

# Trends in Epidemiology and Mortality of Patients with Hyperlipidemia in Germany: A Retrospective Study Using German Claims Data

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## Background

Despite progress in the early detection and treatment of hyperlipidemia, it remains a common diagnosis in aging populations in Western countries, associated with a substantial cardiovascular event risk. This research aims to estimate the incidence/prevalence of hyperlipidemia in Germany and to describe trends in mortality in the last ten years.

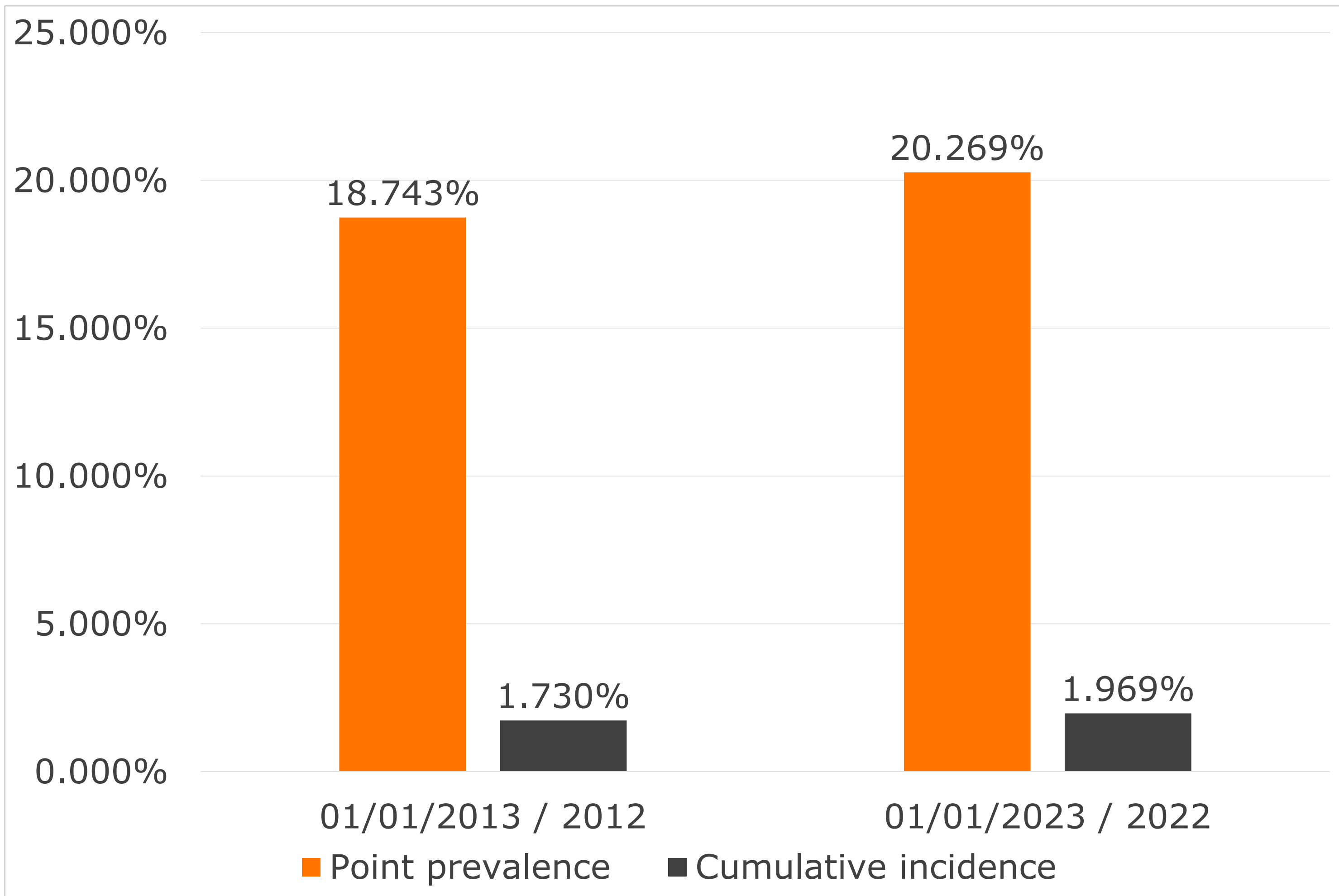
## Methods

Based on anonymized claims data from the AOK PLUS (a German statutory health insurance fund with 3.5 million individuals), patients with at least two outpatient or one inpatient hyperlipidemia diagnosis (ICD-10-GM: E78) were identified as hyperlipidemia cases. Incidence was defined as newly diagnosed after a 24-month baseline period of continuous insurance and without any hyperlipidemia diagnosis. Cumulative hyperlipidemia incidences were assessed for the years 2012, and 2022. Point prevalences were calculated for January 1st, 2013, and January 1st, 2023. Incidence and prevalence were extrapolated (age-standardized) to the overall German population of the respective year. Standardized mortality rates for the years 2012, and 2022 were evaluated in cross-sectional hyperlipidemia samples (hyperlipidemia prevalent and alive on January 1st of the respective year).

