

2022

Korean Heart Failure Fact sheet

—
The Korean Society of Heart Failure



The Korean Society Of Heart Failure

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Preface

Heart failure is the final stage of several cardiovascular diseases and is a growing socioeconomic burden both domestically and globally. In addition, the prevalence of heart failure is steadily increasing with the aging of the population and has clinical characteristics of high readmission and mortality rates. Therefore, it is a heart disease that can have a significant impact on the rising medical costs of patients and national insurance finances.

The Korean Society of Heart Failure was founded in 2003 as research working group under the Korean Society of Cardiology and was launched as the Korean Society of Heart Failure on March 30, 2018. This year marks our 20th anniversary. Over the past 20 years, the Korean Society of Heart Failure has made many achievements, including not only academic advances in heart failure from basic research to diagnosis, treatment, and prevention, but also the development of standardized guidelines for patient care in actual clinical practice, medical staff training, and the establishment of a national heart failure registry and national policies.

The Korean Society of Heart Failure summarized the current status of heart failure-related data in Korea and published the first Heart Failure Fact Sheet 2020 (analyzing data from 2002 to 2018) in June 2021. This Heart Failure Fact Sheet 2022 analyzes data using the National Health Insurance Service database from 2002 to 2020 (extracting 35% of the national population). It summarizes objective data on heart failure prevalence, incidence, hospitalization, mortality, survival, comorbidities, and changes in medical treatment patterns, as well as heart transplantation, cardiac resynchronization therapy, and implantable cardioverter-defibrillator therapy in Korea. Therefore, the Heart Failure Fact Sheet 2022 provides a year-by-year change trend of various data on heart failure, which can serve as a basis for government agencies and healthcare professionals to establish heart failure prevention and management measures. We would like to express our sincere gratitude to Dr. Chan Joo Lee, the Chairperson of the Fact sheet 2022 Committee, for his hard work in preparing the Heart Failure Fact sheet 2022, as well as the members of the Fact sheet 2022 Committee for their advice and support, and to our predecessor, Dr. Dong-Ju Choi, for laying the foundation.

2023. 09

President Seok-Min Kang



Data Source	The National Health Information Database of the National Health Insurance Service
Year of Analysis	From 2002 to 2020
Participants	Patients with heart failure who had the Korean Classification of Disease codes for HF (I50, I42, I11.0, I13.0, I13.2, I22.5, and their subcodes) in the primary or secondary diagnosis codes on their claim data
Sampling	35% of the National Health Insurance Service subscriber
Age-standardization	Based on the 2018 resident population

1 Heart Failure Statistics in Korea

1-1 Summary of Heart Failure Statistics in Korea

1-2 Prevalence of Heart Failure

1-3 Age-standardized Prevalence of Heart Failure

1-4 Age-specific Prevalence of Heart Failure

1-5 Incidence of Heart Failure

1-6 Age-standardized Incidence of Heart Failure

1-7 Age-specific Incidence of Heart Failure

1-8 Hospitalization Rate for Heart Failure in the General Population

1-9 Age-standardized Hospitalization Rate for Heart Failure in the General Population

1-10 Mortality Rate for Heart Failure in the General Population

1-11 Age-standardized Mortality Rate for Heart Failure in the General Population

Summary of Heart Failure Statistics in Korea



Prevalence of Heart Failure



Incidence of Heart Failure (per 100,000 persons)



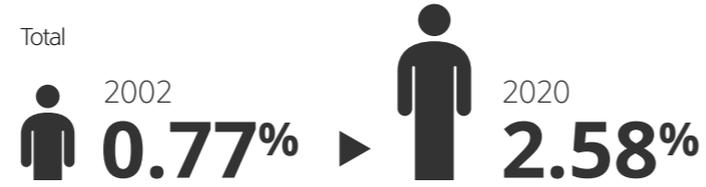
Hospitalization Rate for Heart Failure (per 100,000 persons)



