved in late detection of HIV mother to child transmission - data from the National Registry of HIV pregnant women and perinatally exposed children in Romania.* 2nd Vilnius Summit on Communicable Diseases. Oct 4-7, 2017. 14th Congress of the BADV , October 5-7, 2017. Vilnius, Lithuania.

MTCT

(mother to child transmission)

Instruments:

National Registry of HIV Pregnant Women and of perinatally exposed newborns- 1460 mother and child item s(2013-2020)

Different dynamics- surveillance of HIV perinatally exposed newborns > 2 years

Young mothers, multi- therapeutically experienced

Mothers with unknown HIV status – recommemdation of HIV testing and specifci ART

New approach of the management of HIV perinatally exposed newborns

IDUs (injecting drug consumers)

Building bridges with the psychology and psychiatry networks

New substances with psychoactive properties

New approach of mothers who use drugs and of newborns perinatally exposed to drugs

Sursa : A. Streinu-Cercel. cnlas.ro: *Specific Challenges of the HIV Epidemic in Romania*. EACS 2013.

M. Mardarescu. Et All. *Risk factors involved in late detection of HIV mother to child transmission - data from the National Registry of HIV pregnant women and perinatally exposed children in Romania.* 2nd Vilnius Summit on Communicable Diseases. Oct 4-7, 2017. 14th Congress of the BADV , October 5-7, 2017. Vilnius, Lithuania.

Therapeutic fatigue

Approach for the cohort 1988-1990?

Long-term therapy+ multiple therapeutic schemes

Virological failure+ immunological failure

Comorbidities

Rapid access to all medical specialities

Implications- the DDI perpsctive

Sursa: A. Streinu-Cercel. cnlas.ro: *Specific Challenges of the HIV Epidemic in Romania*. EACS 2013.

M. Mardarescu. Et All. *Risk factors involved in late detection of HIV mother to child transmission - data from the National Registry of HIV pregnant women and perinatally exposed children in Romania.* 2nd Vilnius Summit on Communicable Diseases. Oct 4-7, 2017. 14th Congress of the BADV , October 5-7, 2017. Vilnius, Lithuania.

Aging with HIV

New approach for adults- from the standpoint of increased life expectancy

New approach
New mechanisms
New meanings
New attitude
New results

Vulnerable groups

Adapting the national efforts to needs of vulnerable groups

Challenges

Approach, within an integrated system of HIV

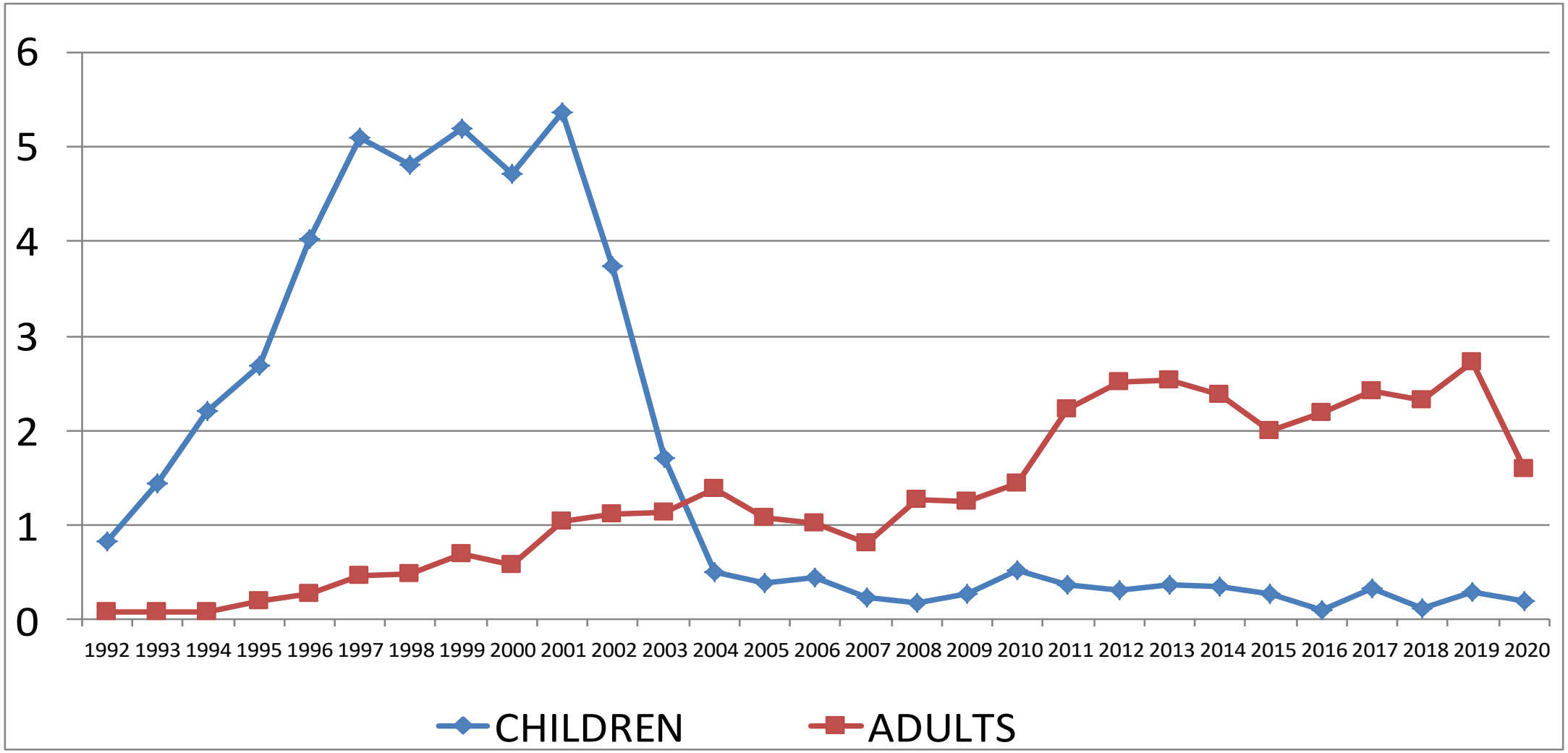
Patients, comprising all medical specialties