## Results

**Incidence:** The cumulative incidence in the observed population was 2.044% in 2012 (1.730% standardized to the German population), and 2.055% in 2022 (1.969% standardized; **Figure 1**). Based on a German population of 83.3 million persons, this translates into 1.65 million incident hyperlipidemia cases in the year 2022. The mean age at incident diagnosis decreased from 64.8 years in 2012 to 63.0 years in 2022; the proportion of female patients is 50% in 2022 (**Table 1**).

**Figure 1: Point prevalence and cumulative incidence of hyperlipidemia in the German population**



**Prevalence:** The point prevalence was 23.047% on January 1st, 2013 (18.743% standardized to the German population), and 21.510% on January 1st, 2023 (20.269% standardized; **Figure 1**). Extrapolated to the German population, this corresponds to 17.0 million hyperlipidemia-prevalent patients on January 1st, 2023.

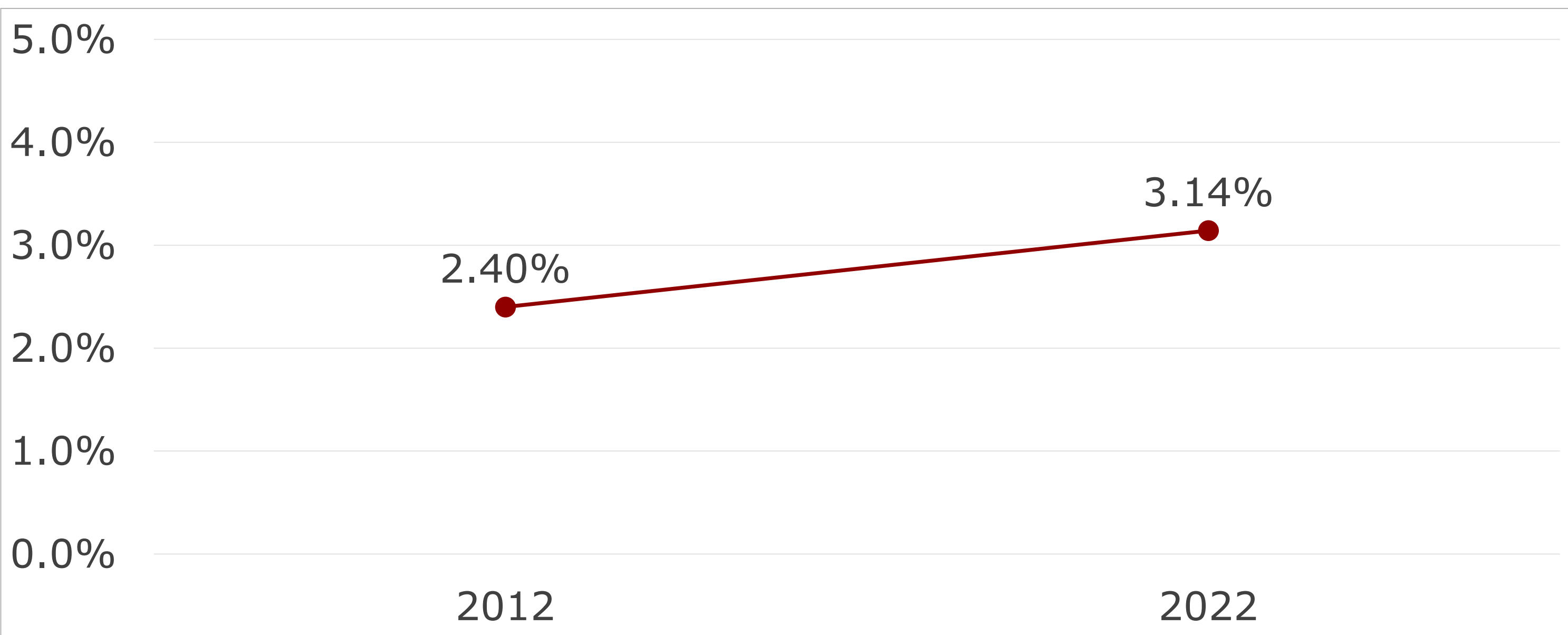
The mean age of the prevalent populations remains nearly unchanged at 67.4 years. The proportion of female patients decreased from 54.8% on January 1st, 2013, to 52.1% on January 1st, 2023 (**Table 1**).

**Table 1: Characteristics of the identified hyperlipidemia populations**

	Incident hyperlipidemia populations		Prevalent hyperlipidemia populations	
	2012	2022	January 1st, 2013	January 1st, 2023
Mean age (SD)	64.8 (14.7)	63.0 (15.7)	67.5 (12.9)	67.4 (13.8)
% female	51.8%	50.0%	54.8%	52.1%

**Mortality:** The yearly mortality in the population of hyperlipidemia prevalent patients was 3.43% in 2012 (2.40% extrapolated to the German population), and 3.99% in 2022 (3.14% extrapolated; **Figure 2**). The mortality rates standardized to the German population were 0.450%, and 0.637%, respectively.

**Figure 2: Mortality rates of patients with hyperlipidemia, extrapolated to the German population**



## Conclusion

Hyperlipidemia incidence and prevalence are very high, and estimates based on claims data are slightly higher than in other official statistics. Every fifth German now suffers from this disease. Even if mortality causes are not exactly known, mortality in hyperlipidemia patients is high and rising. With the continuing aging of the German population, the healthcare burden due to this disease is expected to increase further

## Disclosure statement

No disclosures other than those related to the listed affiliations need to be reported.