HIV AND AIDS EPIDEMIOLOGY IN POLAND

Andrzej Horban, MD, PhD
HIV / AIDS  POLAND 1985 – 2010

FIRST CASE    - 1985

TILL 1988    - 52 CASES

OCT 1988    - FIRST IVDU

1989- 500 CASES

1990 900 CASES
HIV epidemic in Poland, 1985-2006

HIV+ cases
AIDS cases
Deaths
HIV Epidemic course similar in Poland & Eastern European countries

- Sporadic infections
- Introduction into IVDU community
- Lack of proper systemic solutions for infected
- A need to create new structures
Cost of non-investment in health

Two main fields of activity

- prevention

- proper health care system
Cost of non-investment in health

It is much cheaper and better for all to prevent than treat.
Healthcare system for PWA

- Proper organizational scheme
  - Limited number of centers
  - Full equipment
  - Centralized laboratories

- Separate prevention programs
Healthcare system for PWA

- Creating new medical staff
  - Physicians
  - Nurses
  - others

- securing the safety of personnel is a must
Healthcare system for PWA

- Main targets of healthcare for HIV+ persons
  - Social care
  - Psychological care
  - Primary care medicine
  - Specialized medicine
Healthcare system for PWA

- Specialty care medicine
  - IVDUs
  - Methadone programs
  - Rehabilitation programs
  - Other harm reduction programs
  - Needles & syringe exchange programs
  - Other prevention programs
    - Condom promotion
    - Reintroduction to society program for homeless
## Comparison of routes of infection

<table>
<thead>
<tr>
<th>Route</th>
<th>1990</th>
<th></th>
<th>2000</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=</td>
<td>%</td>
<td>N=</td>
<td>%</td>
</tr>
<tr>
<td>HOMOSEXUAL</td>
<td>42</td>
<td>5.2</td>
<td>31</td>
<td>4.9</td>
</tr>
<tr>
<td>IV DUs</td>
<td>680</td>
<td>84.1</td>
<td>333</td>
<td>52.9</td>
</tr>
<tr>
<td>BLOOD DONORS</td>
<td>3</td>
<td>0.4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HAEMOPHILIACS</td>
<td>1</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HETEROSEXUAL</td>
<td>18</td>
<td>2.2</td>
<td>35</td>
<td>3.5</td>
</tr>
<tr>
<td>CHILDREN</td>
<td>1</td>
<td>0.1</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>OTHERS</td>
<td>2</td>
<td>0.2</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>N/D (MOSTLY SEXUAL)</td>
<td>62</td>
<td>7.7</td>
<td>229</td>
<td>36.3</td>
</tr>
<tr>
<td>TOGETHER</td>
<td>809</td>
<td>100.0</td>
<td>630</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Pacjenci w Wojewódzkim Szpitalu Zakaźnym

Zestawienie pacjentów HIV+ w latach 1990-2009 według drogi zakażenia
Healthcare system for PWA

- HIV Epidemic course **is not** similar to easternmost European countries ...
Prevalence of injecting drug use in Central & Eastern Europe and Central Asia (per 1000 population)
Ukraine, British Council`s prognosis of HIV infections 1996-2016 (x 1000)

*Estimate of June 2000: By end of 1999 240,000 HIV cases
The four most common AIDS indicative diseases (%) among AIDS cases diagnosed in 2006
West, Centre and East, WHO European Region

% of cases

- Tuberculosis
- PCP
- Oesophageal candidiasis
- HIV wasting syndrome
- Candidiasis of bronchi, trachea or lungs

Update at 31 December 2006

West
Centre
East

EuroHIV
Ukraine, British Council`s prognosis of HIV infections 1996-2016 (x 1000)

*Estimate of June 2000: By end of 1999 240,000 HIV cases
Healthcare system for PWA

Current status:

- 15 Centers
  - Updated antiretroviral recommendations, according to IAS-USA Panel and Euroguideliness
  - Primary and secondary prophylaxis OI, according to Euroguideliness
  - 5 200 ART treated (all eligible),
  - Drug-related expense in 2010: 210 million PLN
  - Drugs funded by the state
Poland: Anti-HIV campaign background

- Free, anonymous HIV testing / counselling for public
- Access to treatment
- Prevention of vertical transmission
HIV/AIDS medical care for IVDU’s

- An Inpatient Hospital Department for Drug Addicts with HIV infection has been functioning since 1993 in the Hospital of Infectious Diseases in Warsaw, Poland, within the Center for AIDS Diagnosis & Therapy on the strength of Methadone Substitution during hospitalization.
- 5640 individuals hospitalized (Nov.1993-Dec.2010)
Medical problems among HIV+ IVDUs

- HIV infection: 100%
- AIDS: 44%
- HCV: 91%
- HBV: 79%
- Skin bacterial infections: 65%
- Systematic bacterial infections: 50% (CNS, lungs, sepsis)
- Tuberculosis: 38%
- Psychiatric disorders: 15%
- STD`s: 4%
Syphilis and gonorrhoea were found in 12.4% of 1968 patients

- 7.5% had only syphilis
- 2.1% had syphilis and gonorrhoea
- 1.3% had only gonorrhoea
Syphilis and gonorrhoea in HIV-positive patients by moment of HIV infection (1990 - 2002)
Syphilis and gonorrhoea in men in risky behaviour groups

