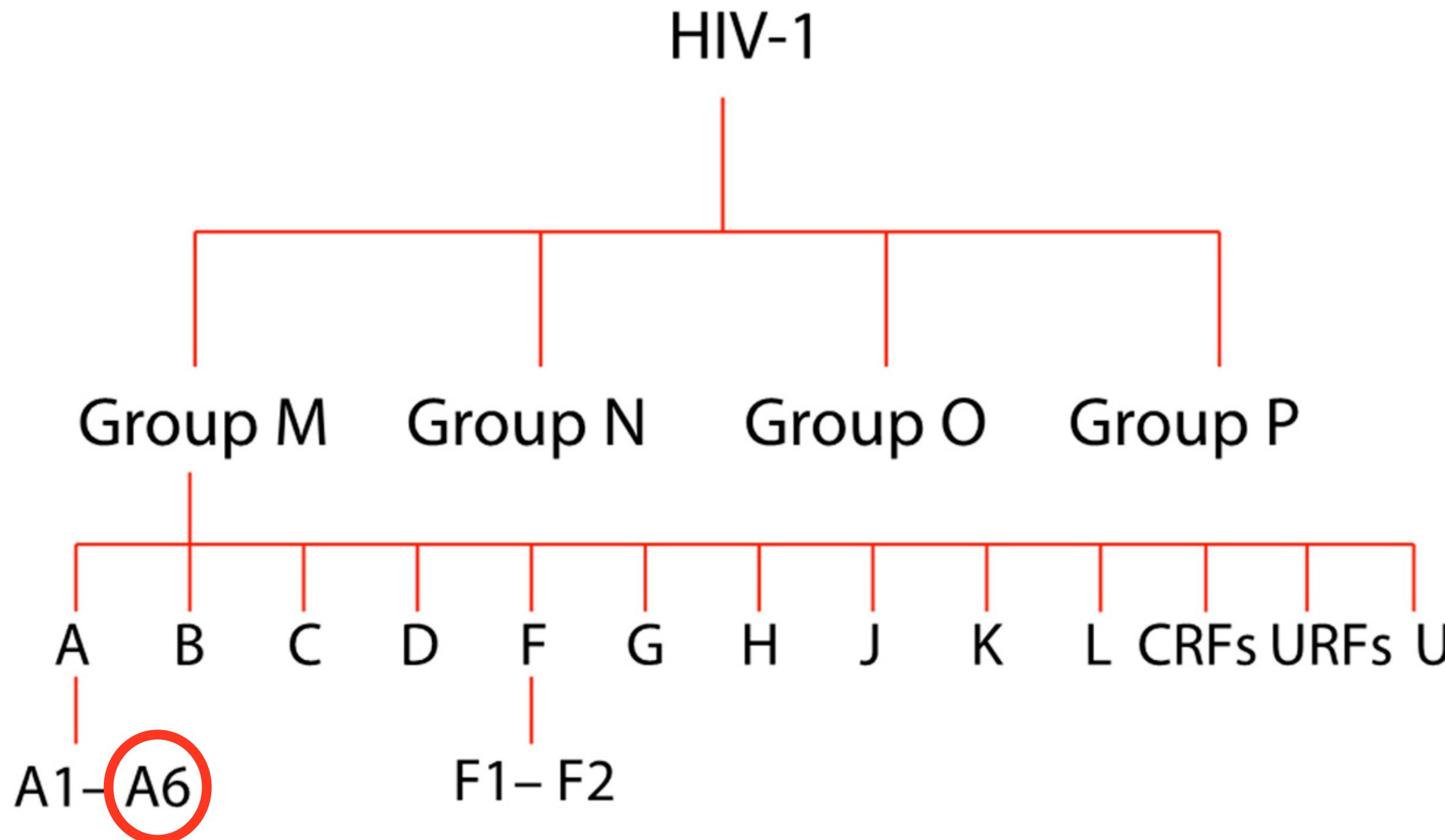


EXPANSION OF HIV-1 SUB-SUBTYPE A6 IN BELGIUM

Virginie Mortier, Laurent Debaisieux, Geraldine Dessilly, Ben Serrien, Karolien Stoffels, Dolores Vaira, Dominique Van Beckhoven, Ellen Van Cutsem, Dorien Van den Bossche, Kristel Van Laethem, Fien Vanroye and Chris Verhofstede
30/11/2023 – 11th BREACH meeting – Dolce la Hulpe