Sursa: A. Streinu-Cercel. cnlas.ro: *Specific Challenges of the HIV Epidemic in Romania*. EACS 2013.

M. Mardarescu. Et All. *Risk factors involved in late detection of HIV mother to child transmission - data from the National Registry of HIV pregnant women and perinatally exposed children in Romania*. 2nd Vilnius Summit on Communicable Diseases, Oct 4-7, 2017, 14th Congress of the BADV, October 5-7, 2017, Vilnius, Lithuania.

How long until getting to zero...?

HIV incidence rate in adults and children between 1985-2020 (100.000)

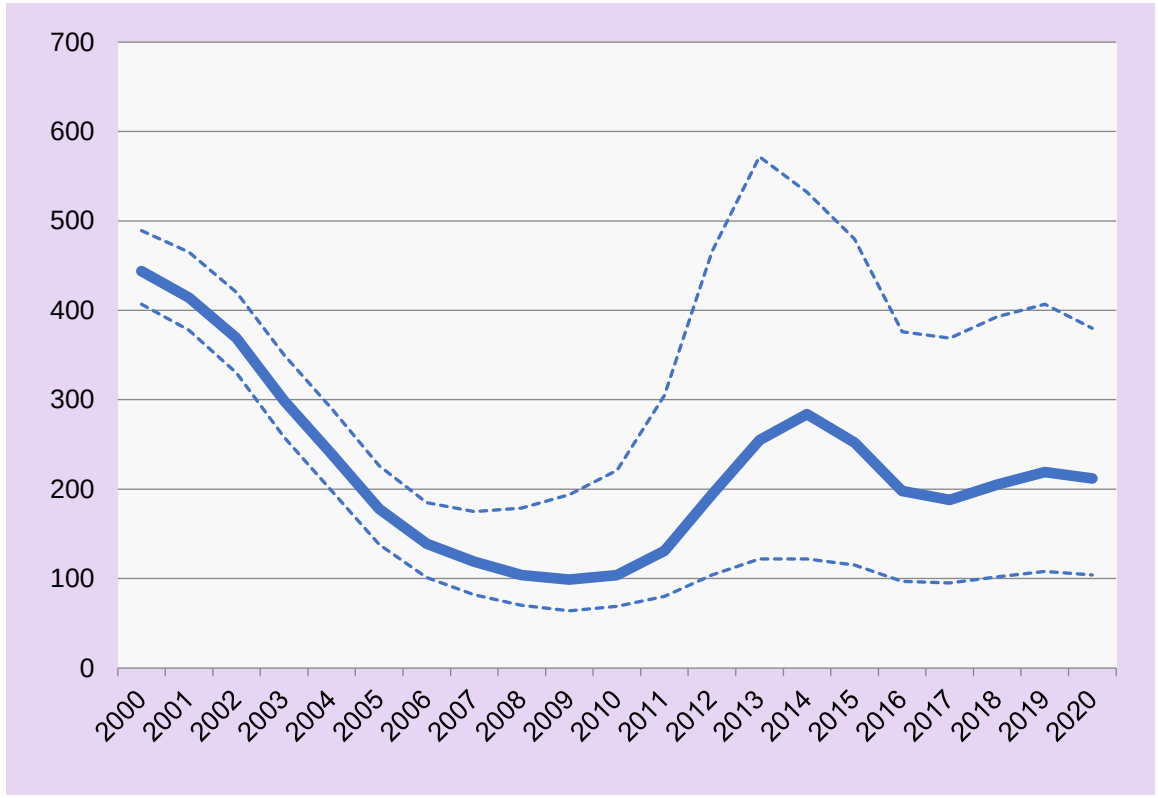


Children 2020: 0.2/100.000
Adults 2020: 1.59/100.000

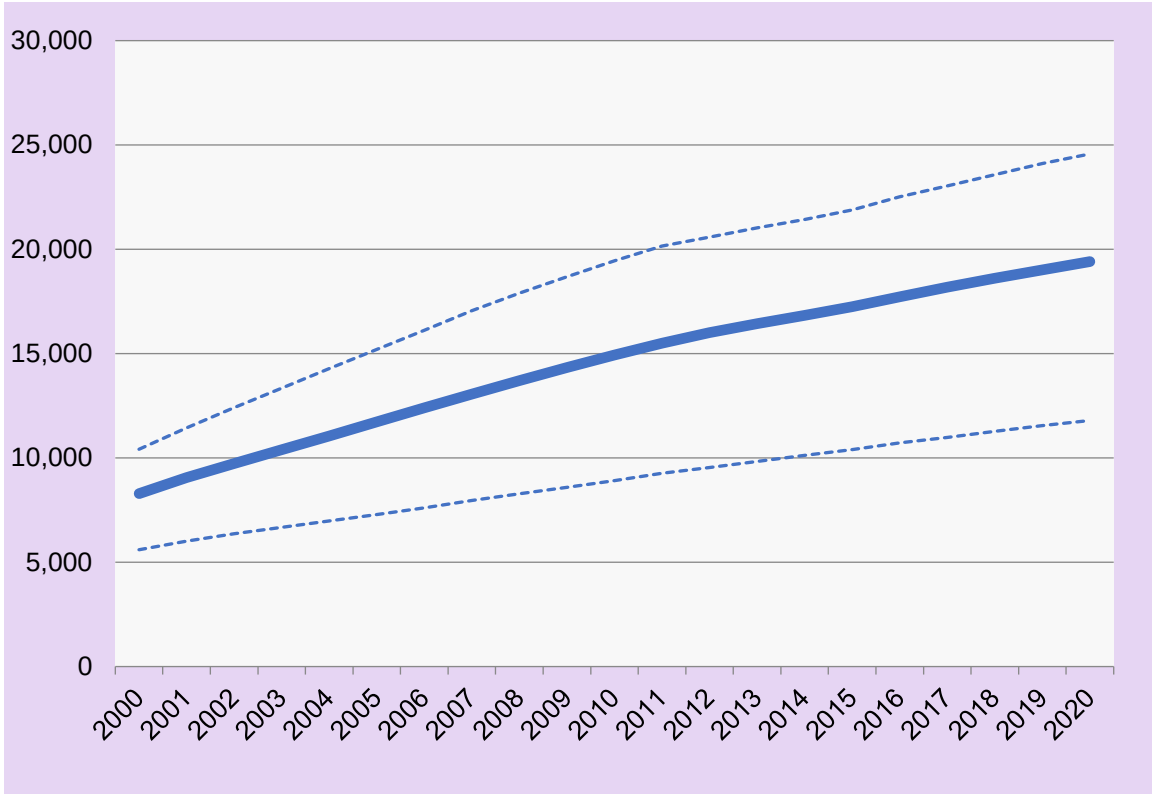
Source: Compartment for Monitoring and Evaluation of HIV/AIDS Infection in Romania INBI "Prof.Dr.M.Balş"