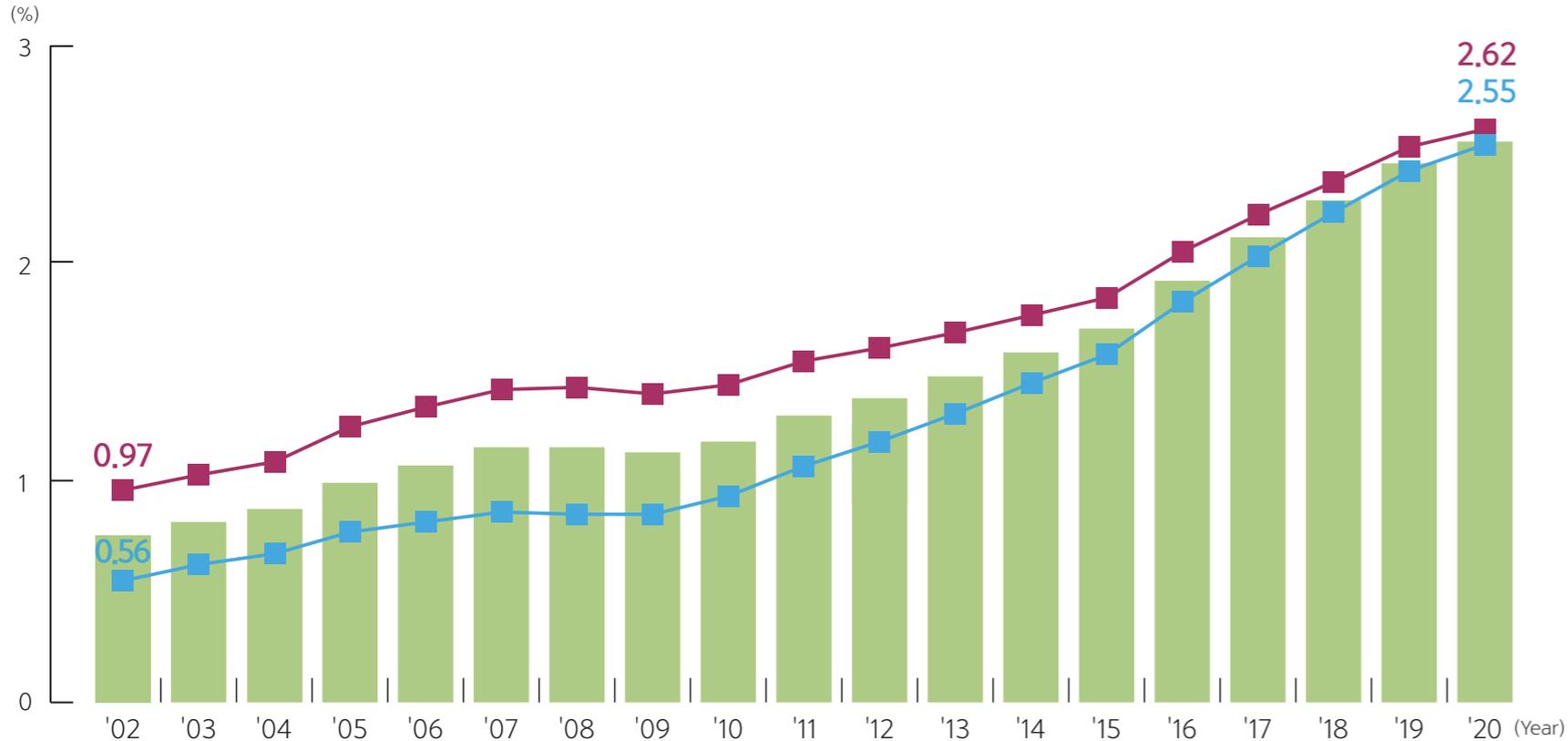
Mortality Rate for Heart Failure (per 100,000 persons)



