RMS Mortality Analytics

The differentiation of individuals by their survival expectancy is a key element of life insurance underwriting and portfolio segmentation for many different areas of human insurance coverages.

RMS medical-based mortality analytics include probability distributions for the year and cause of death at the individual and portfolio level. Analytics are incorporated into a multi-factor mortality risk model that enables insurers to quantify and assess:

- Risk capital requirements
- Time-based liability risk
- Longevity risk for life, pension, and annuity portfolios

Underwriting and Portfolio Management Applications

Mortality analytics informed by medical science achieve a higher level of granularity than is possible using conventional actuarial techniques, aiding underwriting decision-making and portfolio segmentation.

- Capture the interaction of risk factor variables and conduct predictive modeling of lifespans using characteristics such as lifestyle, medical history, and medical testing
- Incorporate analytics based on epidemiological studies, clinical trial data, and medical models
- Differentiate policy applicants based on individual health risk
- Assess the relative impact of a wide variety of risk factors and medical treatments on mortality likelihood

Risk Profiles

Where detailed information on individuals is not available, commonly the case for annuity and pension portfolios, health risk factor profiles assess mortality drivers and longevity risk for a given book of business, and estimate mortality risk for new or hypothetical portfolios.

Health risk factor profiles enable insurers to better understand the drivers of mortality experience in a given book of business, construct mortality estimation for new or hypothetical portfolios, and assess longevity risk as liability variation arising from future changes in lifestyle, medical advances, and improvements in the health environment.

Multi-Factor Risk Model

The RMS mortality modeling platform was developed by a specialist team of medical analysts and health statisticians, and uses individualized risk factor data inputs for mortality simulation. Simulations are based on detailed medical evidence, such as prospective cohort studies, cross-sectional studies, and case control studies from clinical trials.

The resulting multi-factor risk model captures the interaction of risk factor variables and provides strong predictive modeling of survival using personal characteristics such as lifestyle and medical history, medical tests, and other underwriting information.