- homo- and bisexual men – 40.7%
- heterosexual men – 13.9%
- men addicted to intravenous narcotic substances – 8.2%
## Changes in the pattern of HIV-1 subtypes in Poland

<table>
<thead>
<tr>
<th>Year</th>
<th>HIV-1 B (%)</th>
<th>HIV-1 non-B (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997 study</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>2002 study</td>
<td>88.3%</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

(in majority CRF03_AB)

1 Lipniacki A et al. Sixth European Conference on Clinical Aspects and Treatment of HIV Infection, Hamburg, 1997
2 Stańczak GP et al. Sixth International Congress on Drug Therapy in HIV Infection, Glasgow, 2002
Number of treated and expenditures

![Chart showing number of treated and expenditures over time.]
Route of transmission HIV among ARV treated
(27.10.2011 r. = 5483 patients)
ORGANIZATION OF HEALTH CARE FOR HIV-INFECTED PATIENT IN POLAND

CENTRALIZATION

- 15 HIV CENTERS
- DRUGS - DISTRIBUTED BY AGENDA of the Ministry of Health
- PATIENTS’ VISITS AND LABORATORY TESTS PAID BY NATIONAL HEALTH FUND
Opieka nad kobietami zakażonymi HIV i dziećmi w latach 2005 – 2010

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
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<tbody>
<tr>
<td>Treated arv</td>
<td>3071</td>
<td>3358</td>
<td>3822</td>
<td>4434</td>
<td>4897</td>
</tr>
<tr>
<td>children</td>
<td>109</td>
<td>123</td>
<td>126</td>
<td>134</td>
<td>130</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>62</td>
<td>73</td>
<td>70</td>
<td>81</td>
<td>67</td>
</tr>
<tr>
<td>newborn</td>
<td>41</td>
<td>54</td>
<td>69</td>
<td>69</td>
<td>54</td>
</tr>
</tbody>
</table>
EPIDEMIOLOGICAL SITUATION IN POLAND
CUMULATIVE NUMBERS OF PATIENTS REGISTERED IN OUT-PATIENT CLINIC IN WARSAW

Year: 1990 to 2010
Cumulative Numbers of Patients: 0 to 3843
GENDER STRUCTURE OF PATIENTS IN WARSAW

- Male: 78%
- Female: 22%
CHANGE OF GENDER STRUCTURE OF PATIENTS IN WARSAW

- 1990-1994: 68.9% female, 31.1% male
- 1995-1998: 74.3% female, 25.7% male
- 1999-2002: 76.1% female, 23.9% male
- 2003-2006: 75.8% female, 24.2% male
- 2007-2010: 85.8% female, 14.2% male
MODE OF HIV INFECTION OF PATIENTS in WARSAW

IVDU: 40.5%

SEXUAL ROUTE: 42.5%

OTHER: 17.0%
CHANGE OF MODE OF INFECTION IN WARSAW OVER YEARS

1990-1994: 72.0% (IVDU), 19.9% (SEXUAL ROUT), 8.1% (OTHER)
1995-1998: 60.0% (IVDU), 25.2% (SEXUAL ROUT), 14.7% (OTHER)
1999-2002: 52.9% (IVDU), 29.8% (SEXUAL ROUT), 17.3% (OTHER)
2003-2006: 32.7% (IVDU), 50.1% (SEXUAL ROUT), 17.3% (OTHER)
2007-2010: 11.9% (IVDU), 21.8% (SEXUAL ROUT), 66.3% (OTHER)

Legend:
- IVDU
- OTHER
- SEXUAL ROUT
CD4 count AT REGISTRATION

[Bar chart showing CD4 count at registration from 1990-1994 to 2007-2010, with percentages and categories for comparison]
Drugs Available for HIV Therapy in 2012

**NRTIs**
- Abacavir
- Didanosine
- Emtricitabine
- Lamivudine
- Stavudine
- Tenofovir
- Zidovudine

**NNRTIs**
- Efavirenz
- Nevirapine
- Etravirine

**Protease Inhibitors**
- Atazanavir
- Darunavir
- Fosamprenavir
- Indinavir
- Lopinavir
- Nelfinavir
- Ritonavir
- Saquinavir
- Tipranavir

**New Classes**
- Fusion Inhibitors
  - Enfuvirtide

- R5 Inhibitors
  - Maraviroc

- Integrase Inhibitors
  - Raltegravir
NRTIs in POLCA COHORT – Polish Observational Cohort of HIV and AIDS Patients in Warsaw
NNRTIs vs PIs from POLCA COHORT – Polish Observational Cohort of HIV and AIDS Patients in Warsaw
PIs in POLCA COHORT – Polish Observational Cohort of HIV and AIDS Patients in Warsaw
NNRTIs from POLCA COHORT – Polish Observational Cohort of HIV and AIDS Patients in Warsaw

- Nevirapine: 35%
- Etraviryna: 6%
- Efavirenz: 59%
Changes in HIV transmission mode in Poland over time
Data from Polish Observational Cohort of HIV Patients - POLCA
Prevalence of non-infectious co-morbidities by age and HIV serostatus

ORGANIZATION OF HEALTH CARE FOR HIV-INFECTED PATIENT IN POLAND

- Problems
  - limit of expenditure (800€/per month)
  - New strategy
    - generics?
    - monotherapy?
    - dual therapy?