PL3/02 Engaging and linking to care displaced and mobile populations – Challenges and experiences from the Ukrainian crisis

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Declaration of conflict of interest

Miłosz Parczewski is employee of Pomeranian Medical University in Szczecin and Regional Hospital in Szczecin, Poland, President of Polish Scientific AIDS Society, Vice-President of European AIDS Clinical Society

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Displacement affects HIV diagnosis and care

Pre-migration

Poorer access to preventive/screening programmes, diagnostics and healthcare in home country

„on the move”

Disease exposure, fear and physical stress, massification, poor conditions

Post-migration

Language barier, stigma, lack of knowledge of the system, insurance status

Increased risk of disease acqusition and late diagnosis /complications

Poland/Ukraine HIV epidemics overview

Poland

Registered people living with HIV (31.12.2021): **26 486 cases**

17 active ARV treatment centres (ID specialists)
~ 100 core HIV physicians

Pre-war: ~ 15 500 patients on ART. (100 children)

Treatment within state funded National Programme

No restriction on initial and switch therapies

HIV viral loads, CD4 count and resistance tests fully funded, financial limit per patient

Open to Ukrainian refugees

https://aids.gov.pl/hiv_aids/450-2-2/

Ukraine

Estimated people living with HIV: **260 000 cases**

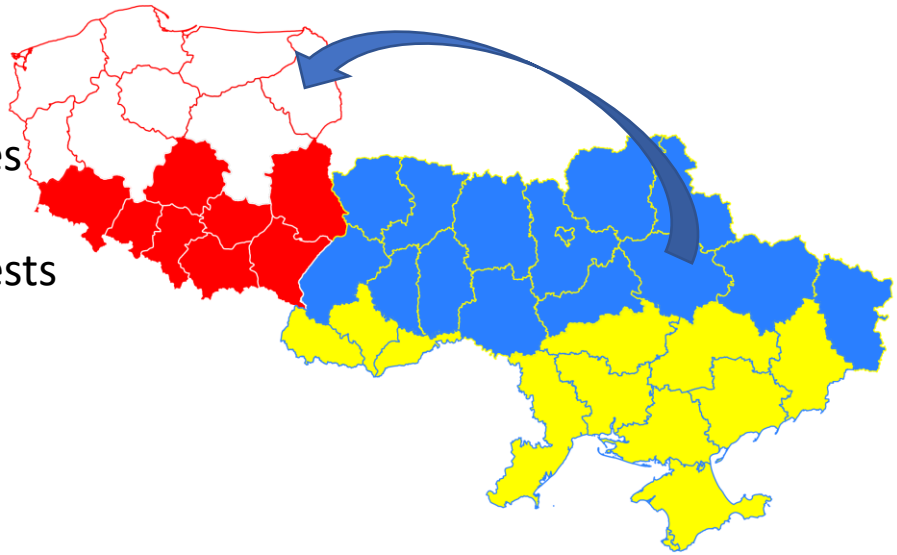
> 300 ARV treatment centres, many war affected

~130 000 patients on ART. (~2700 children)

~80% on Tenofovir/Lamivudine/Dolutegravir (TLD),

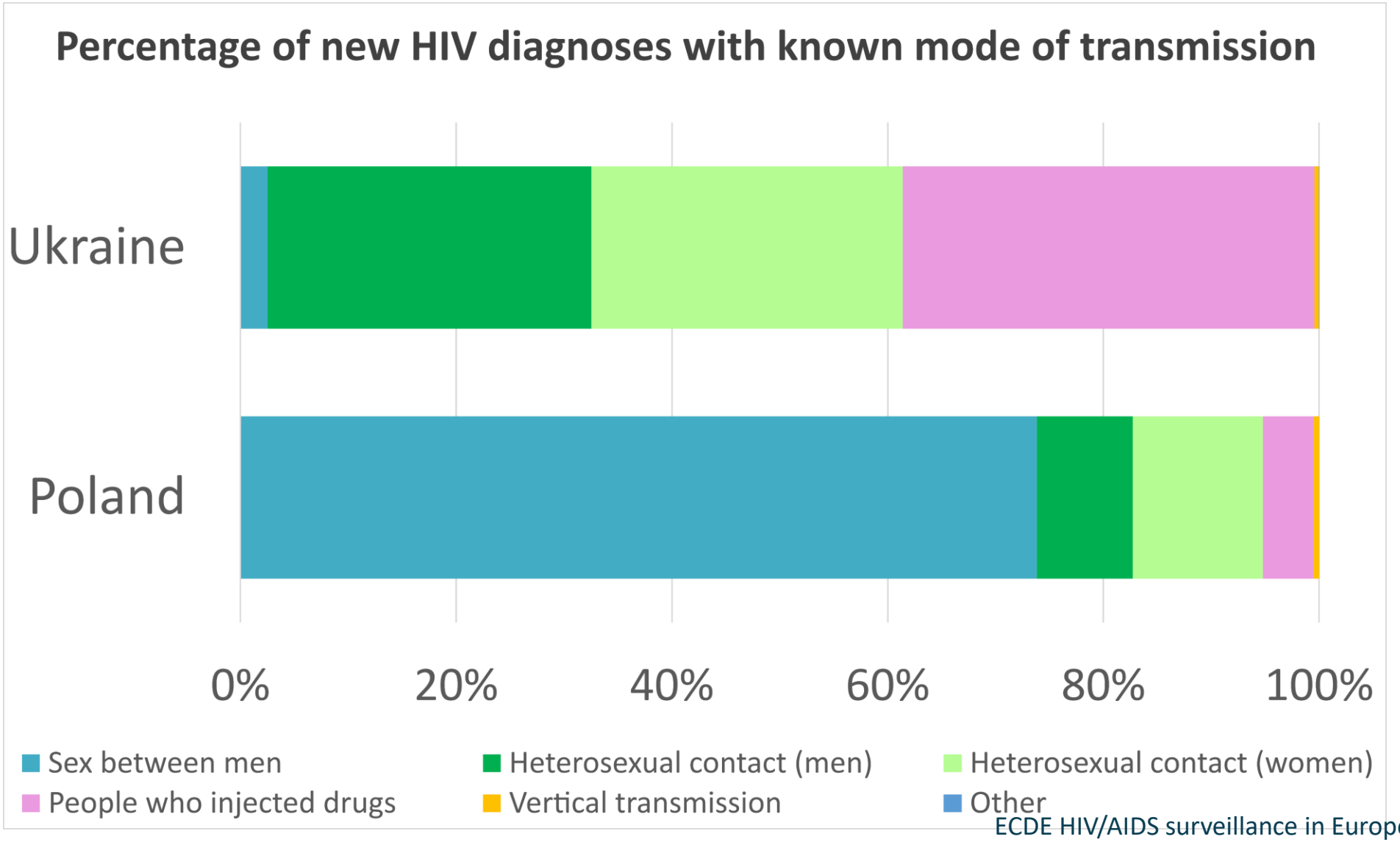
45% women

3400 Ukrainian migrants (including 100 children) registered to enter HIV care so far (~18-20% increase in the total treated cases)