UNAIDS estimates for Romania 2020

AIDS Deaths



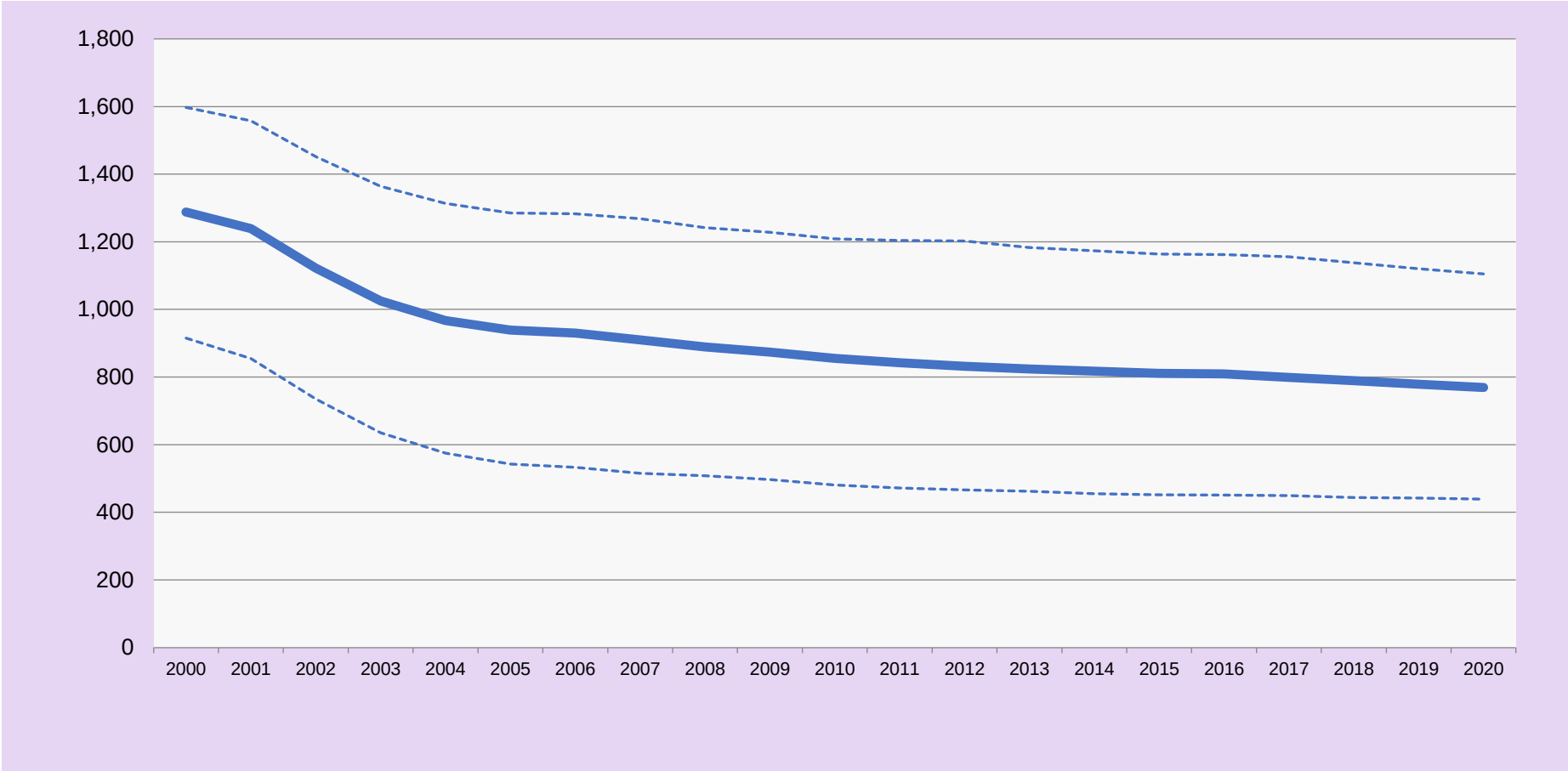
Number of people living with HIV



Source: UNAIDS Estimates for Romania 2020

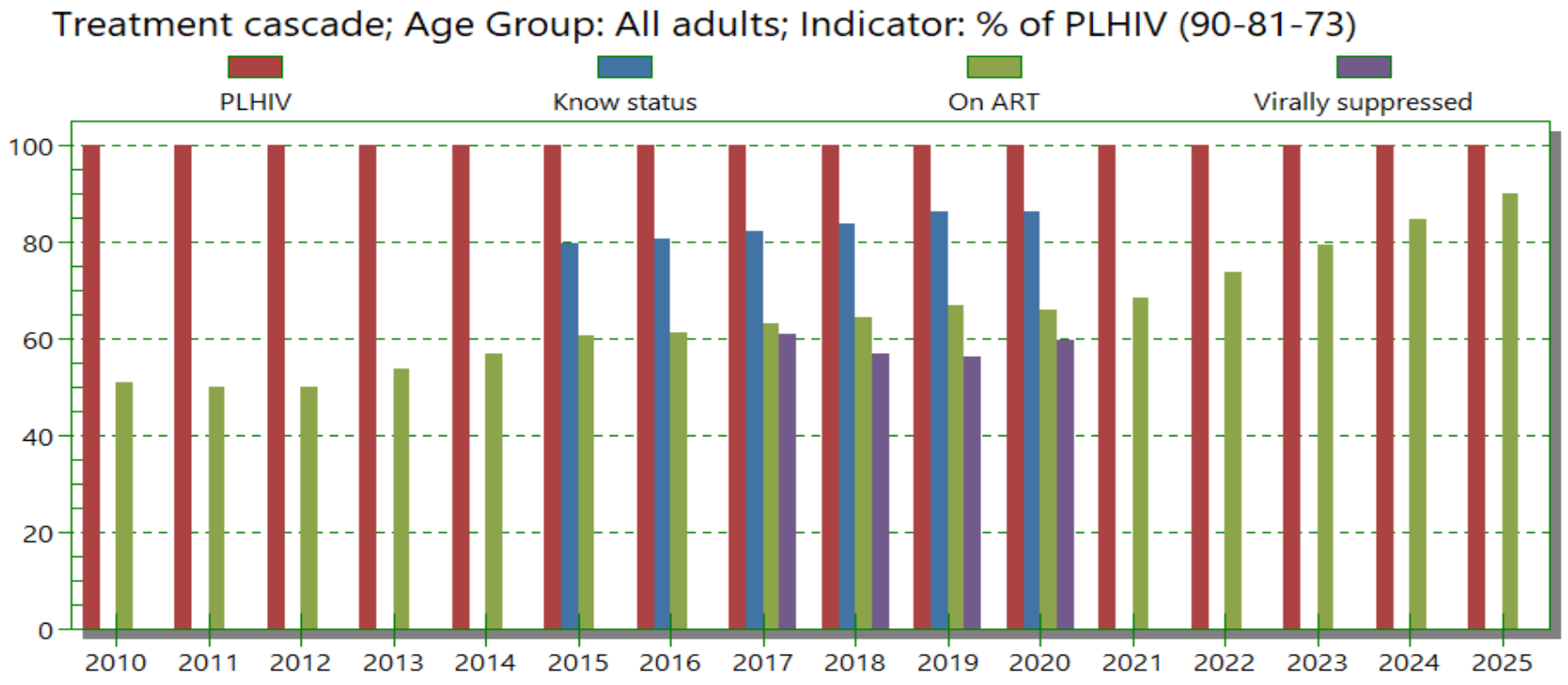
UNAIDS estimates for Romania 2020

New HIV infections



