Swiss Re

Underwriting Insights

HIV and Life Insurance – Changes to Life Guide and underwriting considerations for HIV

One pill a day to treat HIV was once a fantasy, but today many HIV+ individuals take a pill once a day, see their specialist doctor once a year, and are rarely or not at all, restricted in their ability to work. According to World Health Organisation (WHO), since the beginning of the epidemic, more than 70 million people have been infected with the HIV virus and approximately 35 million people have died of HIV.

HIV Timeline

Today, the management of HIV has changed considerably with the advancement of newer, more potent antiretroviral therapy agents with less side effects, such as lipodystrophy, as compared to the first treatments developed in the 1990s. Guidelines were changed to start antiretroviral treatment at the time of diagnosis of HIV infection, i.e. at the highest CD4 counts possible. Starting HAART as soon as possible and achieving viral suppression earlier in the course of disease reduces inflammation and immune activation, restores and preserves normal immune function and decreases both the future risk of AIDS and non-AIDS health complications.

Thus, the benefits of an early start of HAART results in a still reduced but close to normal remaining life expectancy which makes people living with HIV insurable for life cover and probably also for disability cover.

Timeline of HIV and Life Insurance

In the early days of the AIDS crisis when the diagnosis of HIV infection lead to death, several Americans confronting HIV sold their life insurance for quick cash life settlements through viatical settlements. Viatical settlements were exclusively marketed to people living with AIDs, which quickly received a bad reputation: Investing in a viactical settlement was a bet on another's demise.

Now, these agreements are called 'life settlements,' and are catered to senior citizens, the terminally ill and those unable to maintain their policies. However, viatical settlements first emerged in direct response to the AIDS crisis.

Prior to 1986, there was a debate regarding the validity of HIV antibody testing and its application to life insurance underwriting, but by 1988, questions about HIV/AIDS had become commonplace on insurance applications.

The 2003 Swiss Re & Swiss HIV cohort publication by Christian Jaggy et al. in The Lancet was an insurance industry milestone to consider life cover for

HIV+[1]. In 2012 Life Guide had guidelines to offer substandard coverage on selected applicants living with HIV for term life for a max of 25 years1 in several markets. Flat extra loadings were added based on age, CD4 counts, duration of HAART and the duration of the policy term. Extra mortality assumptions were based on a Swiss Re collaborative analysis of HIV cohort studies with biostatisticians from Bristol University. 10 year follow up mortality data was modeled and extrapolated to 25 years.

In 2016 the North American market was ready to offer life insurance, and Life Guide published table ratings for HIV+ applicants for whole of life cover.

HIV Timeline

1981

First cases of AIDS were reported when the Centres for Disease Control (CDC) described five young, previously healthy homosexual men infected with a rare yeast-like fungus called Pneumocystis carinii pneumonia.

1996

Highly active antiretroviral therapy (HAART) was announced.

1997

HAART became the new standard of HIV treatment. HIV infection became a manageable disease.

2008

Luc Montagnier and Francoise Barre-Sinoussi are awarded the Nobel Prize in Medicine for their discovery of the HIV virus.

HIV vaccine and cure research

Scientists are continuing to work on an HIV vaccine and on a strategy to cure HIV infections. After the HIV cure for Timothy Brown, the "Berlin patient", a second person with HIV seems to be free of the virus after receiving a stem-cell transplant that replaced their white blood cells with HIV-resistant versions[2]. Researchers warn that this kind of treatment could only ever be used for a small group of patients, but these heroic cures are a proof of principle and stimulate a renewed interest in gene therapies that target CCR5, which could be applied to broader groups. Another area of study is microbicides, which are gels, films, or suppositories that can kill viruses and bacteria.