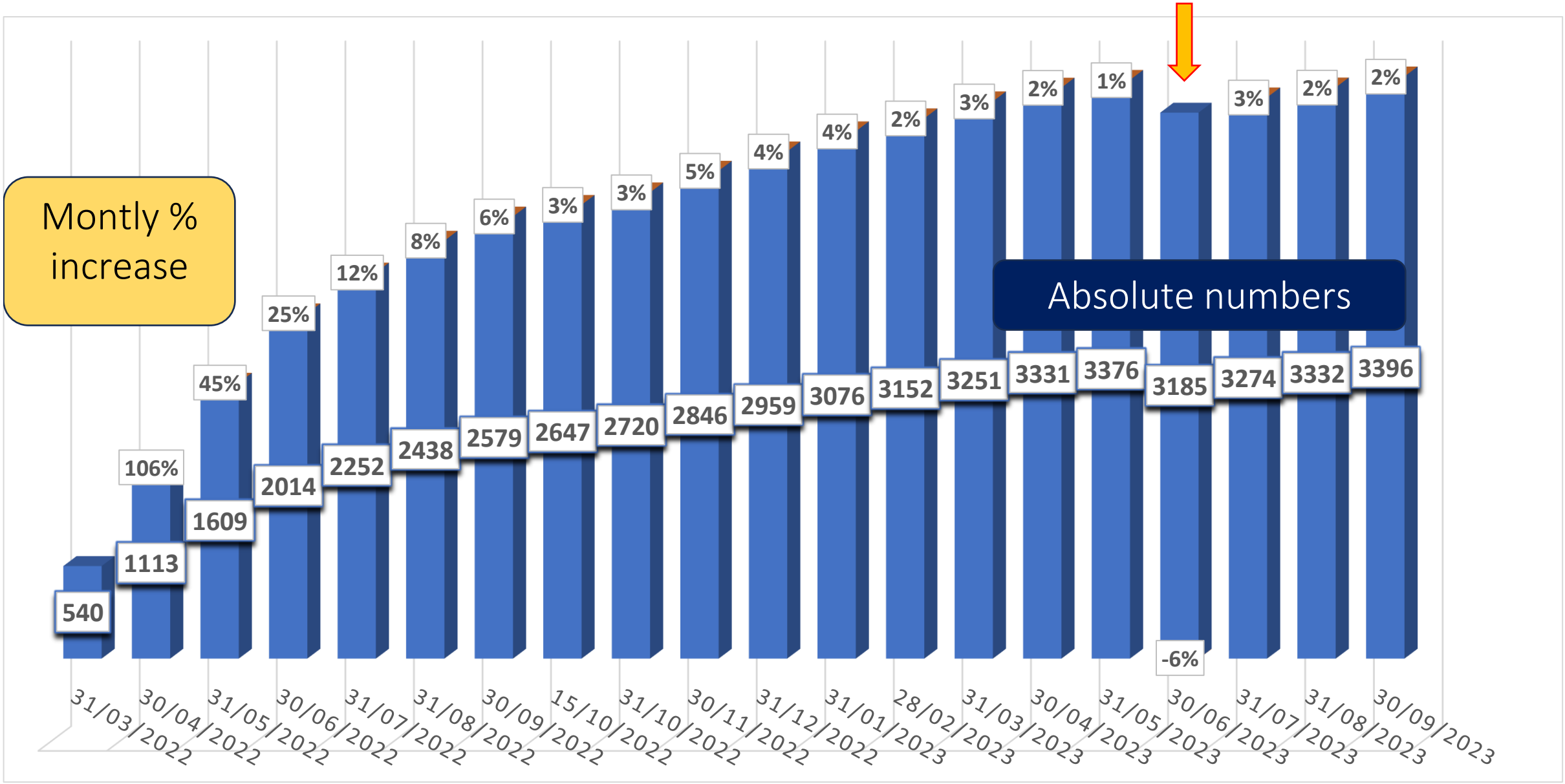
Vasylyev M. et al.,
Lancet HIV. 2022 Jun;9(6):e438-e448.