Source: UNAIDS Estimates for Romania 2020

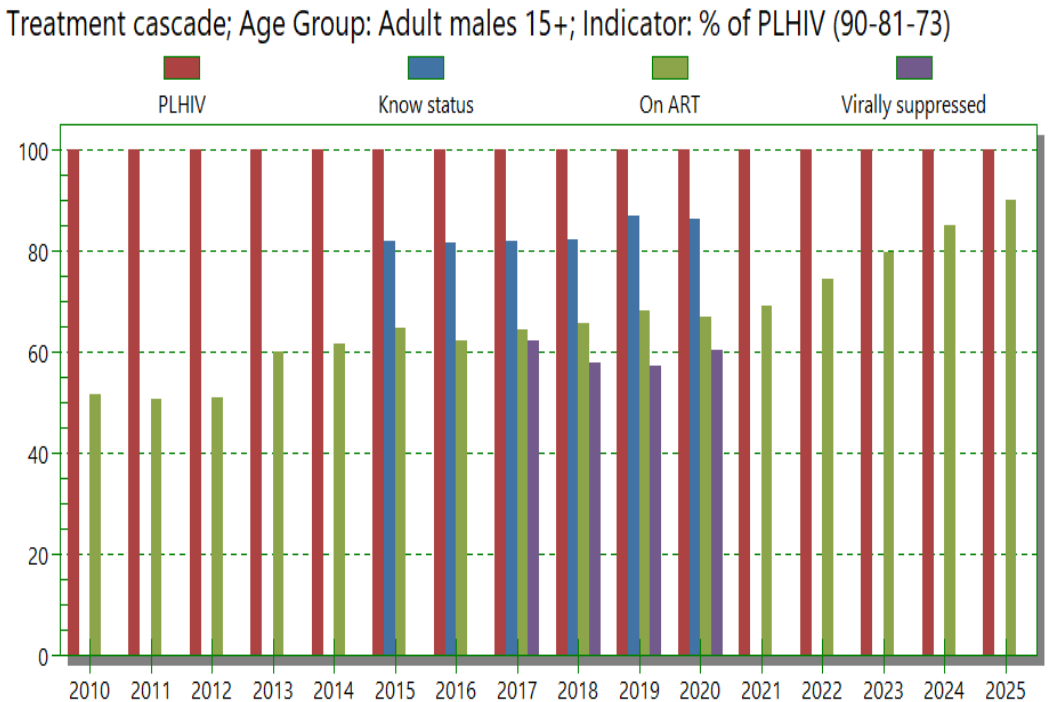
UNAIDS Estimates for Romania
Treatment cascade, all adults (15+), % of PLHIV (90-81-73):



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
PLHIV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Know