

NOT IF, BUT HOW

Munich RE 



HIV – Destigmatisation
of a chronic disease

For many years, people living with HIV (PLWH) were uninsurable as this infection resulted in severe immunodeficiency and consequently death in almost all cases. In the mid-1990s, this dire prognosis began to change. Researchers developed antiretroviral therapy (ART), improving the survival prospects significantly. This therapy was so successful that the mortality rate declined dramatically. Since then, ART has continued to improve, substantially reducing mortality and morbidity among PLWH.

Thanks to this medical breakthrough, PLWH are today no longer uninsurable. As early as 2008, Munich Re introduced rating guidelines for insuring PLWH under certain medical circumstances. Since 2015 it is possible to assess HIV with Munich Re's regular risk manual offering life ratings for the majority of infected. At that time, there was still not enough evidence and longtime experience to be able to offer living benefit covers such as disability or critical illness insurance.

This has now changed. Results from large HIV study collaborations have shown that mortality continues to improve even after long periods of infection^{1,2}. However, there is still insufficient evidence in the scientific literature on disability outcomes. Important questions, such as the impact of infection in PLWH comparable to an insured population, could not be answered yet.

To answer these questions, Munich Re in collaboration with the Danish HIV registry conducted a large large-scale analysis of mortality and morbidity in PLWH in comparison to the general Danish population³. The Danish HIV registry is one of the most comprehensive and best maintained HIV registries worldwide that can be linked to further registries such as the labour market register, the death register and the cancer register, amongst others. This allowed Munich Re to raise targeted questions with exposures and endpoints relevant for insurance requirements.

Facts and background

HIV is a pathogen that causes an infection which eventually results in the acquired immune deficiency syndrome (AIDS). It is transmitted through bodily fluids, e.g. via transfer of blood products, unprotected sex, intravenous drug use or mother-to-child transmission. Risk groups differ geographically; in Sub-Saharan Africa transmission of HIV via heterosexual contact is most frequent, in Europe and the US men who have sex with men (MSM) and injecting drug users (IDU) are important and common risk groups.

It is estimated that 39 million people are infected with HIV worldwide with the majority found in Sub-Saharan Africa⁴. In Western and Central Europe and North America 2.3 million people are infected⁵.

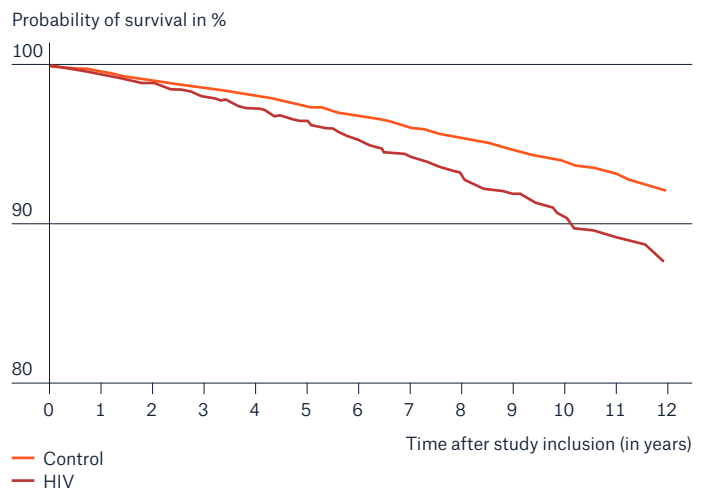
Pathophysiology

HIV is a retrovirus that docks onto a certain type of white blood cells, termed CD4 cells (also T-helper or T4 cells), which are responsible for the immune defence system, and destroys them. This harms the immune response of the infected individual, allowing opportunistic infections as well as cancers to develop. Uninfected individuals usually have CD4 counts of > 500 cells/ μ l. With decreasing CD4 counts the probability of developing AIDS-defining diseases increases. Antiretroviral therapy inhibits viral replication and leads to recovery of the immune system with increasing CD4 counts. The first antiviral drugs were introduced in 1987. From 1996 onwards, the combination of three different drugs from at least two different HIV treatment classes became standard. Since 2015, PLWH are advised to start ART immediately after the detection of the infection.