Differences in patient profile between Poland and Ukraine



ECDE HIV/AIDS surveillance in Europe 2021 – 2020 data

War refugees from Ukraine accesing ART in Poland



Personal communication dr Anna Marzec-Bogusławska, National AIDS Centre, Poland

Clinical data for Ukrainian migrants entering HIV care in Poland

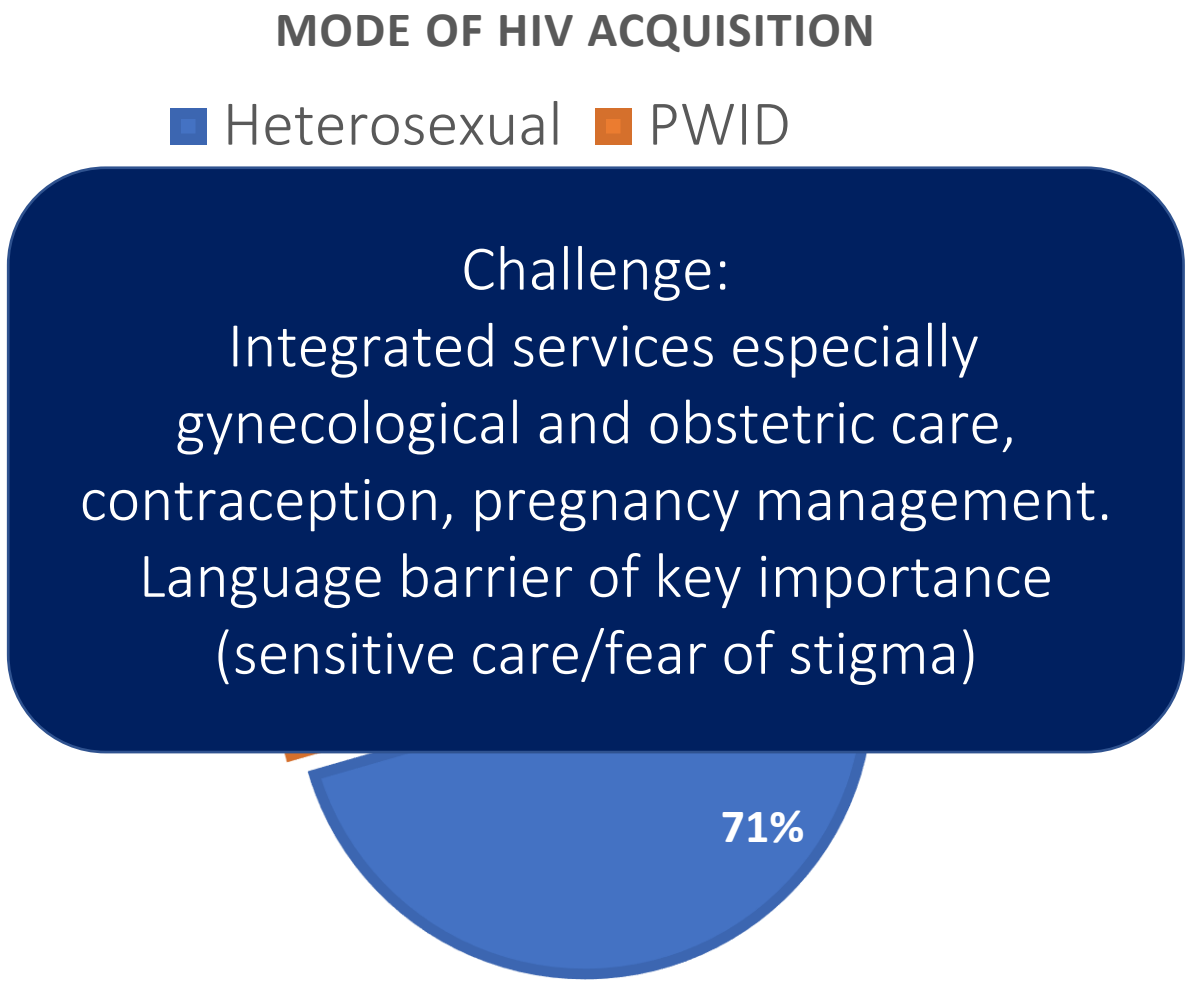
Median age: 40 (IQR:34-45) years

70.1% of patients female

89.1% initiated ART in Ukraine
10.9% diagnosed in Poland (underreported)

10.1% self reported previous TB infection

Median lymphocyte CD4 count at care entry:
561 (IQR: 350-755) cells/µl (n=531)



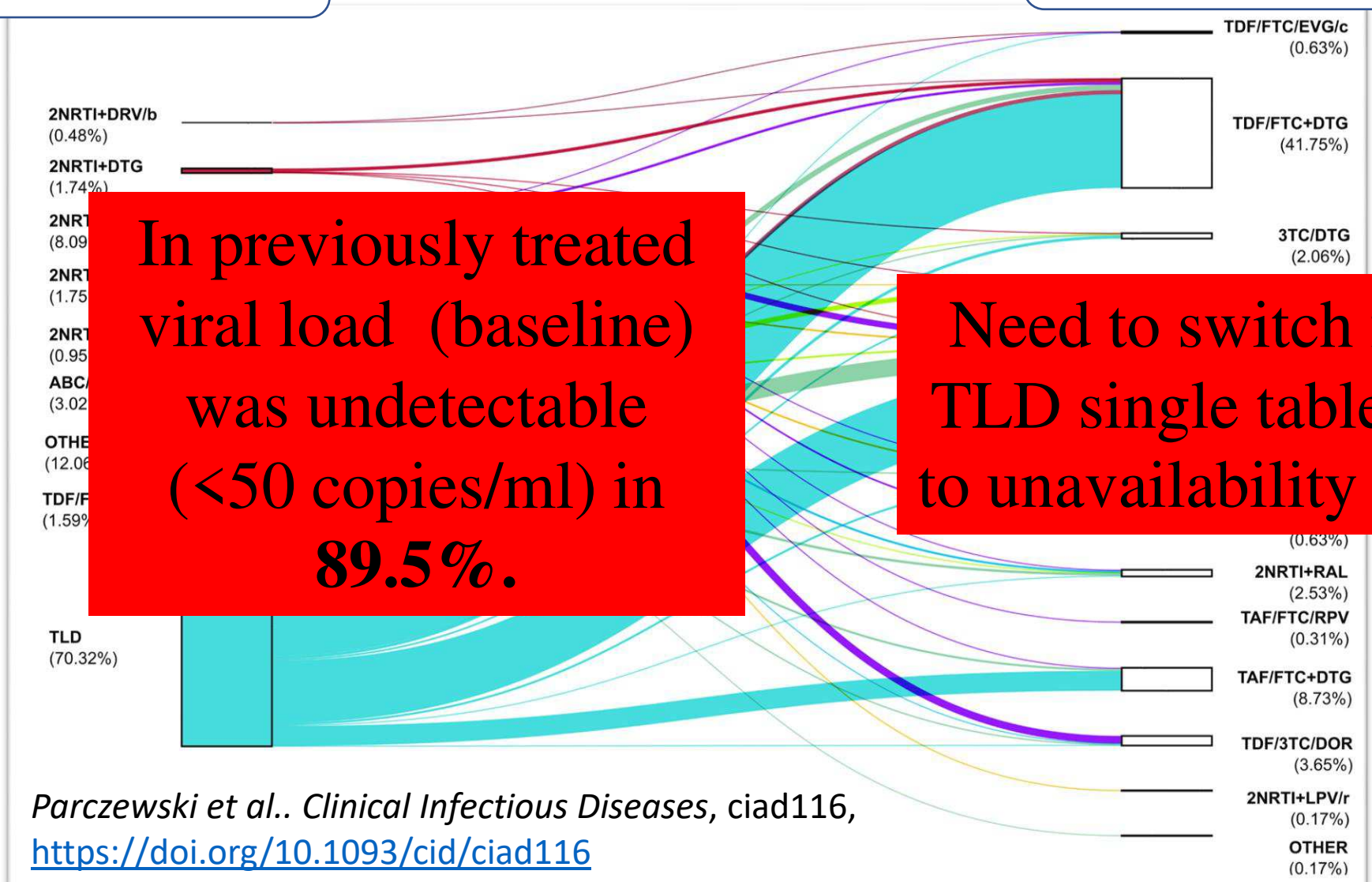
Challenge:
Integrated services especially gynecological and obstetric care, contraception, pregnancy management.
Language barrier of key importance (sensitive care/fear of stigma)