status						79	81	82	84	86	86					
On ART	51	50	50	54	57	61	61	63	64	67	66	68	74	79	85	90
Virally suppressed								61	57	56	59					

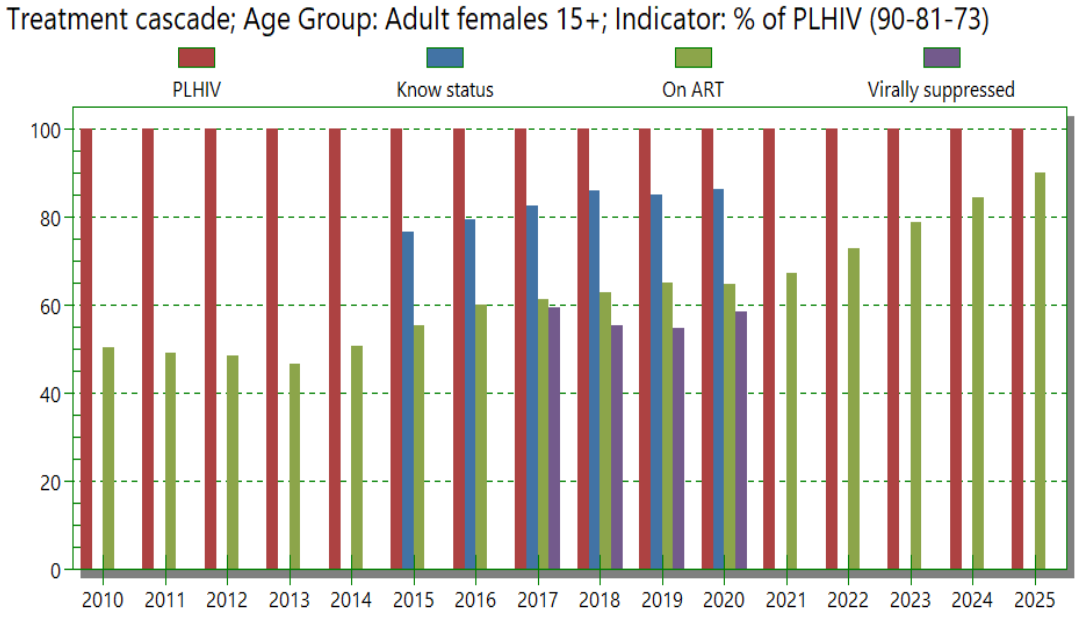
UNAIDS Estimates for Romania
Treatment cascade, all adults (15+), % of PLHIV (90-81-73):