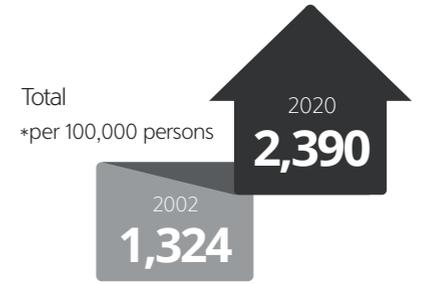
Prevalence of Heart Failure



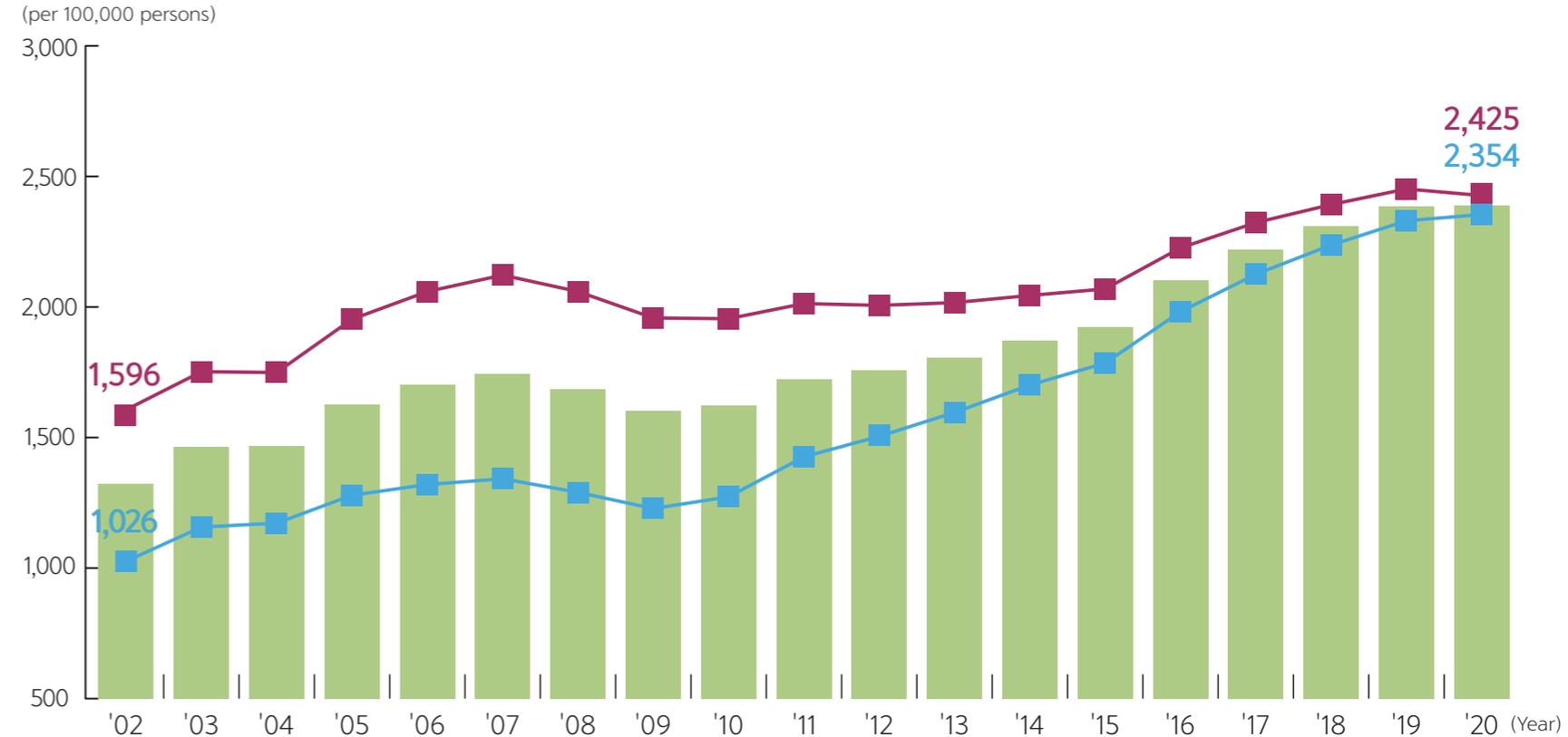
