# Longitudinal Analysis of Eosinophilic Esophagitis in Claims Data Before the Introduction of a Specific ICD-10-GM-Code

EPH9

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## 1. Background

- **Eosinophilic esophagitis (EoE)** is a chronic, immune-mediated inflammatory disease of the esophagus characterized by symptoms of esophageal dysfunction and eosinophil-predominant inflammation(1).
- In Germany, a specific **ICD-10-GM code for EoE (K20.0) was introduced only in 2023**. Previously, EoE was included under general esophagitis (**K20**), posing major challenges for longitudinal population-level studies.
- Clinical guidelines recommend endoscopic assessment and esophageal biopsies for initial diagnosis and regular disease monitoring(2).

**OBJECTIVE**

To evaluate claims-based algorithms for identifying EoE patients prior to 2023 and to characterize the epidemiology and real-world treatment of EoE in Germany.

## 2. Methods

DEUTSCHE ANALYSE-DATENBANK FÜR EVALUATION UND VERSORGUNGSFORSCHUNG

**Data source and extrapolation to SHI**

- Retrospective study (2013–2023) using the German Analysis Database for Evaluation and Health Services Research (**DADB**; ~3.0 million insured persons in 2023)(3,4).
- DADB counts were **extrapolated to the statutory health insurance (SHI) population** (~75.4 million in 2023) adjusted for age and gender (95% Wilson CI)(2).

**Prevalent study populations in 2023**

- Esophagitis (ICD-10-GM **K20**)
- Confirmed EoE (ICD-10-GM **K20.0**)

**Two evaluated identification approaches**

- **Approach 1 (2023):** Sequential filtering of K20 patients by guideline-expected diagnostics and EoE-typical therapy, validated in K20.0.
- **Approach 2 (2016–2023):** Traceback of 2023 K20.0 patients to incident K20 diagnosis (2016–2021) to analyze therapy lines.

## 3. Approach 1: Guideline-Based Proxy (2023)

**Consolidated algorithm & 2023 cohort attrition**

- Sequential filtering of 2023 K20 patients according to EoE diagnostic guidelines:

Prevalent patients with diagnosis K20 in 2023 (+ 2y pre-observ.)
**DADB: 4,073, SHI: 111,750 (108,311–115,328)**

↓

Endoscopy according to guidelines (OPS 1-632) in reporting year or 2 years before
**DADB: 823, SHI: 23,170 (21,610–24,867) — 20.73% of K20**

↓

+ Biopsy according to guidelines (OPS 1-440.9) in the same or subsequent quarter
**DADB: 294, SHI: 8,038 (7,158–9,039) — 7.19% of K20**

↓

+ ≥1 EoE-typical medication[1] or procedure[2] in the quarter of a K20 diagnosis
**DADB: 211, SHI: 5,777 (5,039–6,637) — 5.17% of K20**

*[1]Locally acting corticosteroids, inhalative CS, proton pump inhibitors, dupilumab. [2]Balloon dilatation, bougie insertion.*

- **Validation in confirmed EoE (K20.0 in 2023):** Only **10.00%** (DADB: 114, SHI: 3,059 [2,547–3,691]) met the OPS endoscopy + biopsy criteria, and **6.76%** (DADB: 77, SHI: 2,069 [1,655–2,597]) additionally met treatment criteria.
- Other EBM endoscopy and histology codes were widely billed in K20.0 (**Figure 1**):