Treatment cascade, males (15+), ***% of PLHIV (90-81-73)***



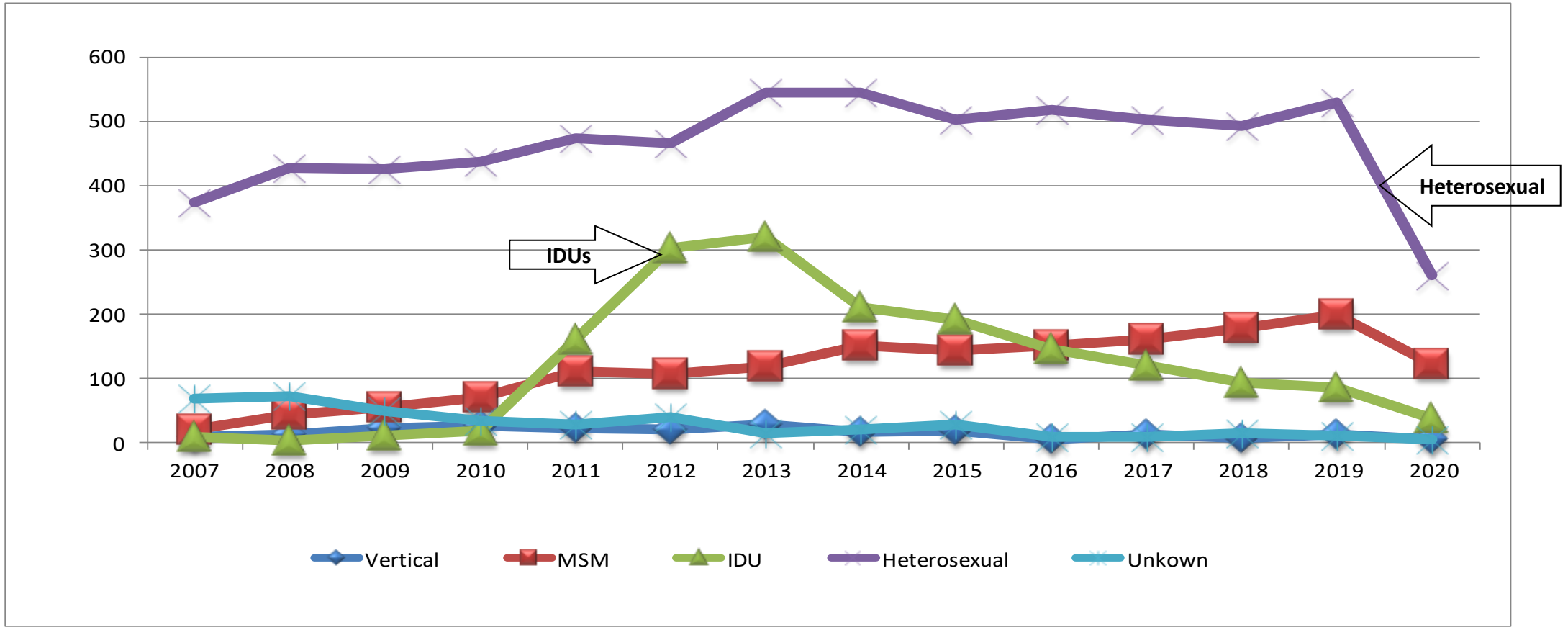
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
PLHIV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Know status						82	81	82	82	87	86					
On ART	51	51	51	60	62	64	62	64	65	68	67	69	74	80	85	90
Virally suppressed								62	58	57	60					