■ Total ■ Man ■ Woman



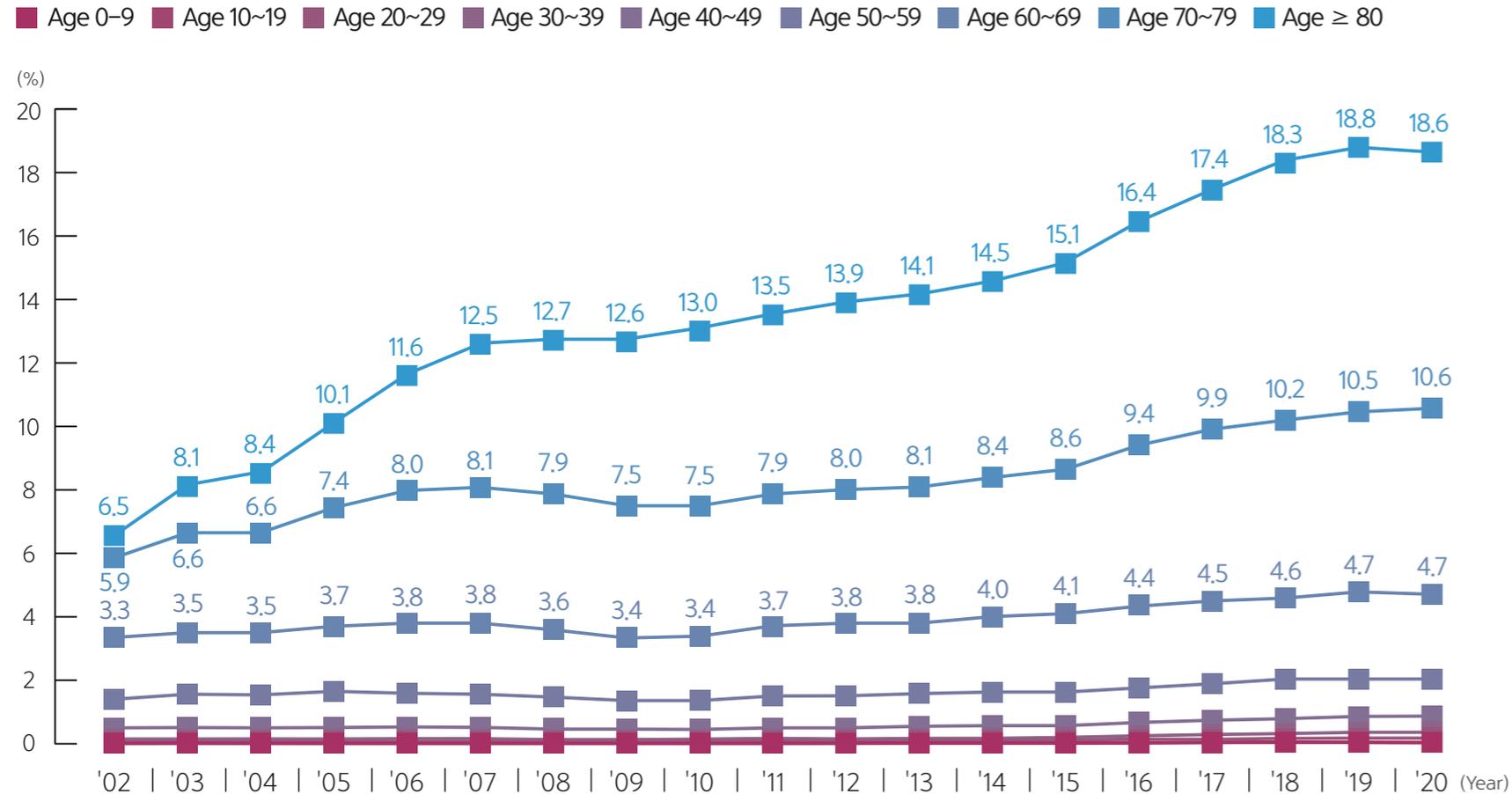
Age-standardized Prevalence of Heart Failure



