

# Premium calculation in private health insurance (PKV)

The legal basis for premium calculation in private health insurance (PKV) is set out in Sections 146 to 160 of the German Insurance Supervision Act (*Versicherungsaufsichtsgesetz, VAG*). These provisions also stipulate that aging reserves must be established as part of the premium calculation.

## Risk-based premium component

The age-dependent insurance benefits are statistically recorded for each tariff. This makes it possible to determine the average need for benefits within each age group.

By dividing this amount by the number of insured persons in the respective group, the risk-based premium component (also referred to as the *per capita claim amount*) is determined.

This component covers, on average, exactly the level of risk assumed by the insurer.

It generally increases with age, as medical treatment costs – and thus the insurance benefits – tend to rise over time.

## Net premium

To fulfill the principle of stable premiums over time (assuming no increase in healthcare costs), the net premium is calculated as the *average risk-based premium* over the expected duration of insurance coverage.

As a result, insured persons pay a higher premium in their younger years than would actually be necessary to cover their average health risk at that time.

This surplus is used later in life to cover the increased risk that arises with age – which would otherwise no longer be covered by the net premium alone.

This mechanism is reflected in the formation of aging reserves.

## Gross premium

The gross premium is the amount payable by the policyholder.

It is composed of the following elements:

Risk-based premium (per capita claim amount)

- + Probability of termination
- + Mortality probability
- + Interest rate

= Net premium

- + Safety margin \*)
- + Administrative expenses (e.g. commissions, application processing, policy administration)
- + Surcharges for the Standard / Basic tariffs\*\*)

= Gross premium

\*) The safety margin compensates for uncertainties that remain even under conservative assumptions

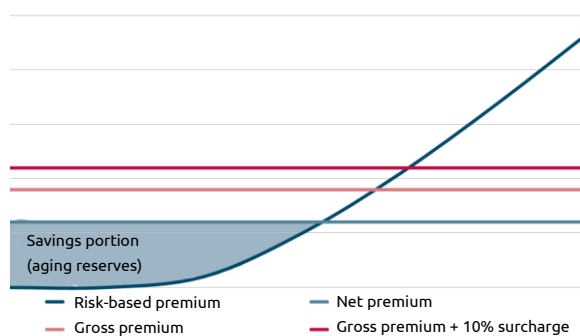
\*\*) The surcharges for the Standard and Basic tariffs grant the right to switch to a tariff whose premium does not exceed the average maximum contribution in the statutory health insurance (GKV).

### Statutory 10% surcharge

According to Section 149 of the German Insurance Supervision Act (VAG), a 10% surcharge is applied to the gross premium (excluding the risk-based premium) for comprehensive health insurance tariffs from age 21 until age 60. This surcharge is subsidized by the employer and is used to reduce premiums in old age.

### Gross premium including statutory 10% surcharge

The chart illustrates the development of the total premium (gross premium plus statutory 10% surcharge).



### Risk surcharge

The gross premium is calculated based on what is known as the *standard risk* — that is, for a healthy individual with no pre-existing conditions.

Persons with pre-existing conditions represent a higher insurance risk. By applying risk surcharges, it becomes possible to include such individuals in the insurance coverage.

The agreed risk surcharges are calculated in such a way that the increased insurance benefits resulting from pre-existing conditions are, on average, sustainably covered over the long term.

### Differences between statutory and private health insurance (GKV vs. PKV)

In **private health insurance (PKV)**, premiums are calculated based on the **equivalence principle**. This means that the premium is determined by the insured benefits and the individual risk profile of the policyholder—such as age or affiliation with a particular occupational or demographic group.

In contrast, **statutory health insurance (GKV)** follows the **principle of solidarity**.

Here, the premium depends solely on income, not on individual risk or benefits.

In the PKV, the **funded system (capital cover principle)** is used to calculate premiums.

This involves building up **aging reserves**, which provide effective protection against demographic risks — i.e. the adverse effects of an aging population in Germany.

By contrast, the GKV uses a **pay-as-you-go system**, in which no aging reserves are accumulated.

As a result, there is no protection against the financial impact of demographic changes.

### The actuarial model of premium calculation in private health insurance

- takes into account the age-dependent development of insurance benefits;
- is based on risk-appropriate premiums that reflect individual risk factors (such as age, pre-existing conditions, or affiliation with specific occupational groups);
- ensures — through the formation of aging reserves — that premiums do not increase solely due to the aging of the insured person;
- is based on the equivalence principle. The equivalence principle ensures that each group of insured persons finances its own benefits over the course of their insurance lifetime.