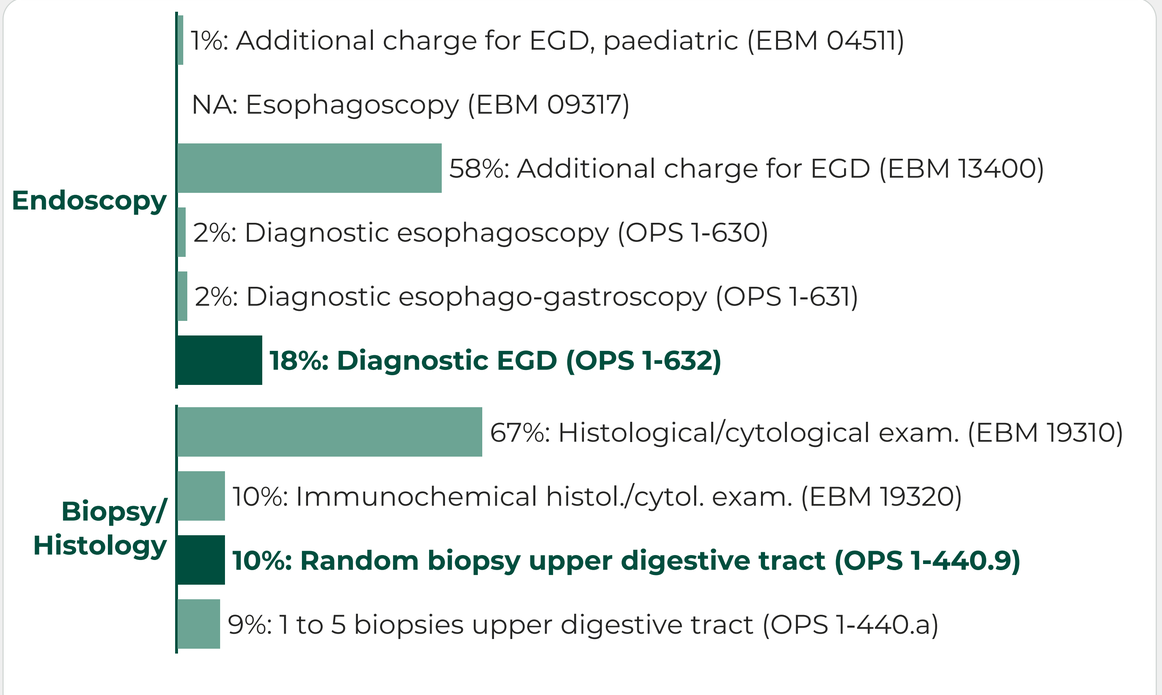



**Figure 1:** Ratio of EoE patients (K20.0 in 2023) with ≥1 occurrence of the respective procedure in the assessed time frame (reporting year or 2 years before). Codes applied in Approach 1 are shown in bold. EBM: German Uniform Value Scale; EGD: Esophagogastroduodenoscopy; OPS: Operation and Procedure Classification.

## 4. Approach 2: Traceback & Real-World Care

**Longitudinal traceback cohort (2016–2023) & treatment line analysis**

| K20.0 in 2023 | Incident (2016–21)* | Therapy** |
|---|---|---|
| DADB: 1,221<br>SHI: 30,288<br>(28,684–32,003) | DADB: 410<br>SHI: 12,868<br>(11,672–14,215) | DADB: 374 (91.3%)<br>SHI: 11,751<br>(10,610–13,044) |

**Index K20 in 2016–2021 (3y K20-free pre-observation, 2y follow-up) **Therapy cohort: ≥1 EoE typical medication in 2y follow-up.*

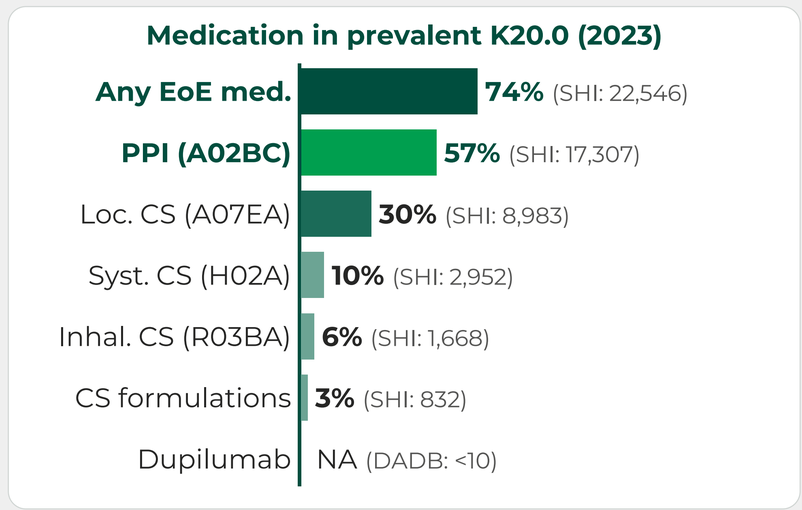



**Figure 2:** Proportion of prevalent K20.0 patients in 2023 with ≥1 prescription of the respective medication in 2023 (multiple classes possible).

- **Prevalent K20.0 (2023):** 74.44% (DADB: 911, SHI: 22,546 [21,174–24,031]) received EoE medication, mainly **PPIs (57.14%)** (**Figure 2**).

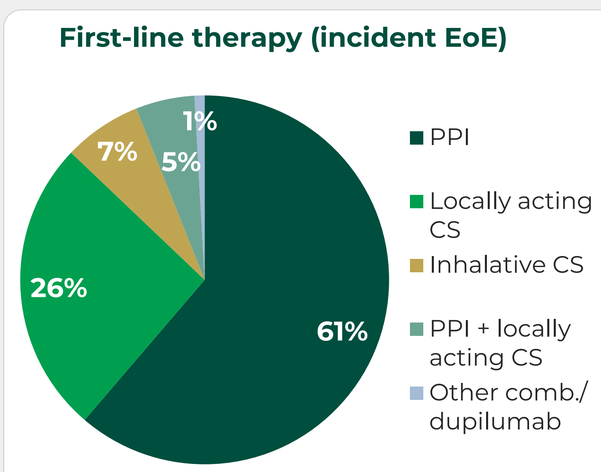



**Figure 3:** Share of EoE-specific medications as first-line treatment. Combinations are grouped under "Other".

*Abbreviations: CS: Corticosteroids; PPI: Proton pump inhibitors.*

- **Therapy:** Therapy lines were assessed over 2 years. Prescriptions within a **6-day window** (by date & reach) were classified as **combination therapies** (**Figure 3**).
- **PPI dominance in therapy line 1: 61.27%** of first line therapies in SHI were PPI monotherapies, and PPIs dominated subsequent lines – often without a reflux diagnosis (K21 absent in **48.75%**).

## 5. Conclusion

- The findings suggest that documented EoE diagnostics in German claims data **deviate considerably from current clinical guidelines(2)**. Other codes than expected appear much more frequently, e.g., outpatient endoscopy according to EBM code **13400 (57.70%)** and biopsy/histology according to EBM code **19310 (66.62%)**.
- By tracing back patients confirmed via K20.0 in 2023, a **reliable EoE population** could be identified and monitored over time, filling existing data gaps regarding the epidemiology and real-world treatment of EoE **(mainly with PPIs, both in 1st-line therapy [61.27%] and in prevalent 2023 patients [57.14%])**.
- **Limitations:** Claims data reflect billing rather than clinical or histological confirmation; results depend on the specificity of OPS/EBM procedure codes and treatment proxies.

**References**

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