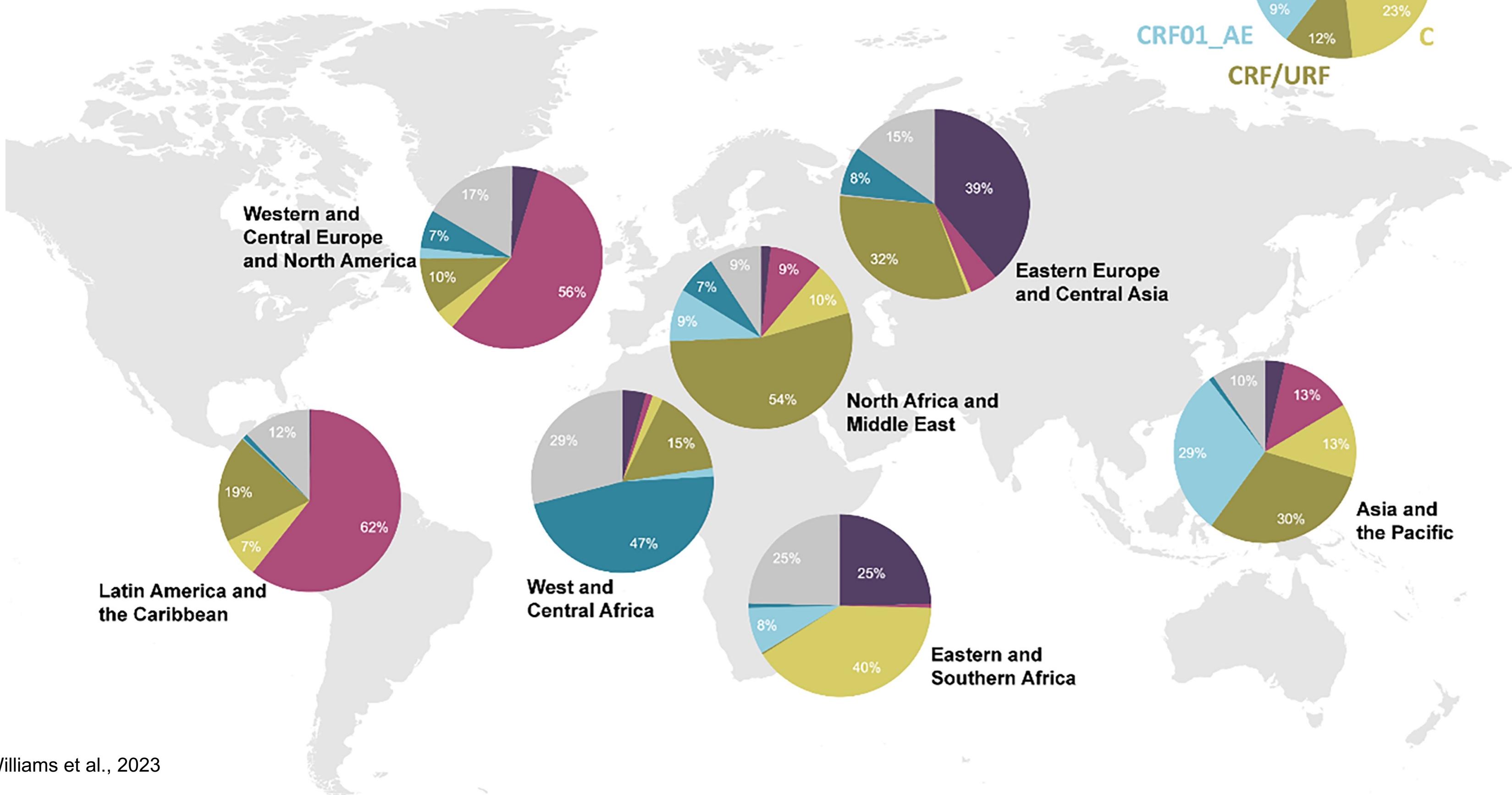
HIV-1 SUBTYPES



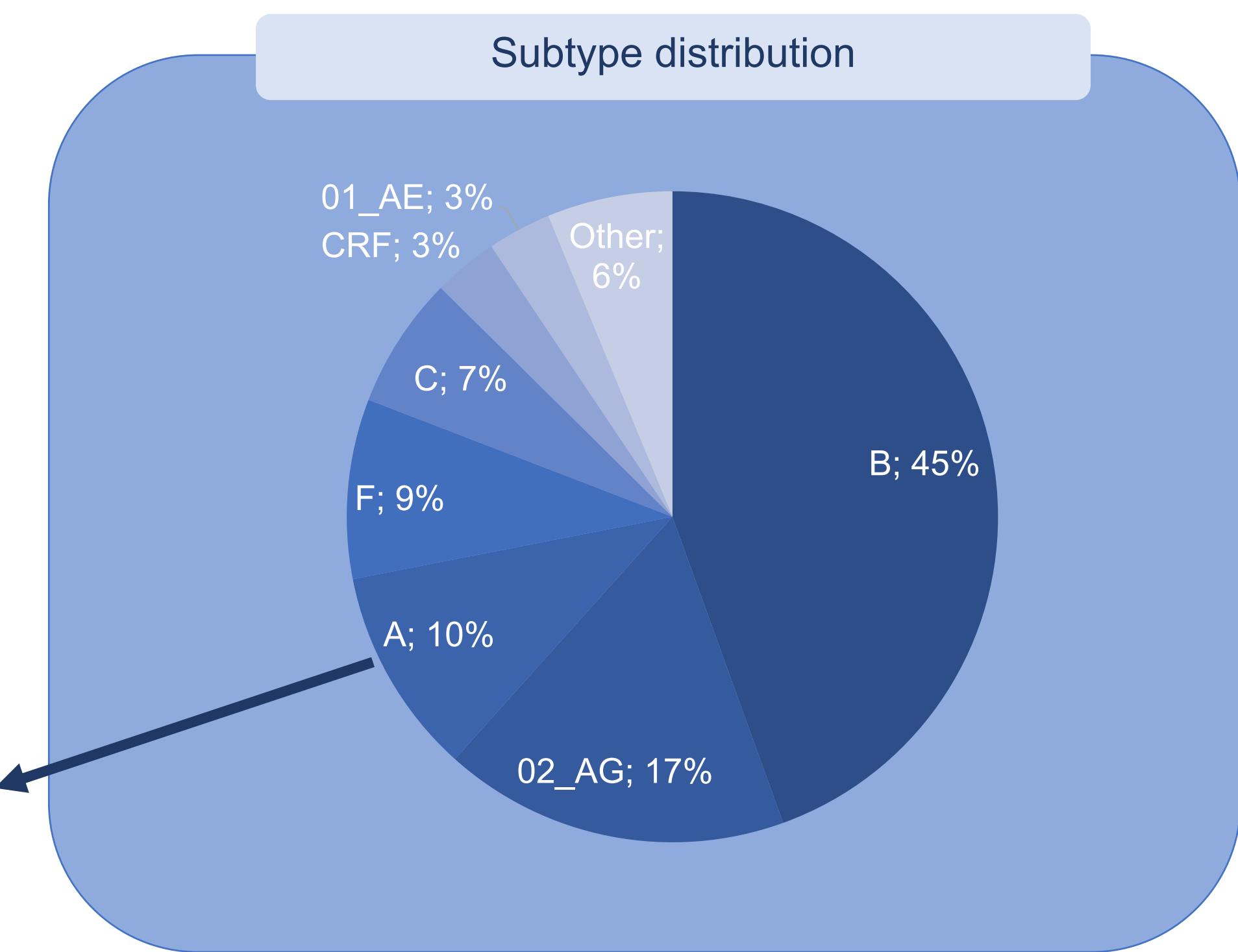