Parczewski et al.. Clinical Infectious Diseases, ciad116, https://doi.org/10.1093/cid/ciad116

Antiretroviral treatment data

ART in Ukraine

ART in Poland



In previously treated viral load (baseline) was undetectable (<50 copies/ml) in **89.5%.**

Need to switch from TLD single tablet due to unavailability in EU

Parczewski et al.. Clinical Infectious Diseases, ciad116, https://doi.org/10.1093/cid/ciad116

Issue of latent TB

- In 53 migrants entering HIV care IGRA test was positive in **30.2% of cases**,
- Radiologic abnormalities suggestive of previous TB were identified in **37.5% of images**.
- Positive IGRA was more common among **males** (n=10, 45.5%) compared to female gender (n=6, 19.3%), p=0.04, associated with **undetectable viral load at baseline** (n=14, 36.8% compared to n=1, 8.3% among cases with detectable HIV viremia, p=0.05).
- Previous TB diagnosis was **self-reported in 22.6%,** but did not associate with IGRA positivity, also there were **no significant associations with lymphocyte CD4+ count and CD4+/CD8+ ratio or age**.

Female, 29yo in PL about 1y

Ukranian migrants newly diagnosed with HIV in Poland from 2022 (n=216)

Median age: 37 (IQR:31-43) years

55.7% female

Median lymphocyte CD4 count at diagnosis: 189 (54-442) cells/µl

Median HIV-1 viral load at diagnosis: 4.93 (4.17-5.58) log copies/ml

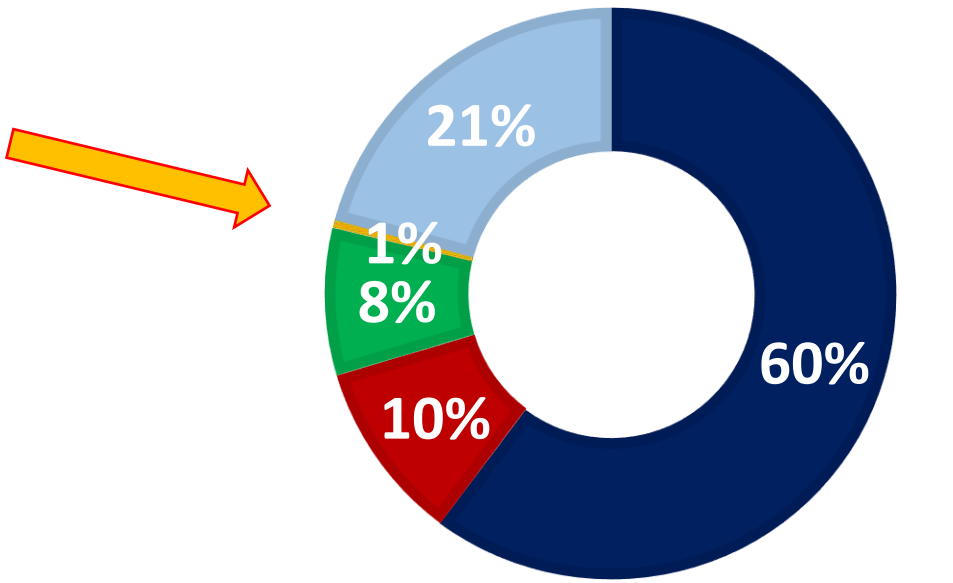
24.1% Anti-HCV (+), 2.54% HBs Ag (+)

Among Anti-HCV (+): 74.1% HCV-RNA (+)