Treatment cascade, females (15+), ***% of PLHIV (90-81-73)***



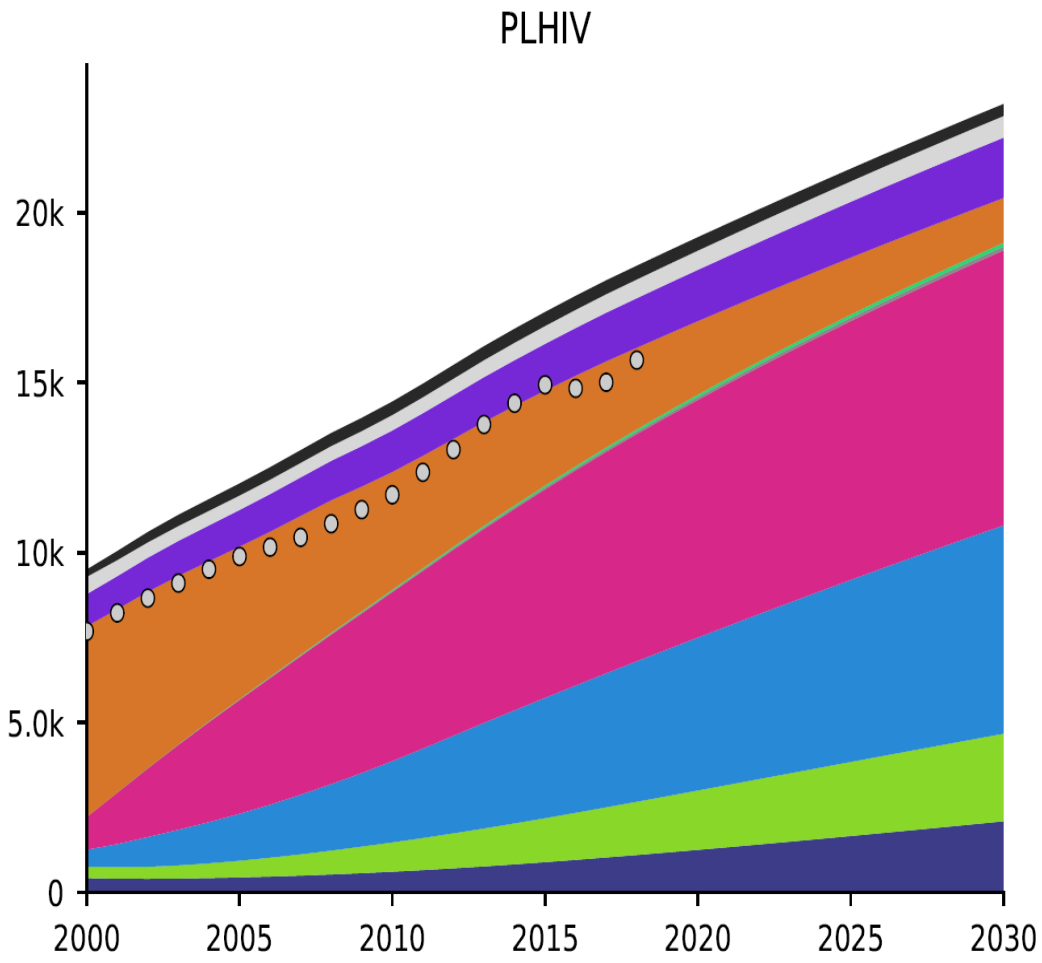
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
PLHIV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Know status						76	79	82	86	85	86					
On ART	50	49	48	46	50	55	60	61	63	65	64	67	73	79	84	90
Virally suppressed								59	55	55	58					