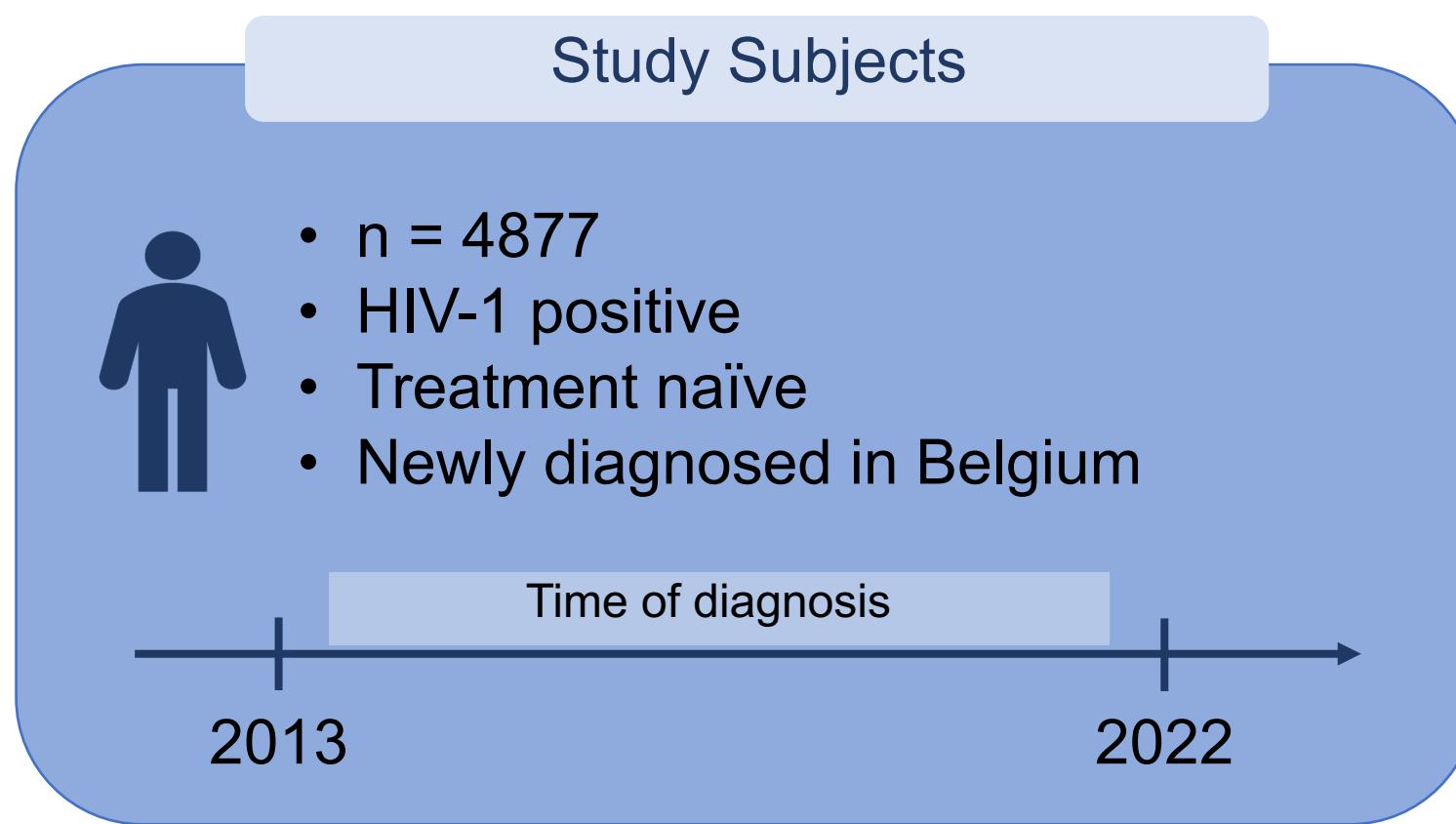
Giovanetti et al., 2020