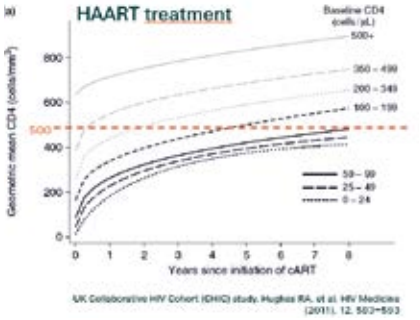
Impact to underwriting those with HIV

Table ratings vs. flat extras ratings

In the early years of the HIV/AIDS epidemic typical causes of death were opportunistic infections or malignant tumors due to immune deficiency, independent of age. Previously, flat extras mapped the best extra mortality seen before antiviral therapy was available. Today HIV is a manageable, chronic infection when treated with modern antiretroviral combinations of three or sometimes two drugs. After the elimination of AIDS-related deaths current cause of death in chronic HIV is a matter of debate. The hypothesis of premature ageing is supported by findings of chronic inflammation, but cannot be statistically proven given the thin data of HIV+ who have reached old age today. Table ratings better map the age-dependency of the additional mortality seen in insureds living with HIV.

Covering those with CD4 counts above 500

Guidelines for when to start combination antiretroviral therapy for treatment-naïve HIV patients has changed, and timely diagnosed and well treated patients should always have CD4 counts above 500. Recommendations have shifted away from delaying antiretroviral initiation as long as possible to a much more aggressive approach in which very



early therapy is recommended for all patients. As a result, diagnosed and well managed patients won't have CD4 counts below 500 at any time. Serious side effects like lipodystrophy seen with early generation antiretroviral drugs where the reason why the start of HAART had been delayed until CD4 counts had dropped.

Additional risk of being on HAART for more than 10 years

Applicants who are currently on HAART longer than 10 years were probably exposed in the past to earlier generation antivirals with more side effects. Including suboptimal immune reconstitution, in the initial years of treatment, and therefore warrant an additional loading.

Monitoring of CD4 counts

CD4 cell counts >500 cells/microL monitoring every 1–2 years is sufficient due to CD4 measurements being costly and the results don't have immediate management consequences.

Underwriting based on current CD4

For the sake of simplified underwriting and because CD4 counts in most patients steadily increase on a trajectory, having the CD4 at the start of HAART, without knowing the initial CD4 values and again monitoring CD4 after 6 months of HAART is sufficient.

Suppression of the viral load

An unmeasurable viral load (HIV RNA) is proof the applicant takes their medication and that the virus is not resistant. Once the viral load is suppressed, viral load testing is usually performed every six months. More frequent testing will be resumed if a patient has a deterioration in clinical status, such as an opportunistic infection, has a lapse in treatment, or if a patient has an undetectable viral load, but undergoes a change in regimen (e.g. because of toxicity). Viral Load determination is an inexpensive but important test to assess compliance and exclude drugresistance. CD4 count determination is an expensive laboratory test because it includes immnofluoresence. CD4 counts reflect status of the immune system. CD4 counts are determined less frequently than viral load, because fluctuations of CD4 have no immediate consequences for the patient management, is cheaper than CD4 and more important in the sense that a non suppressed viral load could be the result of noncompliance or drug resistance.

Smoker vs non-smoker rates

Smoking-induced extra mortality in HIV+ is said to be higher than the extra mortality caused by HIV infection. 40% – 60% of all HIV+ are smokers. Credits for true non-smoker or true-past smokers would be justified, however the current and future smoker status are hard to verify. Given the high prevalence of smokers in the HIV cohorts, we don't give credits for non-smoking HIV+, but use smoker rates for smokers.

Underwriting perinatal HIV infection

Perinatal transmission of HIV has become rare in the West but still occurs in Africa. The long-term outcome of perinatal HIV infected children who reach adulthood has improved. If Life Guide requirements for adults are met, individual consideration can be applied with a Medical Officer referral.

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References

[1] https://www.ncbi.nlm.nih.gov/pubmed/23449349

[2] https://www.nature.com/articles/d41586-019-00798-3?sf208905006=1&fbclid=IwAR1sA0IqfOw3qbZgm0lxLyqZetbLJLq_t2V1a8-Up08oYq6kLsgl-ov8aNk