Syphilis serology positive: 9.8%

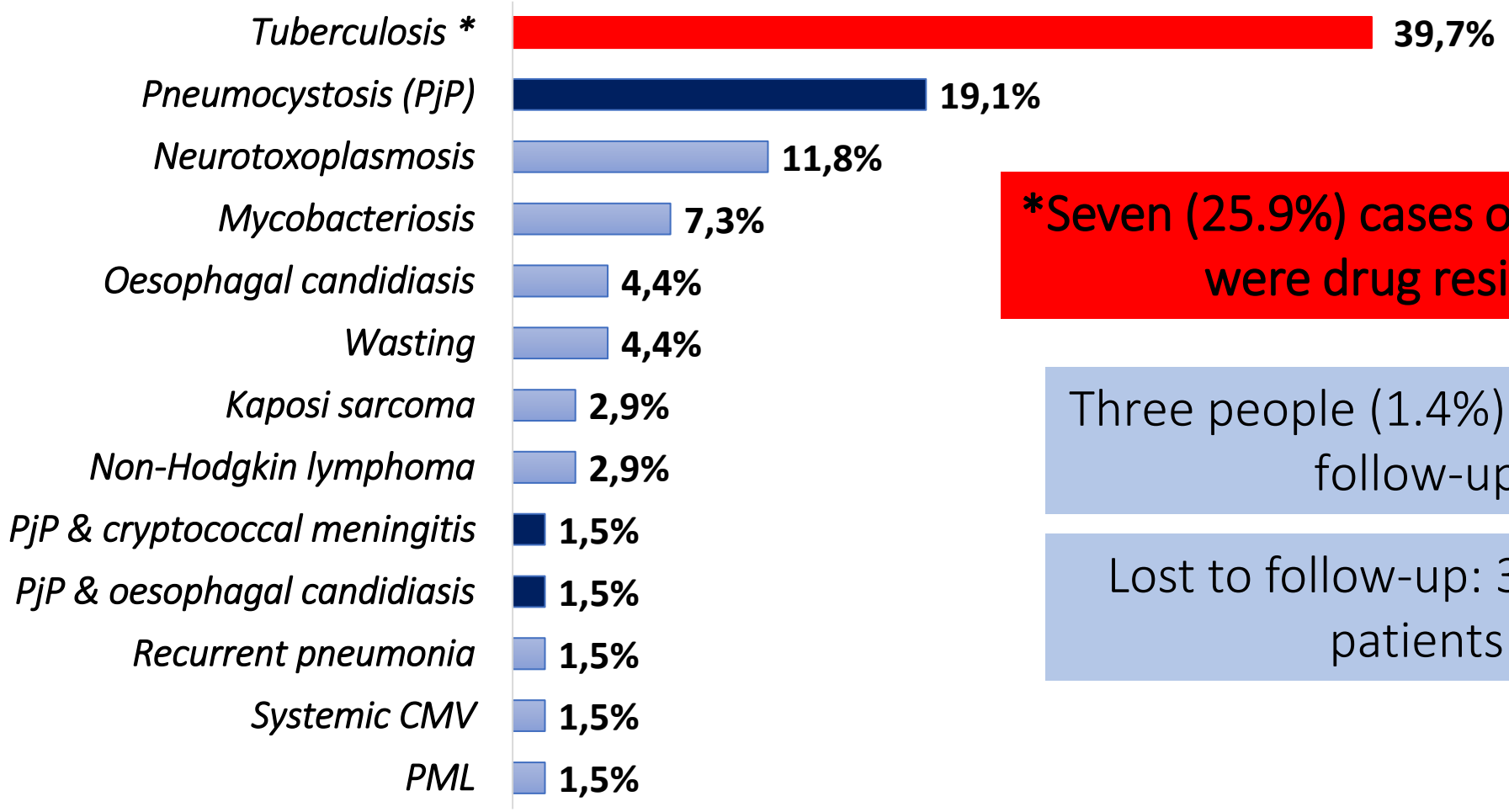
Anti-HBs > 10 IU/ml: 25,32%

Transmission routes



Late diagnoses among Ukranian migrants newly diagnosed with HIV in Poland from 2022 (n=216)

69.7 % diagnosed late → 40 % diagnosed with AIDS



*Seven (25.9%) cases of tuberculosis were drug resistant

Three people (1.4%) died during follow-up

Lost to follow-up: 30 (13.9%) patients

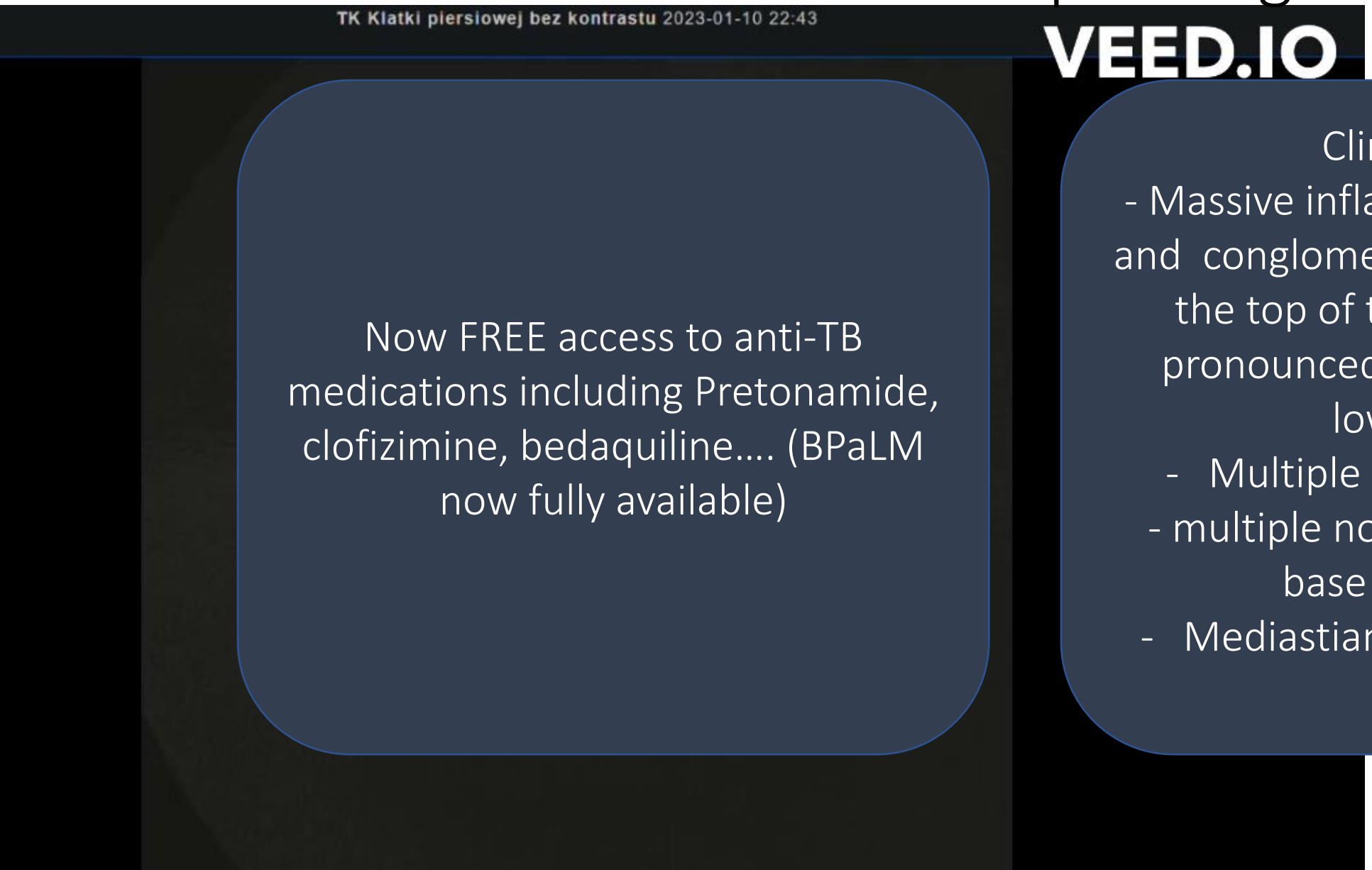
Late HIV diagnosis and migration hinders elimination

- High proportions of migrants acquire HIV after migration
- This group frequently presents to care late
- Migrants are often more likely to experience worse HIV treatment outcomes compared to native populations
- Stigma and limited access to care are primary drivers of poor HIV outcomes among migrants in high-income countries
- Linguistic and cultural barriers in health care settings also limit outcomes
- Migrants' high level of mobility is predictive of poor engagement in HIV care and ART disruption

There is an urgent need to include war-displaced people in the national HIV prevention and treatment programs to reduce the further spread of transmission networks.