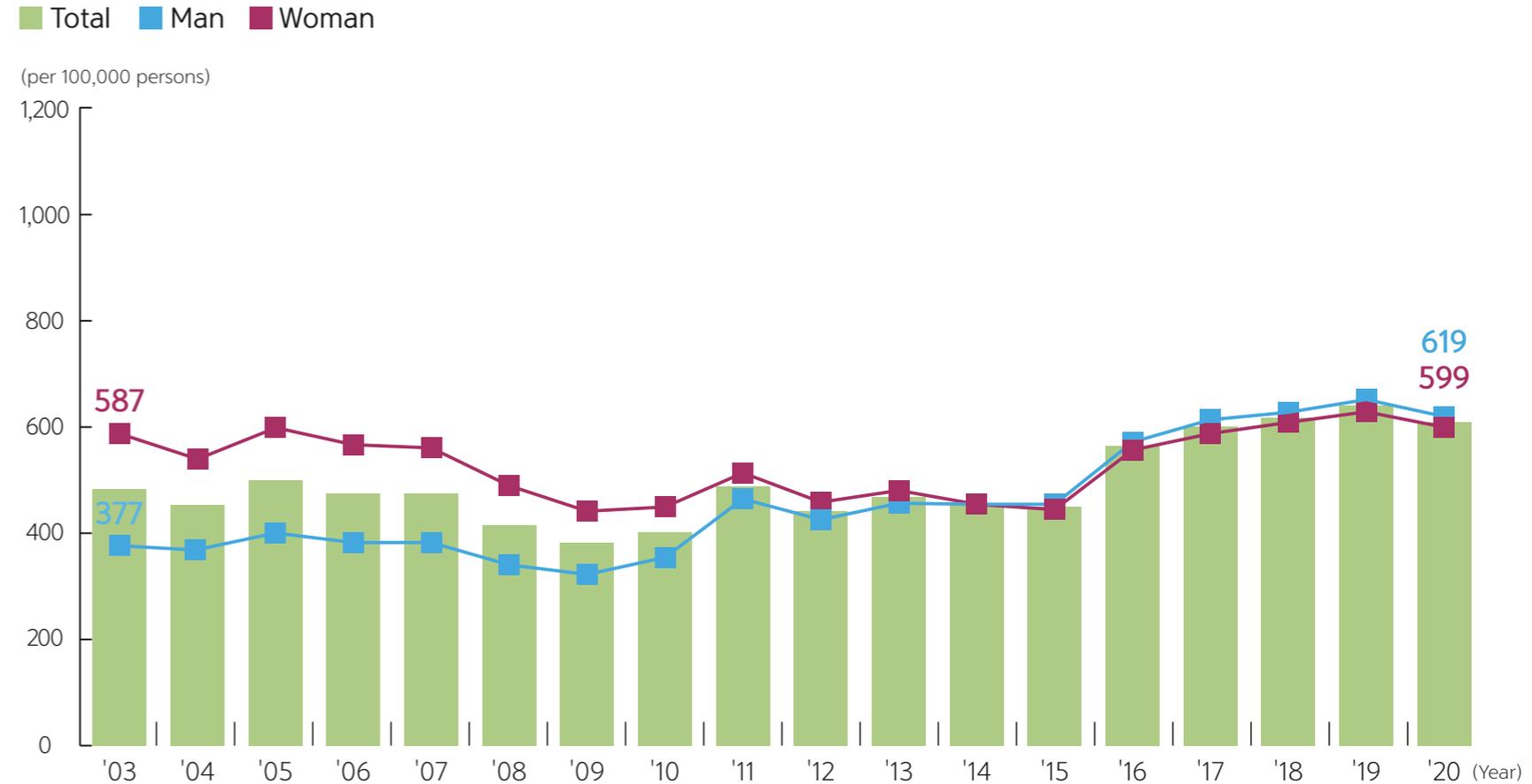
■ Total ■ Man ■ Woman



Age-specific Prevalence of Heart Failure