HIV subtype distributions by region (2010-2021)

Pooled prevalence



HIV-1 SUBTYPE DISTRIBUTION IN BELGIUM



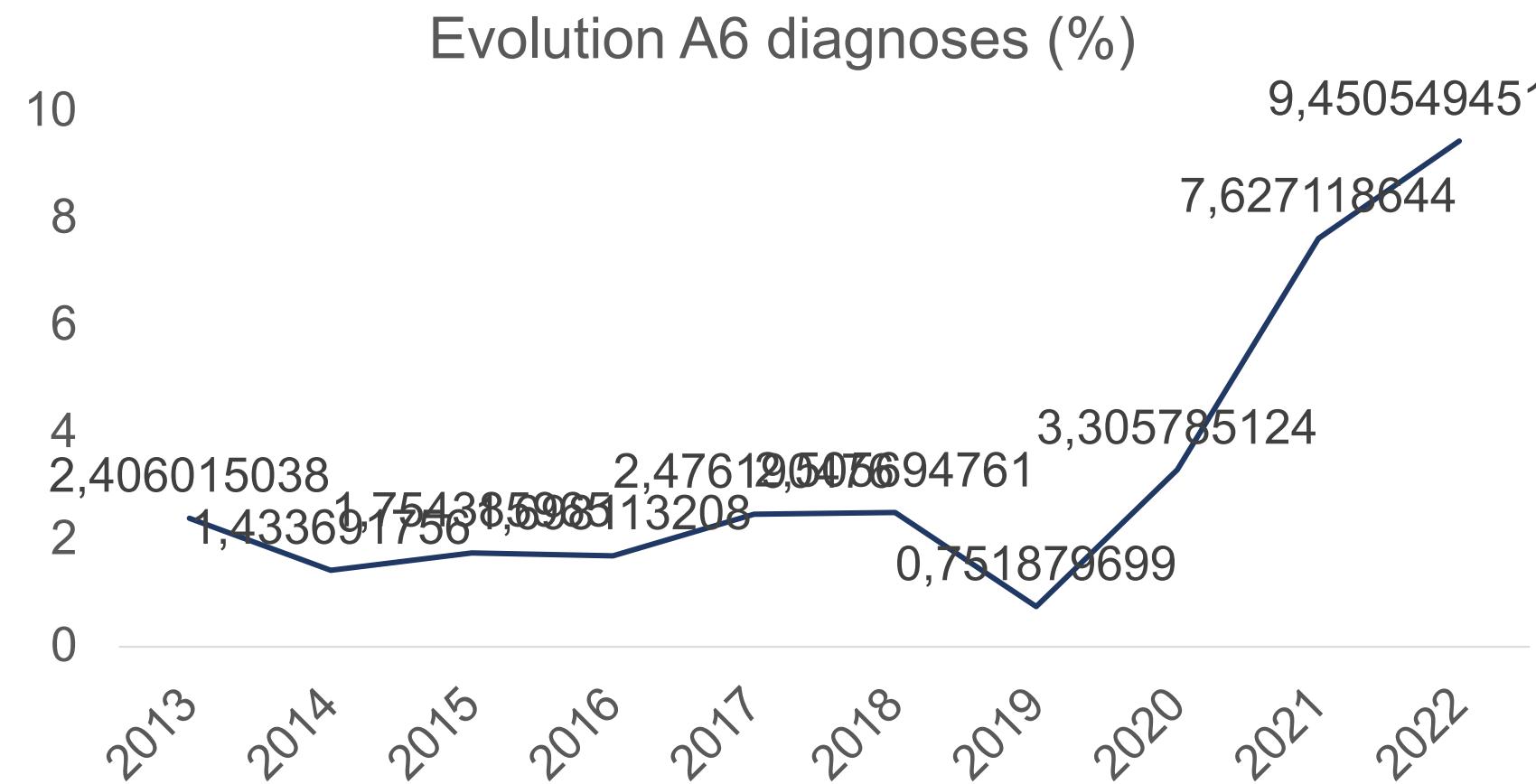
3% sub-subtype A6

- 151 individuals
- Dominant variant in Former Sovjet Union
- Contraindication Cabotegravir and Rilpivirine long-acting injectables