Ross J, et al. CurrOpinInfect Dis . 2018 Feb;31(1):25-32.2

Number of AIDS cases and multidrug resistant tuberculosis is expanding



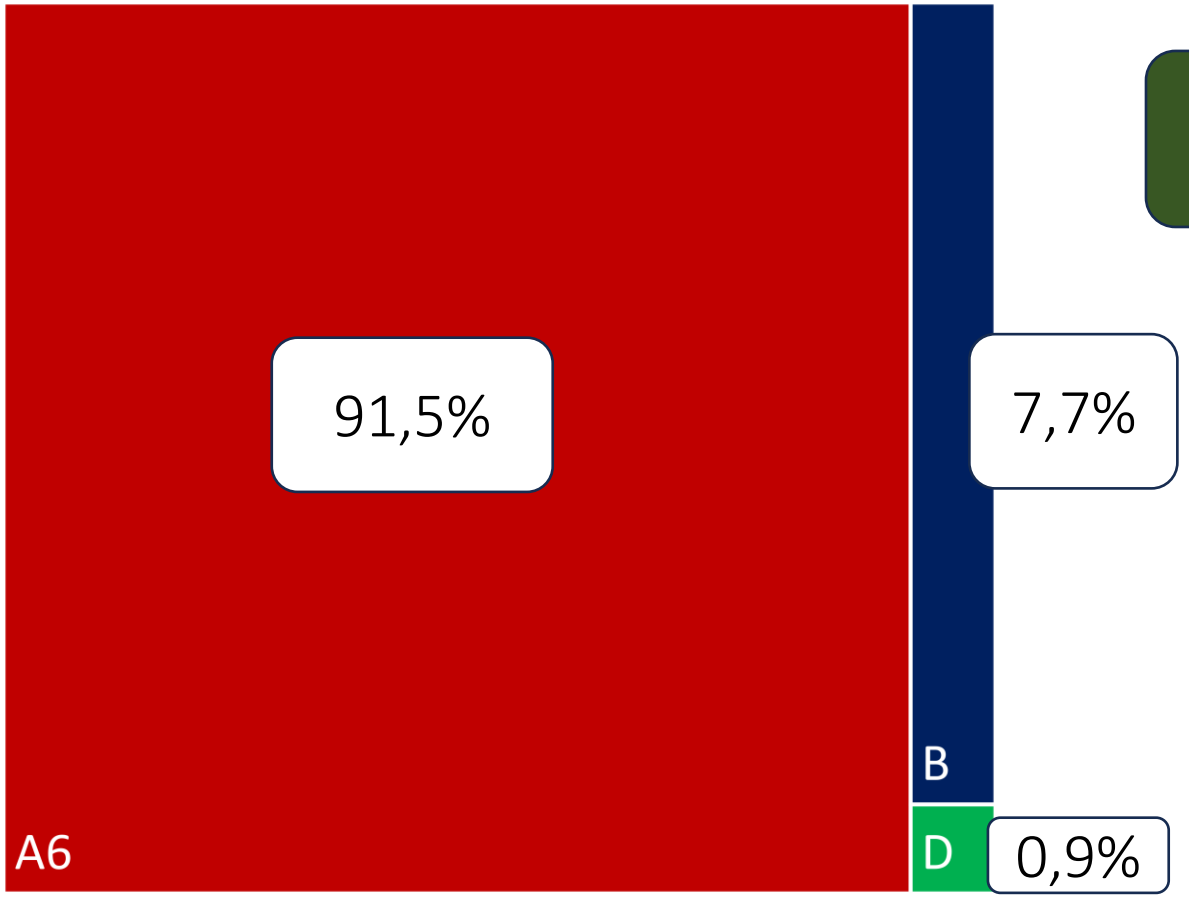
Now FREE access to anti-TB medications including Pretonamide, clofizimine, bedaquiline…. (BPaLM now fully available)

Clinical case:

- Massive inflammatory infiltration and conglomerates extending from the top of the right lung, less pronounced in the middle and lower lobes
- Multiple right sided cavities
- multiple nodular lesions at the base of the lungs
- Mediastianal lymph nodes not enlarged

HIV variants and drug resistance mutations (DRMs) among newly diagnosed patients

HIV variants

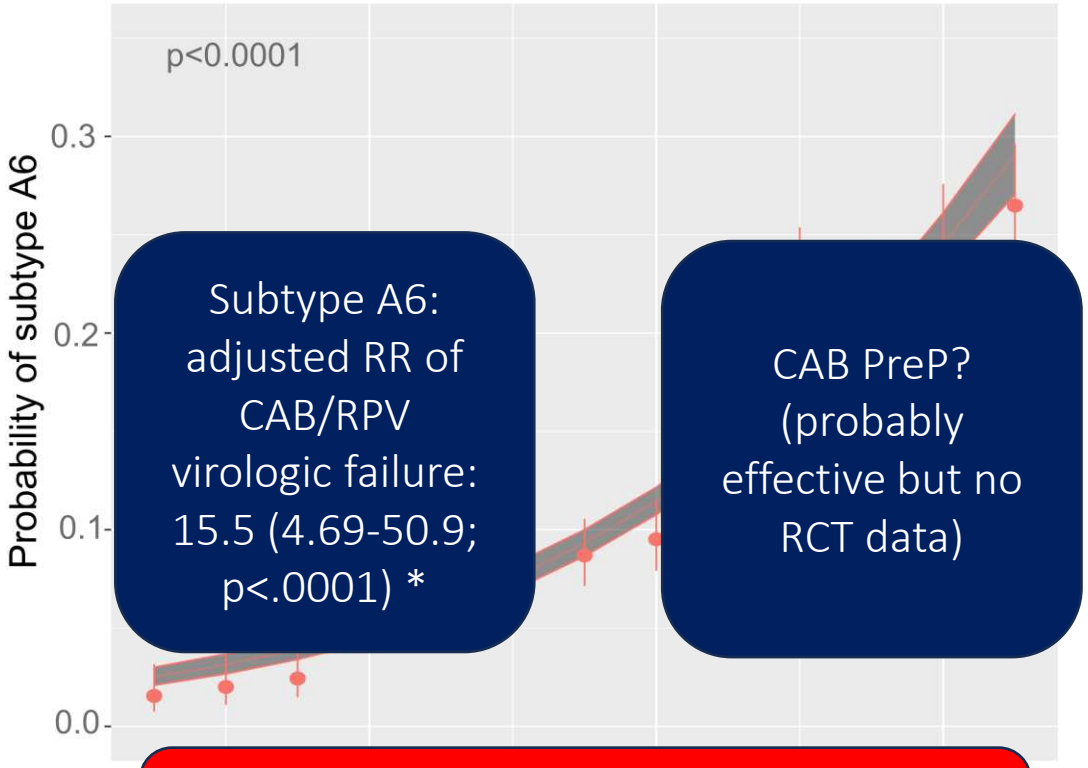


HIV DRMs

Integrase	O%	Protease	O%
NRTI	2,6% →	TAMs & M148V	
NNRTI	14,5% →	E138A - 8,5% E138K – 1.7% K101E/H+E138A/K - 4.3%	