Incidence of Heart Failure



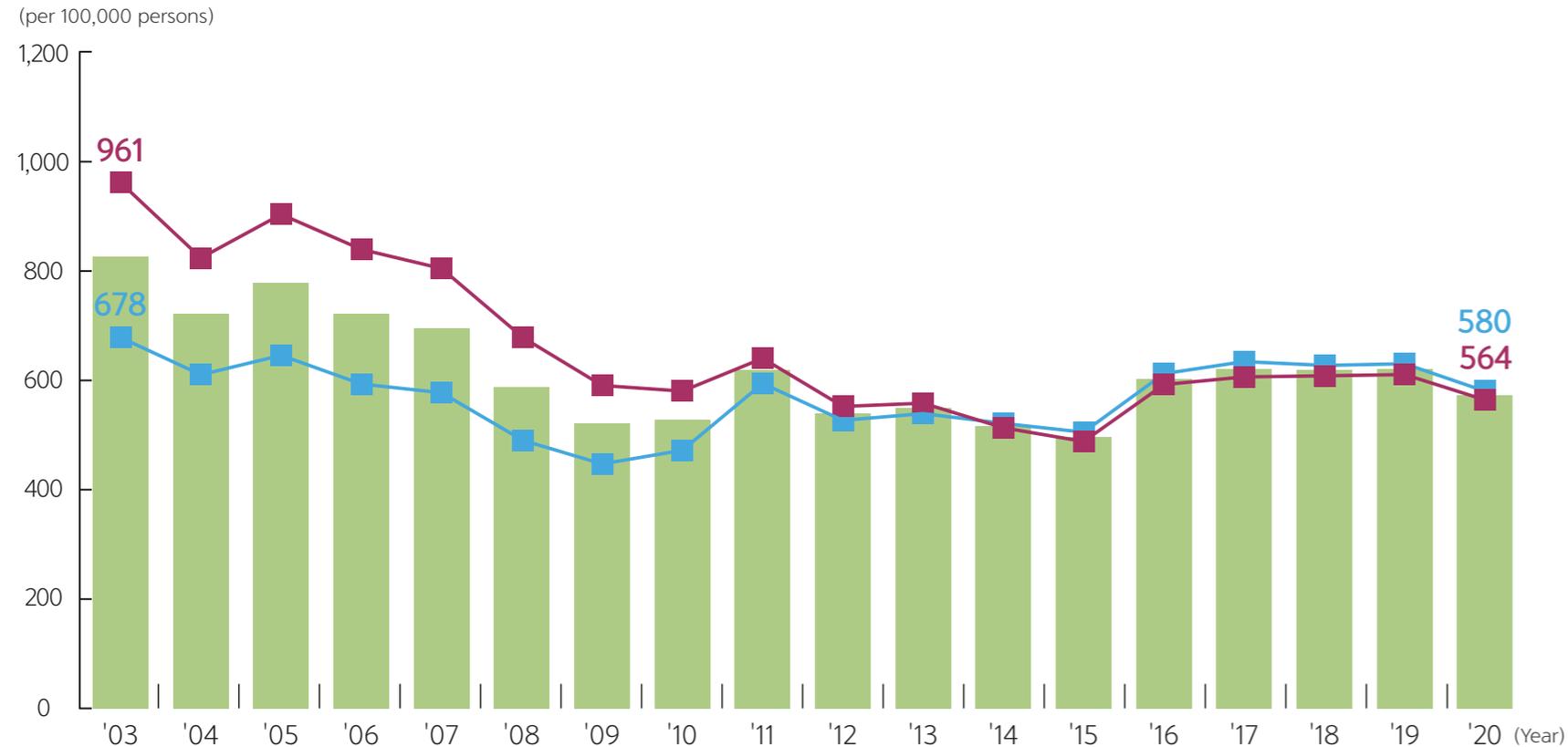
Age-standardized Incidence of Heart Failure