- Sub-subtype A1-A6
- BMI > 30
- Resistance to cabotegravir or rilpivirine

ALL INDIVIDUALS INFECTED WITH A VIRUS OF SUB-SUBTYPE A6

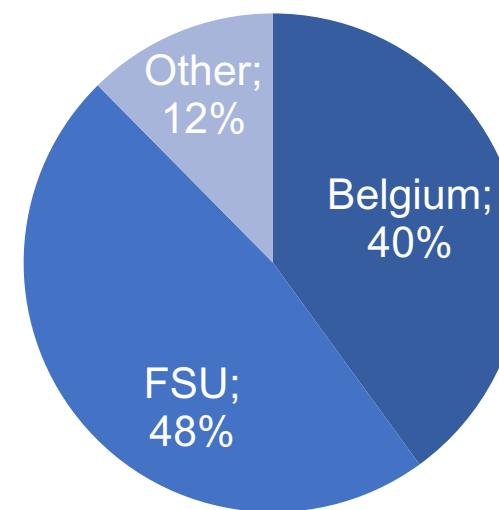
- 151 Individuals with sub-subtype A6
- Increase in prevalence observed
 - < 2020: 1.9% on average
 - ≥ 2020 : 7.0% on average



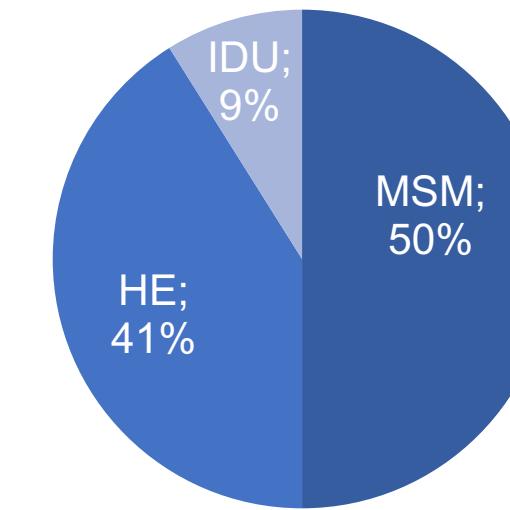
ALL INDIVIDUALS INFECTED WITH A VIRUS OF SUB-SUBTYPE A6

- Origin: FSU (48%), Belgium (40%) and other (12%)
- Risk category: MSM (50%), HE (41%) and IDU (9%)
- Increase observed for people of all origin and all risk categories

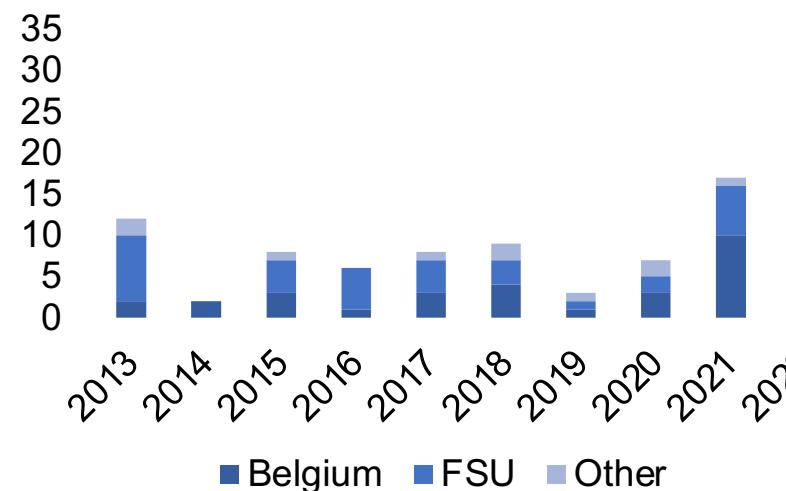
Origin A6 diagnoses



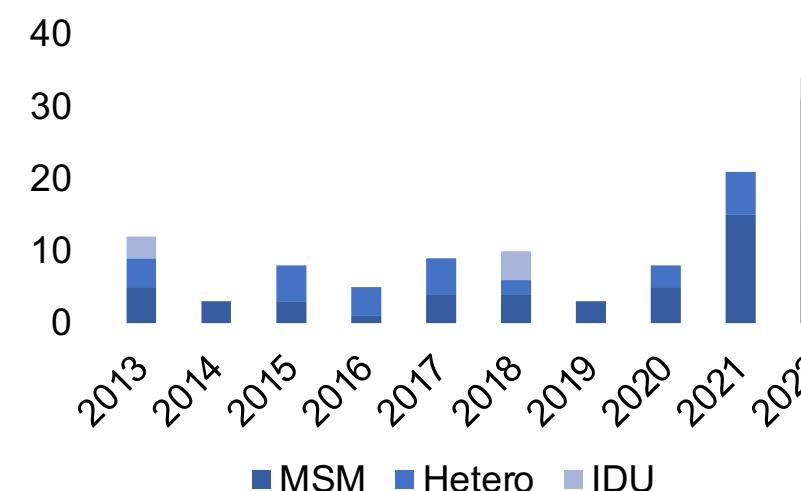
Risk A6 diagnoses



Evolution origin A6 diagnoses (#)