Research

We investigated Danish PLWH and general population controls. Intravenous drug users, persons with hepatitis C, a history of AIDS or an non-suppressed viral load were excluded in the final study population based on the results of the analyses. The majority of PLWH in our study had CD4 counts above > 500 cells/ μ l. Although overall survival was massively improved compared to previous decades, it still did not reach the life expectancy of the general population.

HIV vs. control population

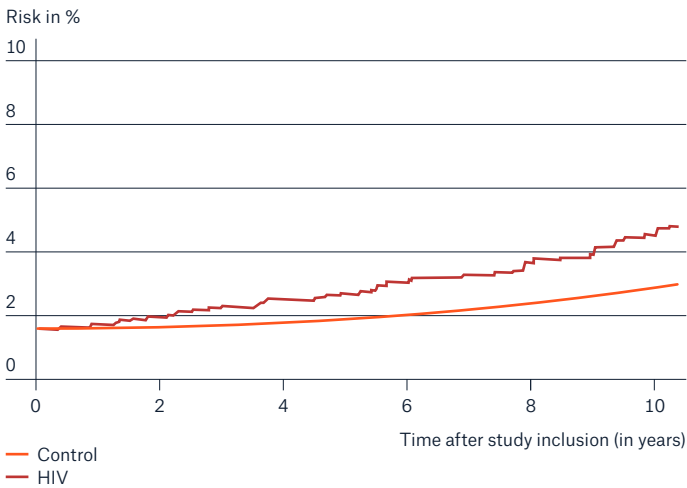


MRR = 1.6 (1.34–1.82)

Overall, the relative mortality in this study was 1.6 fold increased in comparison to the general Danish population with higher relative risks in the younger than in the older age groups. Large study collaborations investigated also the impact of CD4 in the lower CD4 groups. The results showed increasing mortality with decreasing CD4 count^{1,2}.

For disability, we also identified an elevated risk across all age groups compared to the general population with higher relative risks in the younger age groups. This was not only true for disability pension in the Danish welfare system but also sickness absence of different durations.

Disability pension in PLWH compared to general population



	Disability pension	26 week sick leave
Hazard ratio	2	1.6

For Critical Illness cover, we were able to analyse the most important triggers for this insurance product. The risk for all major triggers was increased and ranged between 1.2-fold and 3-fold compared to the general population. This increased risk was age-dependent, with higher risks in younger PLWH compared to age-matched individuals from the general population. Additionally, PLWH have a very high risk for HIV-associated cancers, which comprise AIDS-defining cancers but also human papillomavirus (HPV) or Epstein-Barr virus (EBV)-associated cancers, ranging from 1.6-fold for oral cavity/pharyngeal cancer and almost 500-fold for Kaposi’s sarcoma⁶.

Transformation into underwriting guidelines

Based on the results of our research we established evidence-based, straightforward guidelines for day-to-day risk assessment using prognostic criteria that can be easily collected as part of the application process. For this, we used our own data analyses in combination with medical, statistical and actuarial methods.

Summary

HIV therapy is a medical success story, unrivalled by many so-called breakthrough therapies in other areas of medicine. For treated PLWH mortality and morbidity have substantially improved over time. Therefore, an HIV infection can now be seen as a chronic condition which can be underwritten as a substandard risk similar to other chronic conditions.

Munich Re is pleased to announce not only updated guidelines for life insurance, but also sound and evidence-based guidelines for disability and critical illness covers. This will give PLWH fair access to insurance products formerly not in reach. Expanding the insurability enables us to live up to our social responsibility as a (re)insurance industry and to treat our customers fairly thereby also protecting reputation.

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