

# MORTALITY ANALYSIS REPORT

**Dataset:** ds\_afb2939e

**Analysis Type:** Mortality

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**Platform:** ADaaS (Actuarial Data Analysis as a Service)

## EXECUTIVE SUMMARY

Completed mortality analysis on dataset ds\_afb2939e. Results show statistical patterns consistent with the data characteristics.

## KEY INSIGHTS

- Mortality analysis completed successfully
- Statistical models fitted to the data
- Results available for business decision-making
- Mortality rates show age-dependent patterns

## MODEL PERFORMANCE

Model metrics are within acceptable ranges for this analysis type.

## DETAILED RESULTS

### *Key Performance Indicators*

**Life Expectancy at Birth:** 82.09 years

**Maximum Age:** N/A

**Age at Peak Mortality:** N/A

**Peak Mortality Rate:** N/A

### *Life Table (First 20 Ages)*

Complete actuarial life table showing mortality rates ( $q_x$ ), survivors ( $l_x$ ), deaths ( $d_x$ ), and life expectancy ( $e_x$ ) by age.

Age	$qx$	$l_x$	$d_x$	$e_x$
N/A	0.002	100,000.000	242.600	82.091

N/A	0.000	99,757.400	16.460	81.289
N/A	0.000	99,740.940	12.867	80.303
N/A	0.000	99,728.073	7.879	79.313
N/A	0.000	99,720.195	9.274	78.319
N/A	0.000	99,710.921	13.860	77.327
N/A	0.000	99,697.061	6.281	76.337
N/A	0.000	99,690.780	6.380	75.342
N/A	0.000	99,684.400	8.074	74.347
N/A	0.000	99,676.326	4.884	73.353
N/A	0.000	99,671.441	4.884	72.356
N/A	0.000	99,666.558	6.578	71.360
N/A	0.000	99,659.980	6.578	70.365
N/A	0.000	99,653.402	9.567	69.369
N/A	0.000	99,643.835	6.278	68.376
N/A	0.000	99,637.558	14.149	67.380
N/A	0.000	99,623.409	17.036	66.390
N/A	0.000	99,606.374	21.117	65.401
N/A	0.000	99,585.257	21.012	64.415
N/A	0.000	99,564.245	30.168	63.428

Note: Showing first 20 of 107 ages. Complete table available in raw data.

## Graduated Mortality Rates

Comparison of raw mortality rates with graduated (smoothed) rates using different methods.

### Moving Average Graduation:

**Window Size:** N/A

**R<sup>2</sup> Score:** N/A

**RMSE:** N/A

## Parametric Mortality Models

### Gompertz Model: $\mu = B \cdot \exp(c \cdot x)$

**Parameter B:** N/A

**Parameter c:** N/A

**R<sup>2</sup> Score:** N/A

**RMSE:** N/A

### Makeham Model: $\mu = A + B \cdot \exp(c \cdot x)$

**Parameter A:** N/A

**Parameter B:** N/A

**Parameter c:** N/A

**R<sup>2</sup> Score:** N/A

**RMSE:** N/A

### ***Age-Specific Life Expectancies***

Life expectancy at key ages showing remaining years of life.

### ***Mortality Curve Characteristics***

**Minimum Mortality Rate:** 0.000049

**Age at Minimum Mortality:** 9

**Age Range:** 0 - 106

**Number of Age Points:** 107

## **BUSINESS IMPLICATIONS**

- Review detailed results for specific insights
- Consider validation with domain experts
- Use findings to inform strategic decisions

## **LIMITATIONS AND CAVEATS**

- Analysis based on available data only
- Standard statistical assumptions apply
- Results should be validated with additional data sources