# Acquired Hemophilia A (AHA) – Trends in Frequency and Treatment Patterns in Germany

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## Objective

- The acquired hemophilia A (AHA) is an extremely rare, but potentially life-threatening bleeding disorder, induced by autoantibodies against coagulation factor VIII.
- AHA causes potentially very severe trauma-induced or spontaneous bleedings.
- New and successful therapies had been launched in the last decade.
- Awareness measurements by professional societies, but also pharmaceutical industry pushed awareness of the disease in Germany.
- Here we examine trends in frequency and demographics of AHA diagnosed cases and their treatment based on German hospital billing data.

## Methods

- Reports from 2010-2021 had been reviewed from:
  - German DRG-Institute (*Institut für das Entgeltsystem im Krankenhaus*, InEK)
  - German statistical office (*Statistisches Bundesamt*, DESTATIS)
  - German hospital quality reports by the joint federal committee (Gemeinsamer Bundesausschuss, G-BA)
- Data were analyzed for AHA cases and treatment
- Analysis with Microsoft-Excel® and Access® 2019.

## Results

- Cases coded as main or secondary diagnosis of AHA (D68.31, ICD10-GM) increased from 215 per year (2010) to 633 (2015; +294%) and decreased thereafter to 447 (2021; +208% vs. 2010).
- Changes in the use of factor products from 2019 to 2021 included:
  - Activated prothrombin complex concentrate (APCC, FEIBA®) from 12.1% to 7.3%
  - Recombinant factor VIIa (rFVIIa, NovoSeven®) from 48.5% to 44.1%
  - Recombinant factor VIII (rFVIII, human or porcine, several brands) from 21.8% to 24.5%
  - Plasma-derived factor VIII  17.5% to 14.7%
  - Emicizumab (Hemlibra®)      0% to   9.4%.

- Comorbidity and complication levels (PCCL) and length of hospital stay differed with treatments (means): APCC, PCCL 3.1, length of stay 31 days; rFVIIa: 2.5, 29 days; rVIII: 2.1, 21 days; pVIII 1.8, 30 days; emicizumab: 2.1, 34 days.
- Gender distribution (58.9% male) remained stable over time, extremes 2010: 54.4% male and 2016: 61.3% male.
- The average length of hospitalization decreased slightly from 22.3 days (2010) to 19.2 days (2018; -14%). Age groups between age of 60 and 90 had average lengths of stay between 20 and 24 days.
- Median age increased from 73 (2014) to 77 (2018).
- Analysis of living place of patients revealed higher hospitalization rates in states with higher rate of hemophilia centers
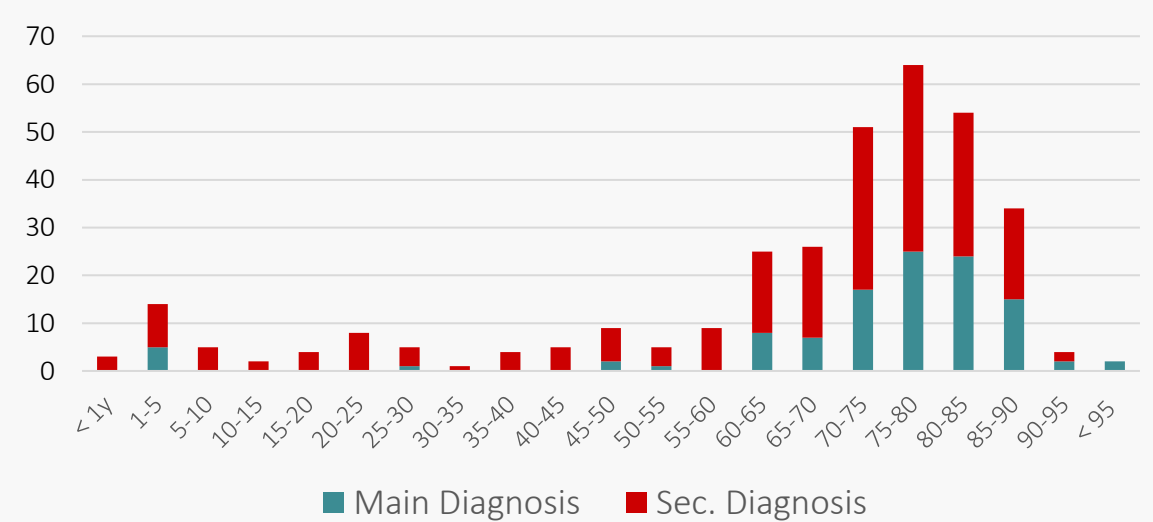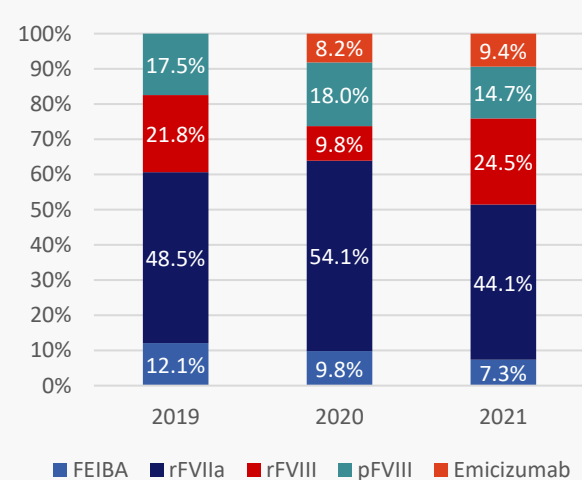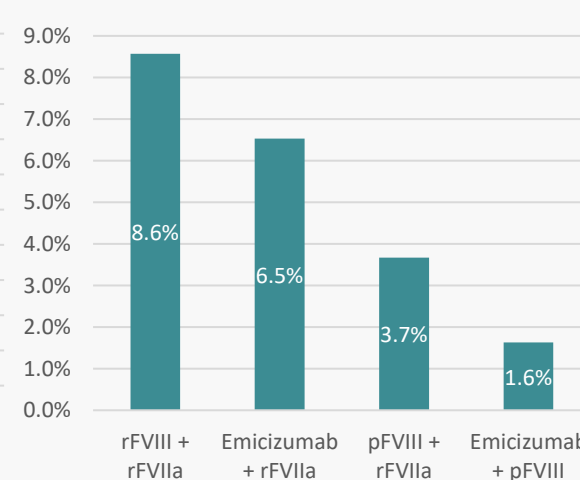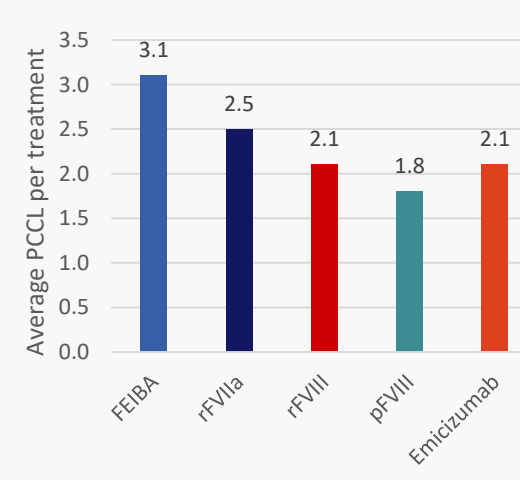