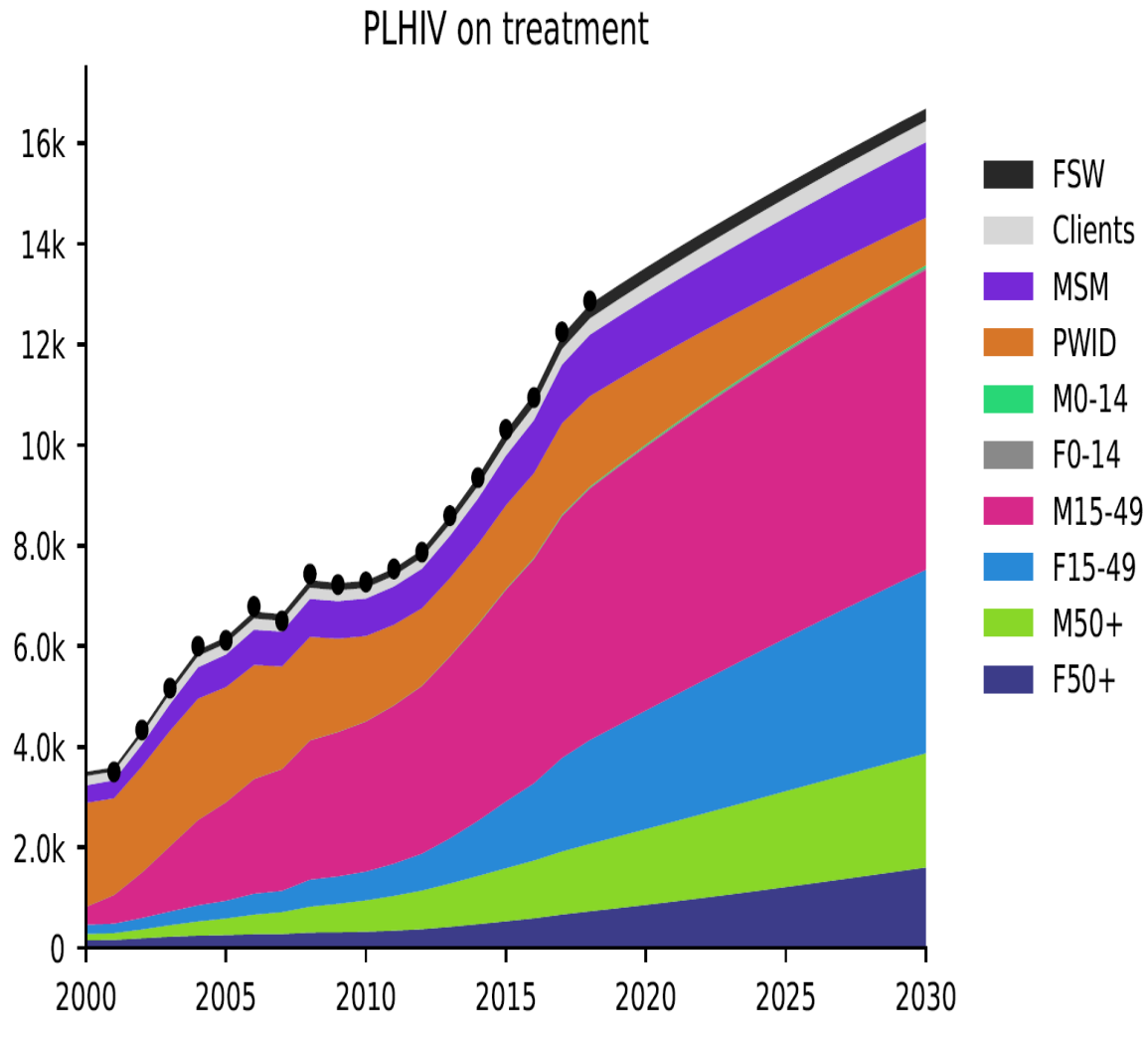
Tendencies in the routes of transmission
Romania 2007-2020



Source: Compartment for Monitoring and Evaluation of HIV/AIDS Infection in Romania INBI "Prof.Dr.M.Balş"

Data
from Burnet Institute/Optima HIV
Projections for Romania
with the current budget





Source: Analyses on Allocation of HIV Resources towards Maximizing the Impact of Funding in Selected EECA Countries. Optima HIV.
Burnet Institute/UNAIDS/The Global Fund

How long until getting to zero...?

Warm thanks to our patients and their parents, long distance runners who have worked along with our medical staff, for the past 30 years in view of offering yesterday's children and today's young adults the quality of life they deserve, as any other...

Last but not least…
…warm thanks to all the health-care staff who have stood together in nearly 30 years in providing the best care possible to our patients!
…thanks to all the actors involved in the fight against HIV/AIDS!

REFERENCES

1. www.cnlas.ro Compartment for Monitoring and Evaluation of HIV/AIDS Data in Romania

2. European Centre for Disease Prevention and Control. **HIV/AIDS surveillance in Europe 2020 (2019 data)**. https://www.ecdc.europa.eu/en/publications-data/hivaids-surveillance-europe-2020-2019-data Accessed at 19 October 2020

3. European Centre for Disease Prevention and Control. **Dublin Declaration monitoring - 2020 progress** https://www.ecdc.europa.eu/en/monitoring-implementation-dublin-2020 Accessed at 19 October 2020

4. M. Mardarescu. Results of long-term follow-up of children infected with HIV. VI International Eastern Europe and Central ASIA AIDS Conference. April 2018, Moscow

5. M. Mardarescu et All. Risk factors involved in late detection of HIV mother to child transmission - data from the National Registry of HIV pregnant women and perinatally exposed children in Romania. 2nd Vilnius Summit on Communicable Diseases. Oct 4-7, 2017. 14th Congress of the BADV , October 5-7, 2017. Vilnius, Lithuania

6. A. Streinu-Cercel. cnlas.ro: Specific Challenges of the HIV Epidemic in Romania. EACS 2013

7. O. Sandulescu. HIV/Hepatitis co-infection situation in Romania. 3rd Central and Eastern European Meeting on Viral Hepatitis and Co-Infection with HIV, 2016.

National Institute for Infectious Diseases "Prof Dr. Matei Bals"
Compartment for Monitoring and Evaluation of HIV/AIDS Data in Romania

Coordinator	Mariana Mărdărescu MD PhD
Coordinator of the Adults' programme	Lecturer Otilia Benea MD PhD
Coordinator of the children's programme:	Dr. Sorin Petrea
Statistical data operators:	
PC operators	Marieta Iancu
	Daniela Vițelaru
	Sanda Vintilă
Colaborators	Dr. Ionel Iosif
	Claudiu Șchiopu IT Tessy
	UATM
	Romanian HIV/AIDS Center