In A6 infected Rilpivirine associated DRMs observed in 14.2%

Changing subtype pattern



Subtype A6: adjusted RR of CAB/RPV virologic failure: 15.5 (4.69-50.9; p<.0001) *

CAB PreP? (probably effective but no RCT data)

A6 gaining predominance in Poland

Subtype distribution in migrants since war

In A6 infected Rilpivirine associated DRMs observed in 14.2%

Additional data on resistance among migrants

A6: 89.5% (ART experienced), 87.1% (ART naive)

*Orkin. HIV Drug Therapy Glasgow 2022. Abstr O44.

Parczewski et al.. Clinical Infectious Diseases, ciad116, https://doi.org/10.1093/cid/ciad116

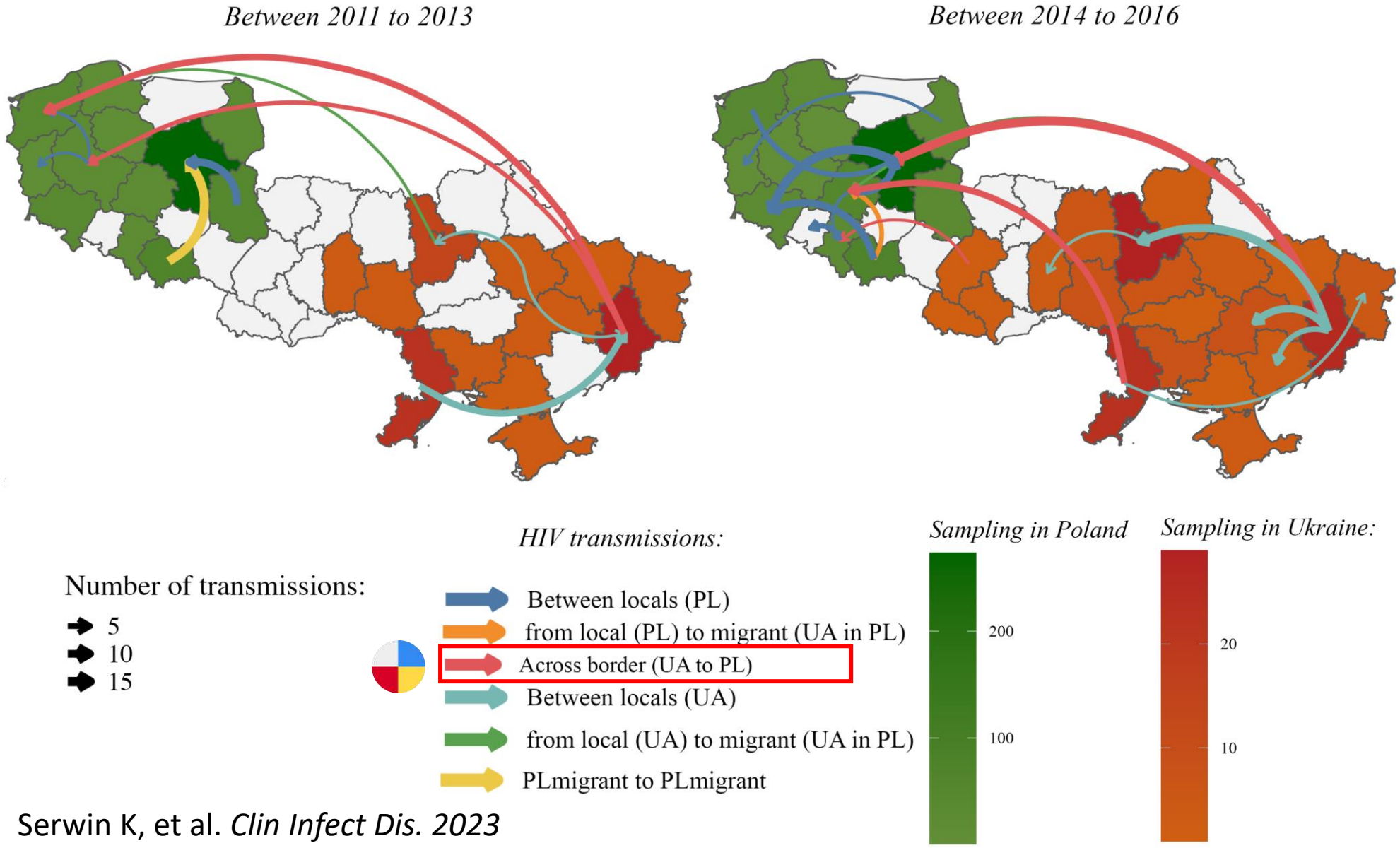
Issue of HIV drug resistance: no previous data

Patient ID	Age	Gender	ARV exposure	Subtype	NRTI DRMs	NNRI DRMs	PI DRMs	InI DRMs
1666	44	Female	TDF/3TC/EFV	A6			None	None
46uk	47	Female					None	None
97	35	Female					None	None
SV180274	48	Male					M46I, V82S	None
1732	48	Male			M184V,I215F	190S	None	E138K,Q148R,R263K
36uk	41	Female	TDF/3TC/EFV	A6	None	K101E,E138G	None	None
1601	58	Female	TLD	A6	M184MV			
1715	43	Male	TLD	A6	None	V106I,Y188YC	None	None

Challenges:

- Access to drug resistance testing poor in CEE
- Small numer of emerging drug resistance
- Common RPV resistance

Of note: Conflict affected eastern regions of Ukraine fuel the A6 epidemics since 2014!