Main Diagnosis AHA
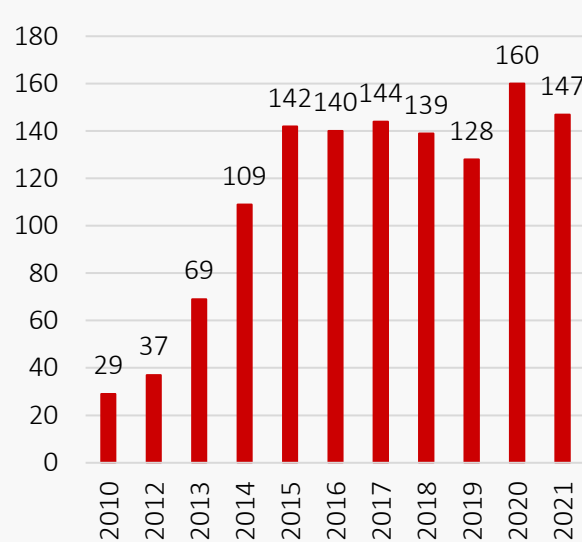


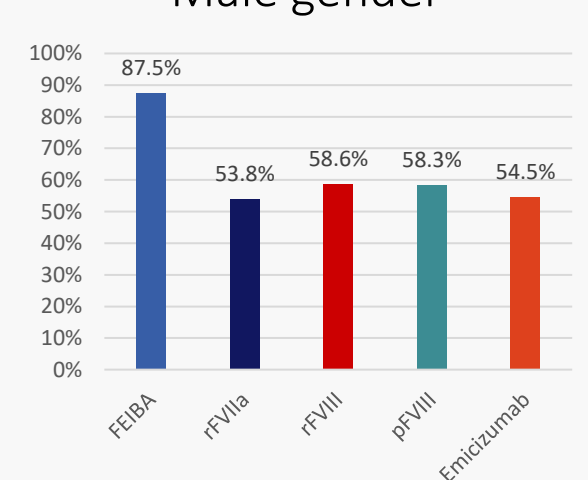Sec. Diagnosis AHA
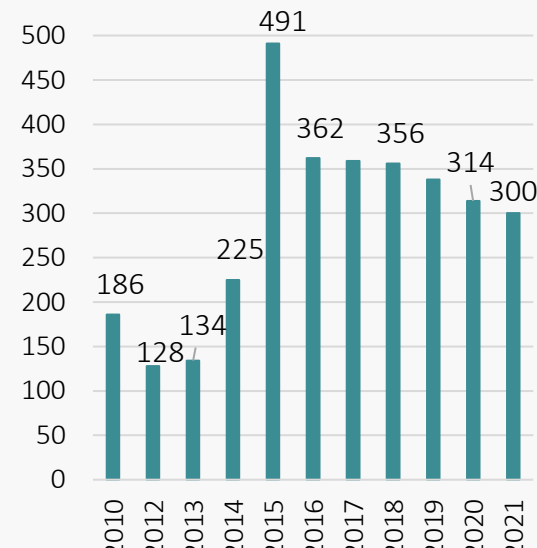


Age Distribution AHA



AHA Treatments



Combined Treatments



PCCL



Male gender

## Conclusions

- The success of awareness campaigns increased the number of hospital cases with AHA in Germany.
- The number of cases per year has remained >400 since 2015.
- The use of emicizumab increased to about 10% of cases, whereas other treatments have changed only slightly since 2019.
- Length of hospital-stay and complexity of cases vary by treatment modality. These findings warrant further investigation in the national registry

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