

The German HIV Incidence Study 2008 - 2010:

Recent Infections by Sociodemographic Factors and Mode of Transmission

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Background

Monitoring of recent HIV infections is crucial for assessing current dynamics and changing patterns of the HIV epidemic. A nationwide cross-sectional study was initiated to estimate the proportions of recent infection (RI) among newly diagnosed HIV cases in Germany. Factors associated with RI were explored.

Methods

Sociodemographic, clinical and laboratory data were collected from a representative sample of patients with a newly diagnosed HIV infection in Germany from 1st March 2008 – 31st March 2010. To distinguish recent (< 5 months) from longstanding (> 5 months) HIV infection, the BED IgG-capture ELISA was performed from dried blood samples (DBS). Proportions were compared using standard chi-square test.

Conclusions

Highest proportions of recent HIV infections were found in MSM and IDU, especially in age-group < 30 years, indicating either ongoing transmission or early and frequent testing as a result of good risk awareness in these groups. Older MSM aged >45 years, persons from HPC and persons indicating heterosexual transmission were diagnosed at a later stage and less often had a history of previous HIV tests. Access to HIV testing in these groups should be improved to avoid late diagnosis. In order to enable the calculation of direct incidence rates for different populations, more accurate information on previous negative tests performed and size of groups at risk needs to be collected in the future.

References

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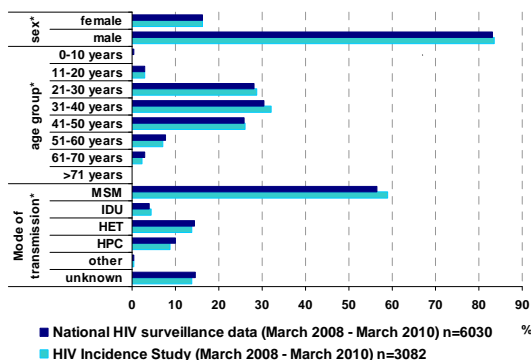
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Results

- A total of 3,082 samples were identified as eligible new HIV diagnoses corresponding to 51% of all newly diagnosed HIV infections (n=6,030) reported to the national HIV register in the same period.
- The study sample was representative for the national case reports in terms of sex, mode of transmission, region of origin and federal state of residence (figure 1).
- The overall proportion of RI in the study sample was 29.2%.
- Men were found to be recently infected in 30.8% (793/2,575), whereas the proportion of RI in women was 21.4% (107/499) (OR=1.6; 95%CI [1.3;2.1]).
- Highest proportions of RI among all newly diagnosed infections in the study sample were found in MSM (34%; 616/1,818) and in the small group of IDU (35%; 48/137).
- Recency proportion in MSM was significantly higher compared to men with heterosexual transmission (25.4%; n=57/224; OR=1.5; 95%CI [1.1;2.1]) and men originating from HPC (10.4%; n=10/96; OR=4.4; 95%CI [2.3;8.5]. (figure 3).
- In Western European women with heterosexual transmission, the proportion of RI was 23.2% (45/194), whereas women from HPC were diagnosed during RI in 16.2% (28/173; p=0.09) (figure 4).
- In all transmission categories, proportions of RI were highest in the youngest age-group (18-29 years) compared to age-group 30-45 years and age-group >45 years (figure 5).

Figure 1: Representativeness of the study population (newly diagnosed HIV infections)



MSM = Men who have sex with men, HET = men/women with heterosexual transmission, HPC = men / women with heterosexual transmission and originating from high prevalence countries; IDU = intravenous drug users

Figure 2: Region of origin (study population)

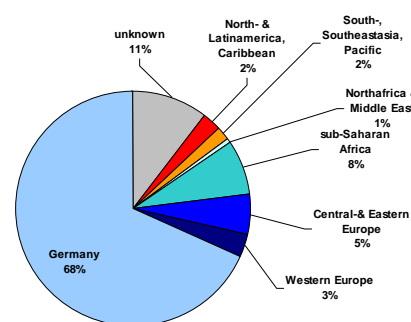


Figure 3: Proportion of RI in men by mode of transmission

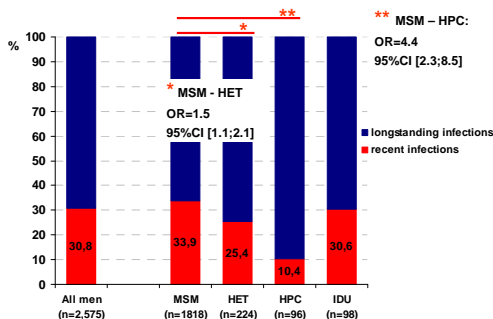


Figure 4: Proportion of RI in women by mode of transmission

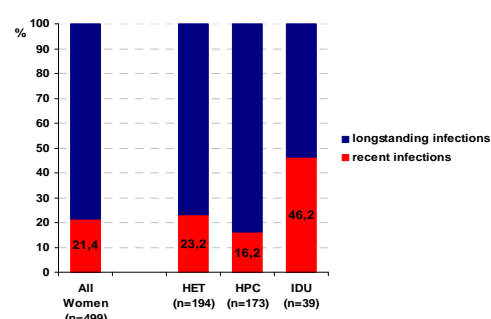
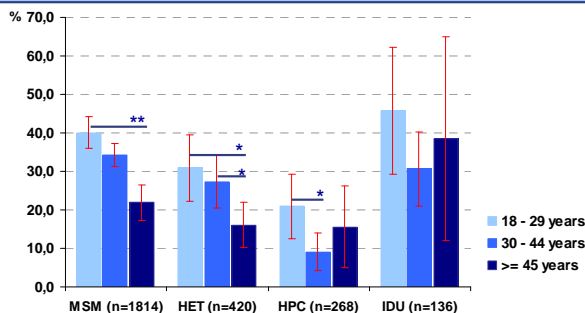


Figure 5: Proportion of RI per age group and mode of transmission



** p < 0.02 in MSM for all age groups
* p < 0.02

Figure 6: Previous HIV testing

- For 37.5% of samples (1,155/3,082) information on previous HIV tests was available.
- MSM were the group that most often had previous tests (47.4%; 861/1,818), followed by IDU (37%; 51/137), persons with heterosexual transmission (23.7%; 99/418) and HPC (19.7%; 53/269).
- Overall, for 407 (35.2%) cases tests within the previous 12 months were reported, and among these 255 (62.7%) had a RI.

	All (n=3,082)	MSM (n=1,818)	HET (n=422)	HPC (n=271)	IDU (n=137)
recent infections (n=951)	492	663	334	477	33
longstanding infections (n=2,131)	2,131	1,155	388	224	104
information on previous HIV test available (n)	492	663	334	477	33
among these: last test within last 12 months	255 (52%)	152 (23%)	101 (30%)	116 (24%)	16 (48%)
last test within 12 months - 5 years	192 (39%)	354 (53%)	153 (46%)	255 (53%)	9 (27%)
last test longer than 5 years ago	45 (9%)	157 (24%)	30 (9%)	106 (22%)	8 (24%)

Acknowledgements: The authors thank 64 laboratories contributing to the laboratory arm of the incidence study and all private practitioners, clinicians and patients participating in the clinical study arm. Without these cooperating partners who collected blood samples and data the project would not have led to the presented results. The study is funded by a grant by the German Federal Ministry of Health.

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