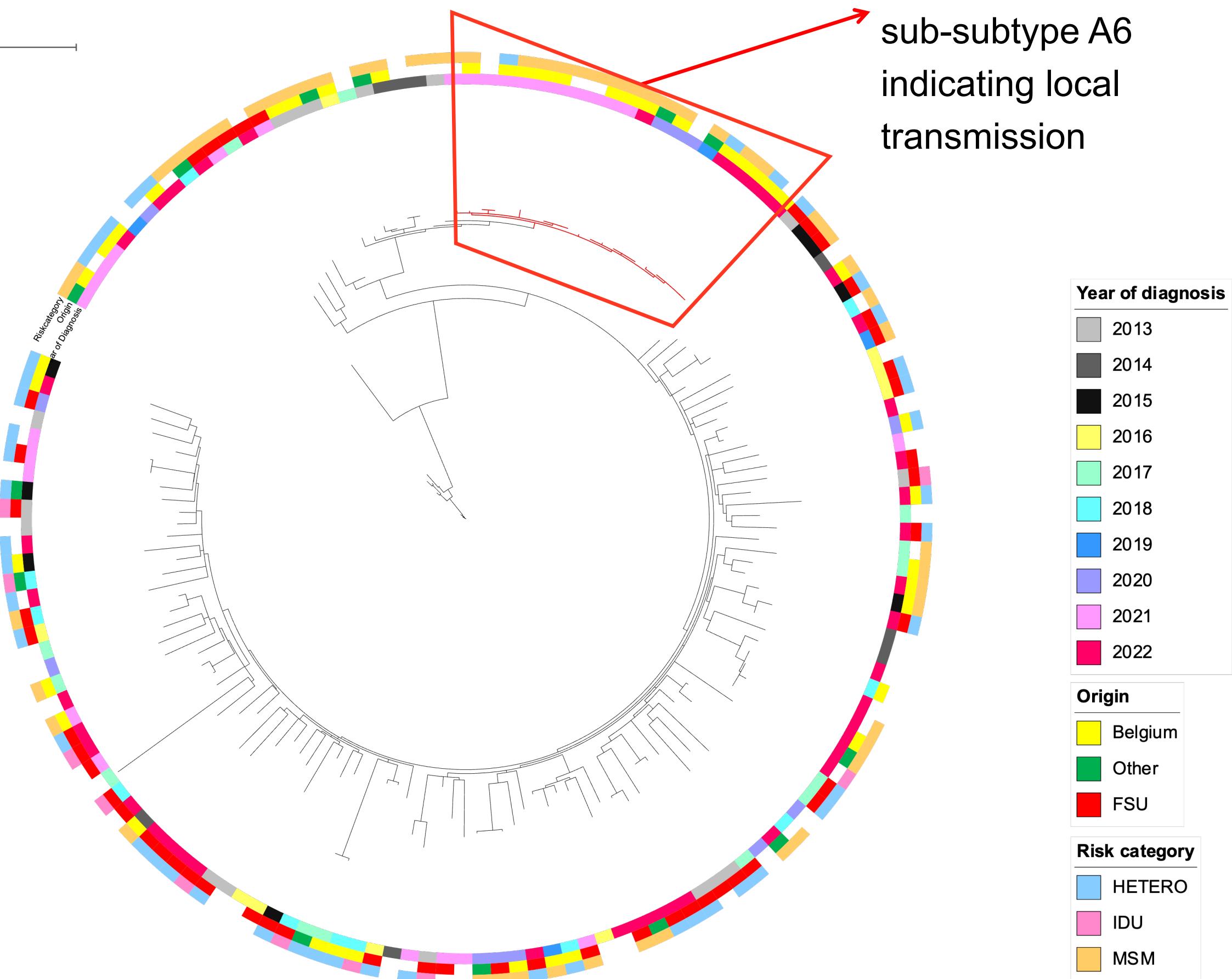
Evolution risk A6 diagnoses (#)



