



## Quality documentation of remote monitoring in patients with cardiac implants

In 2016, the German Foundation for the Chronically Ill (FCI) initiated the DOQUVIDE quality assurance measure, a project to evaluate the reality of care for tele-cardiological patients with implanted pacemaker/ICD/CRT-D devices. DOQUVIDE records and analyses cardiac events, vital signs obtained via telemedicine, and the post-event procedures. The data collected is analyzed by a scientific advisory board under the direction of FCI and published annually.

## PARTICIPATING PRACTICES

Participating practices/medical facilities **2022: 74**

Number of actively monitored patients: **6,687**

Annually newly included patients: **937** (M=14; SD=17.4)

The variance is high. Almost **60%** of practices included **less than 10** patients for quality-assured telemonitoring in 2022. Only **6 practices** (8%) included **more than 40** patients.



## IMPLANTATIONS

Registered implantations in **2022: 937**

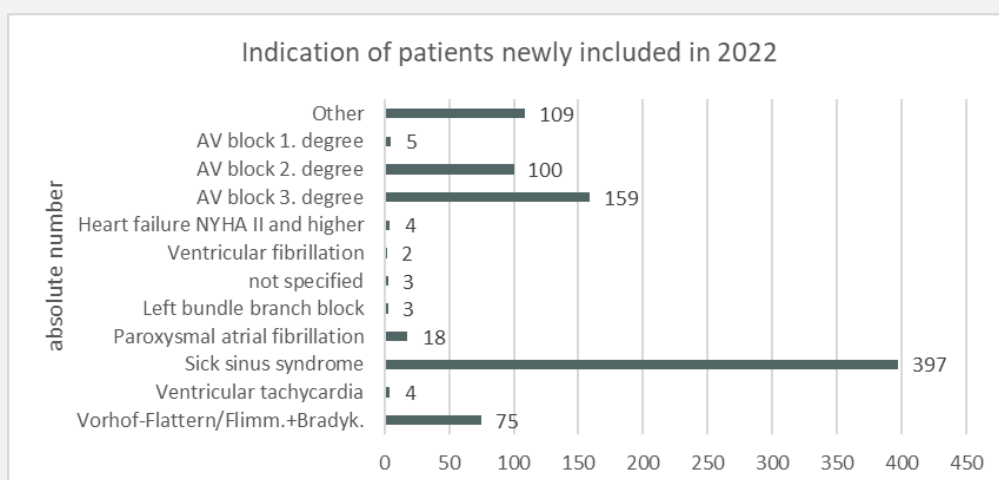
**14%** less than in the previous year

One reason could be the **G-BA resolution on telemonitoring in heart failure**, which came into force at the end of 2020, and the associated agreement on quality assurance measures for telemonitoring in heart failure, which came into force in April 2022 and regulates the requirements to be met for implementation and billing.

## REASON FOR IMPLANTATION

**Cardiac sinus syndrome (SSS)** was the most common indication for implantation of a cardiac implant, followed by **atrioventricular block (AV block)** in varying degrees of severity.

New implantations (44.8%) and the replacement (50.6%) of simple **pacemaker** accounted for **more than 90%** of implantations carried out in 2022.





## ENROLLED PATIENTS

Gender ratio: ♀ 61% ♂ 39%

Average age: **77,8** years ( $\pm 10,5$ )

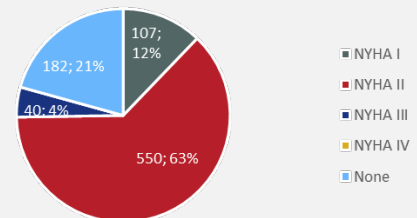
About **half** of the patients are **over 80 years** old. 58% of diagnosed women were over 80 years old, 10% over 90. Among men, 'only' around 50% were over 80 years of age. About 5% were over 90 years old. Compared to women, men were also more frequently affected in the age group under 49.

The **severity of the disease** can be determined by the **ejection fraction (EF)** and **NYHA class**, among others. The majority of patients enrolled in 2022 had a **normal EF** (84%) and an intermediate stage of disease with **NYHA class II** (62.6%). A moderate to severe reduction in pumping capacity and categorization in NYHA class III was rare.

The severity of the disease, measured by NYHA class, **increased slightly with age**. While younger patients between the ages of 18 and 49 had a low severity of NYHA class I in 36.4% of cases, this figure declined to 20.7% in the 50-59 age group and to 10.3% in the over 80 age group.



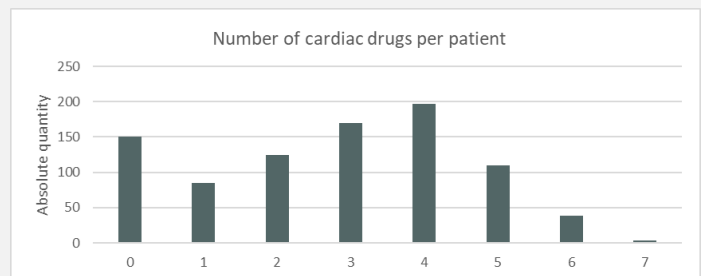
Disease stage according to NYHA class  
(absolute and relative numbers)



## PHARMACOLOGICAL THERAPY

**727** of the 937 patients were taking at least one **cardiac medication** at the time of enrolment; on average, they were taking **2.77** ( $\pm 1.79$ ) cardiac medications. The average number of cardiac medications taken increases with age. Patients most frequently received **beta-blockers** and/or **anticoagulants**.

One third of patients were also prescribed **non-cardiac** medication; on average, they were taking **0.7** ( $\pm 1.38$ ). Patients most frequently took **non-opioid analgesics** (13.6%), **blood thinners** (12.2%) and **diabetes medication** (12.1%).



## TELECARDIOLOGICAL EVENTS

A total of **5801 event forms** were generated following tele-cardiological events for the 6,687 patients actively monitored in 2022 and processed by the practices.

Almost half (45%) of the 3,590 AF burden events reported were followed by diagnostic or therapeutic measures. In most cases, patients were **called** (64.4%) or **referred for outpatient treatment** (22.7%). **Adjustments to medication** were only made in 45 cases (2.8%).

Number of event forms generated and processed in 2022  
(absolute and relative figures)