Serwin K, et al. *Clin Infect Dis. 2023*

Treatment challenges across Europe create new opportunities to end the HIV epidemic

Challenges

Shift from MSM to heterosexual females

Movement of refugees from one country to another

Management of opportunistic infections and comborbidities

Strain on EU healthcare systems

Opportunities

More people are and will get diagnosed and linked to care

PreP access is expanding in the highly stigmatised settings of Central Europe

Host countries can offer stigma-free and easy-to-access HIV testing

By sharing the burden of the HIV epidemic fleeing Ukraine amongst more countries, we (can) significantly improve the epidemic situation overall-even if it comes with more demands and challenges for countries who were further ahead on the path to eliminate HIV by 2030.

Jonas K, et al. AIDS.2022;36(12):1745-1746. Accessed March 9, 2023. | DOI: 10.1097/QAD.0000000000003271

Conclusions and challenges

- New cases were diagnosed late, often following AIDS defining condition, urgent need to improve early diagnosis
- **Implementation study to test and treat is needed**
- AIDS and drug resistant TB, as well as Latent TB guidelines to be applied
- Integration into prophylacitic programmes – HBV vaccination, cervical cancer screening
- Changing subtype pattern – with further spread of A6 across Europe is expected both in heterosexual and MSM populations

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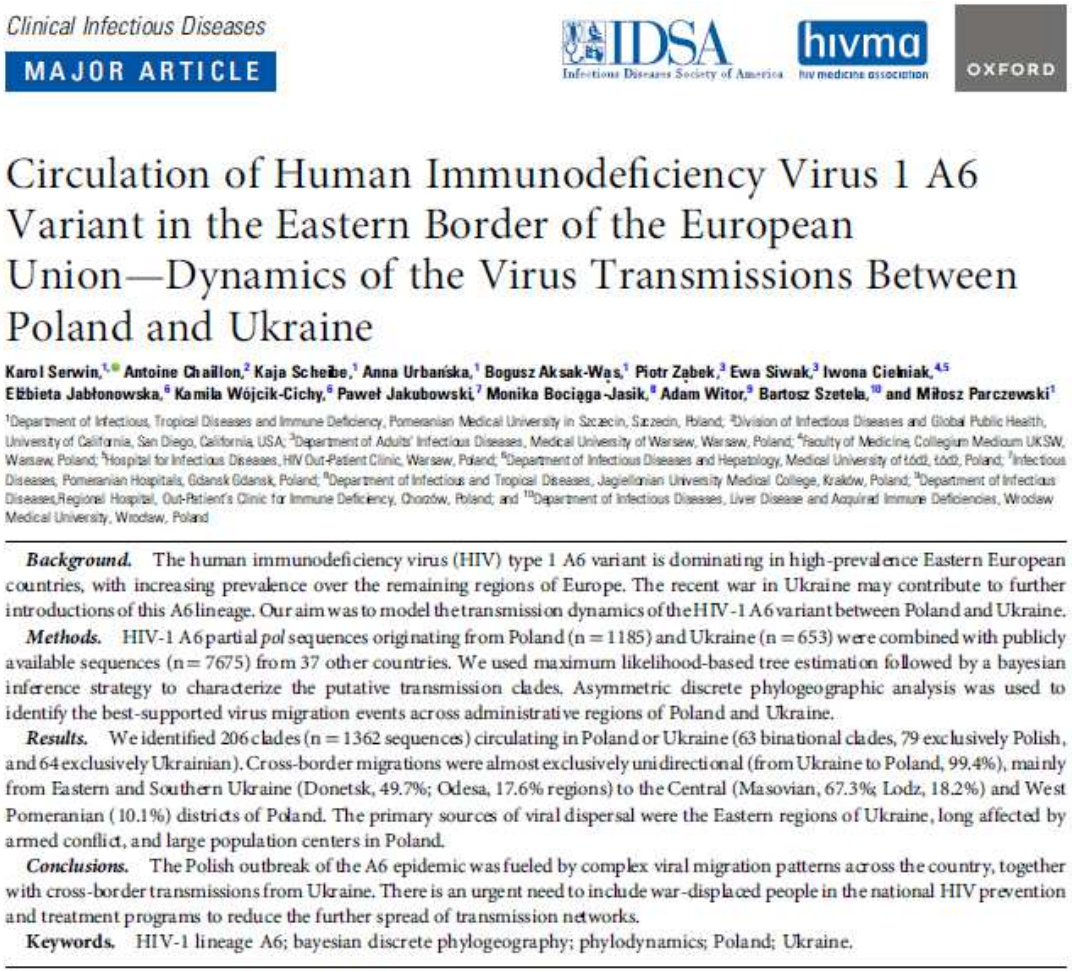

Clinical Infectious Diseases

MAJOR ARTICLE

Circulation of Human Immunodeficiency Virus 1 A6 Variant in the Eastern Border of the European Union—Dynamics of the Virus Transmissions Between Poland and Ukraine

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Background. The human immunodeficiency virus (HIV) type 1 A6 variant is dominating in high-prevalence Eastern European countries, with increasing prevalence over the remaining regions of Europe. The recent war in Ukraine may contribute to further introductions of this A6 lineage. Our aim was to model the transmission dynamics of the HIV-1 A6 variant between Poland and Ukraine.

Methods. HIV-1 A6 partial *pol* sequences originating from Poland (n = 1185) and Ukraine (n = 653) were combined with publicly available sequences (n = 7675) from 37 other countries. We used maximum likelihood-based tree estimation followed by a bayesian inference strategy to characterize the putative transmission clades. Asymmetric discrete phylogeographic analysis was used to identify the best-supported virus migration events across administrative regions of Poland and Ukraine.

Results. We identified 206 clades (n = 1362 sequences) circulating in Poland or Ukraine (63 binational clades, 79 exclusively Polish, and 64 exclusively Ukrainian). Cross-border migrations were almost exclusively unidirectional (from Ukraine to Poland, 99.4%), mainly from Eastern and Southern Ukraine (Donetsk, 49.7%; Odesa, 17.6% regions) to the Central (Masovian, 67.3%; Lodz, 18.2%) and West Pomeranian (10.1%) districts of Poland. The primary sources of viral dispersal were the Eastern regions of Ukraine, long affected by armed conflict, and large population centers in Poland.

Conclusions. The Polish outbreak of the A6 epidemic was fueled by complex viral migration patterns across the country, together with cross-border transmissions from Ukraine. There is an urgent need to include war-displaced people in the national HIV prevention and treatment programs to reduce the further spread of transmission networks.

Keywords. HIV-1 lineage A6; bayesian discrete phylogeography; phylodynamics; Poland; Ukraine.

https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciad058/7043738?searchresult=1

Thank you

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