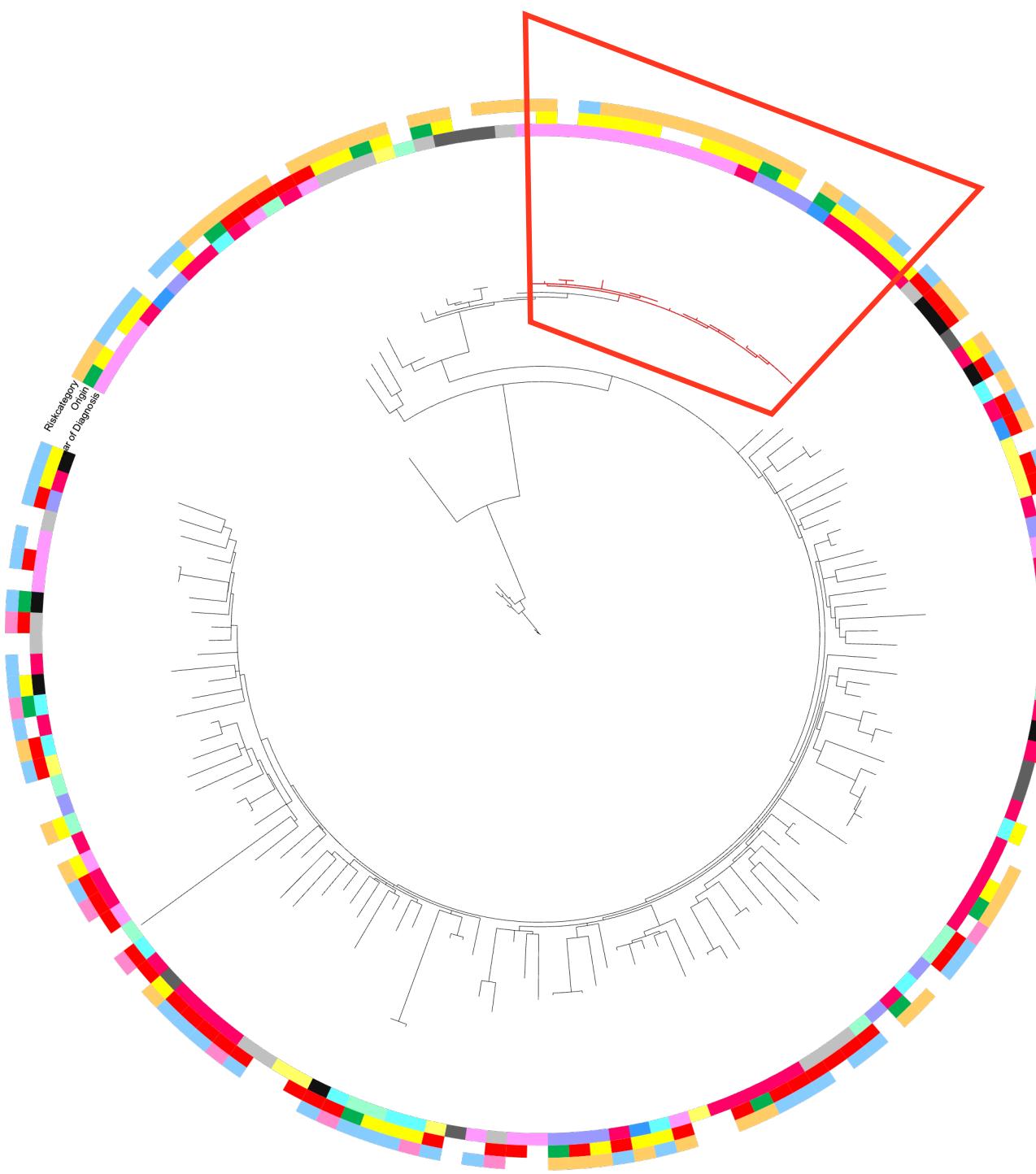
PHYLOGENETIC TREE OF SUB-SUBTYPE A6

- PR/RT sequences of 151 patients infected with HIV-1 virus of sub-subtype A6
- The phylogenetic tree represents the evolutionary relationships among a group of organisms.
- The length of the branches reflect the amount of genetic change

Tree scale: 0.1

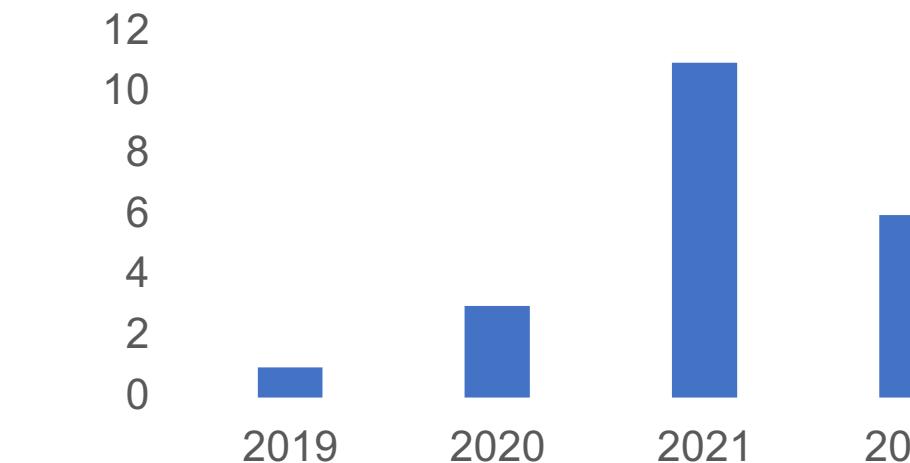


INDIVIDUALS FROM EXPANDING SUB-SUBTYPE A6 CLUSTER

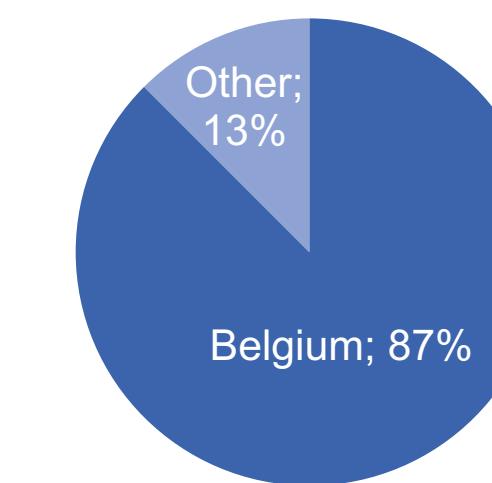


- Cluster of 21 individuals
- Recent local onward transmission
- Origin: 14 Belgians (87%) and 2 Northern Africans (13%)
- Risk category: 15 MSM (83%) and 3 HE (17%)

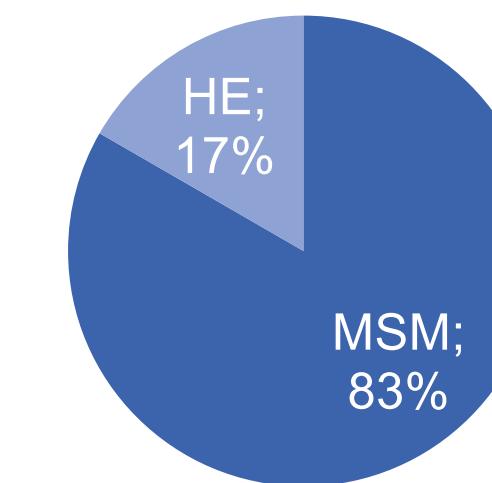
Expansion A6 cluster (#)



Origin A6 cluster



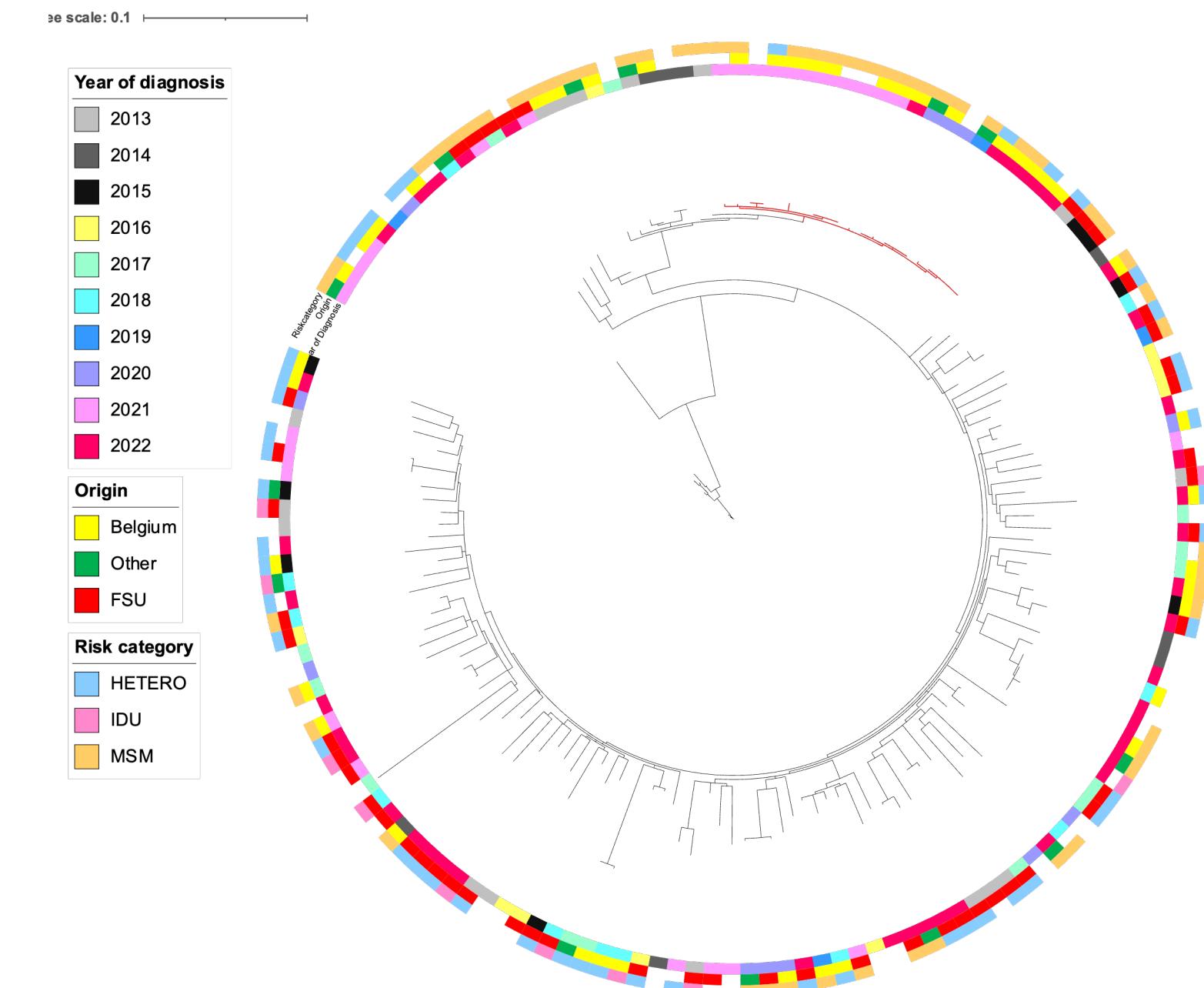
Risk A6 cluster



CONCLUSIONS

Prevalence of HIV-1 sub-subtype A6 increasing significantly in Belgium since 2020:

- growing number of people living with HIV originating from the FSU
- local transmission between mainly Belgian MSM.



ACKNOWLEDGEMENTS

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