Total
*per 100,000 persons

2003
824

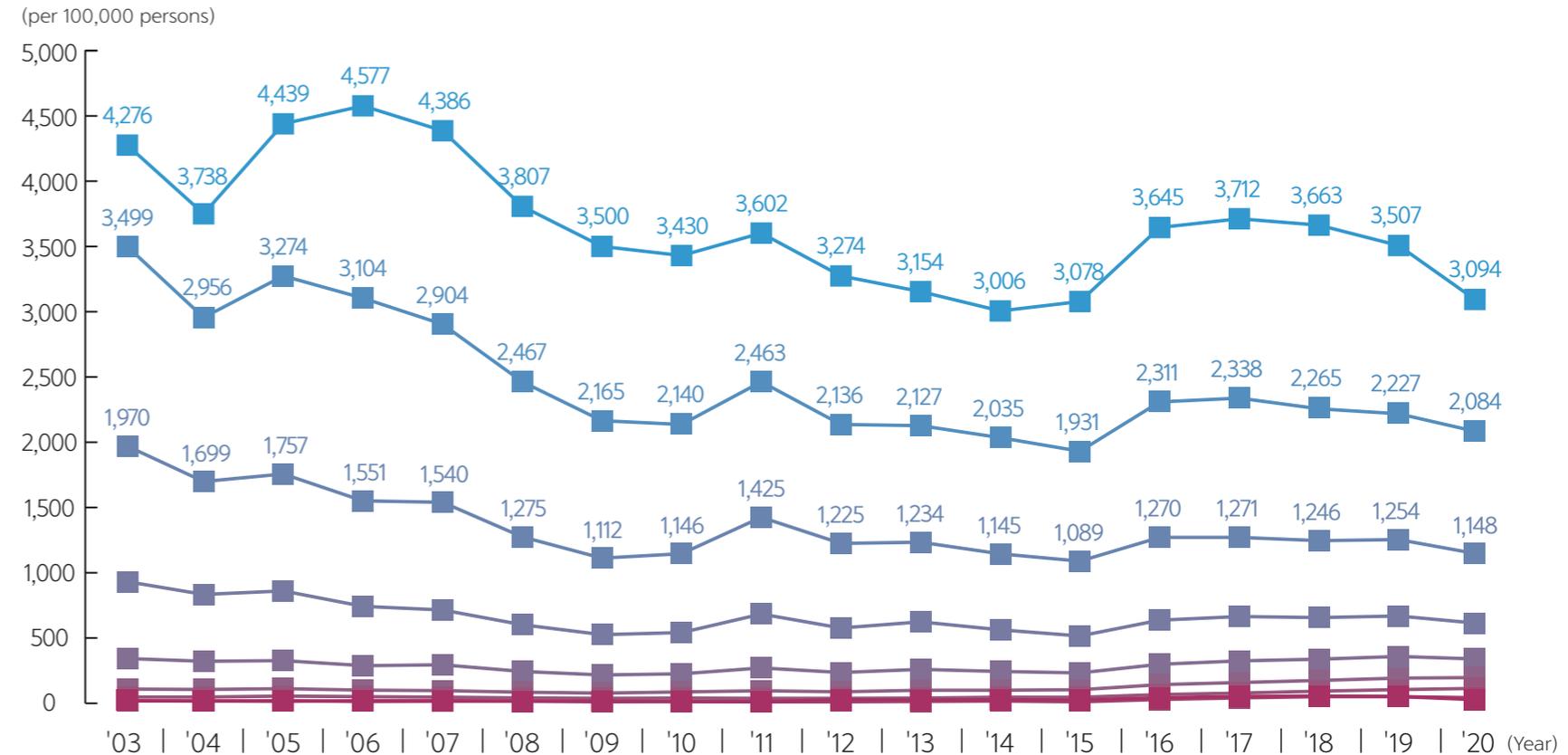
2020
572

■ Total ■ Man ■ Woman



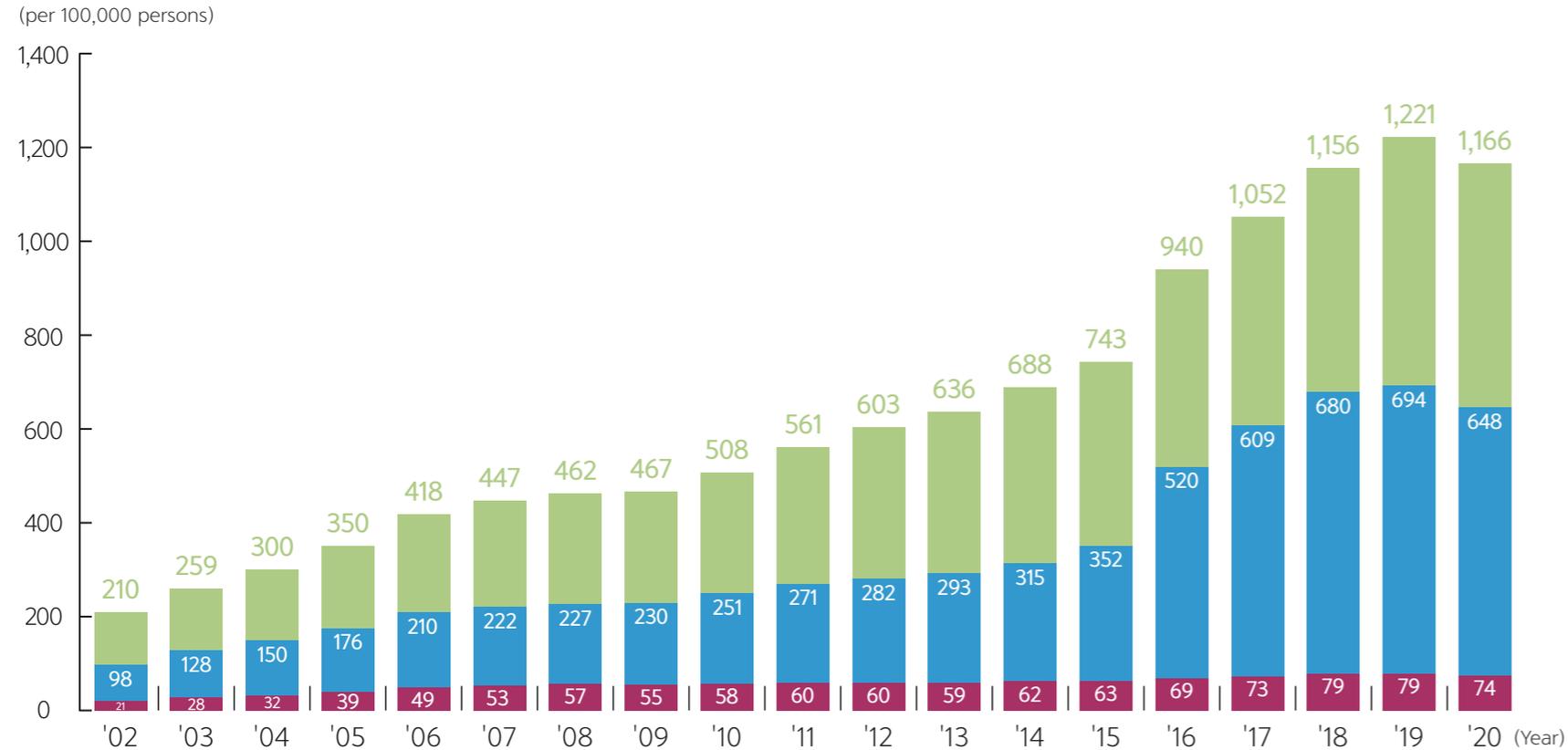
Age-specific Incidence of Heart Failure

■ Age 0~9 ■ Age 10~19 ■ Age 20~29 ■ Age 30~39 ■ Age 40~49 ■ Age 50~59 ■ Age 60~69 ■ Age 70~79 ■ Age ≥ 80



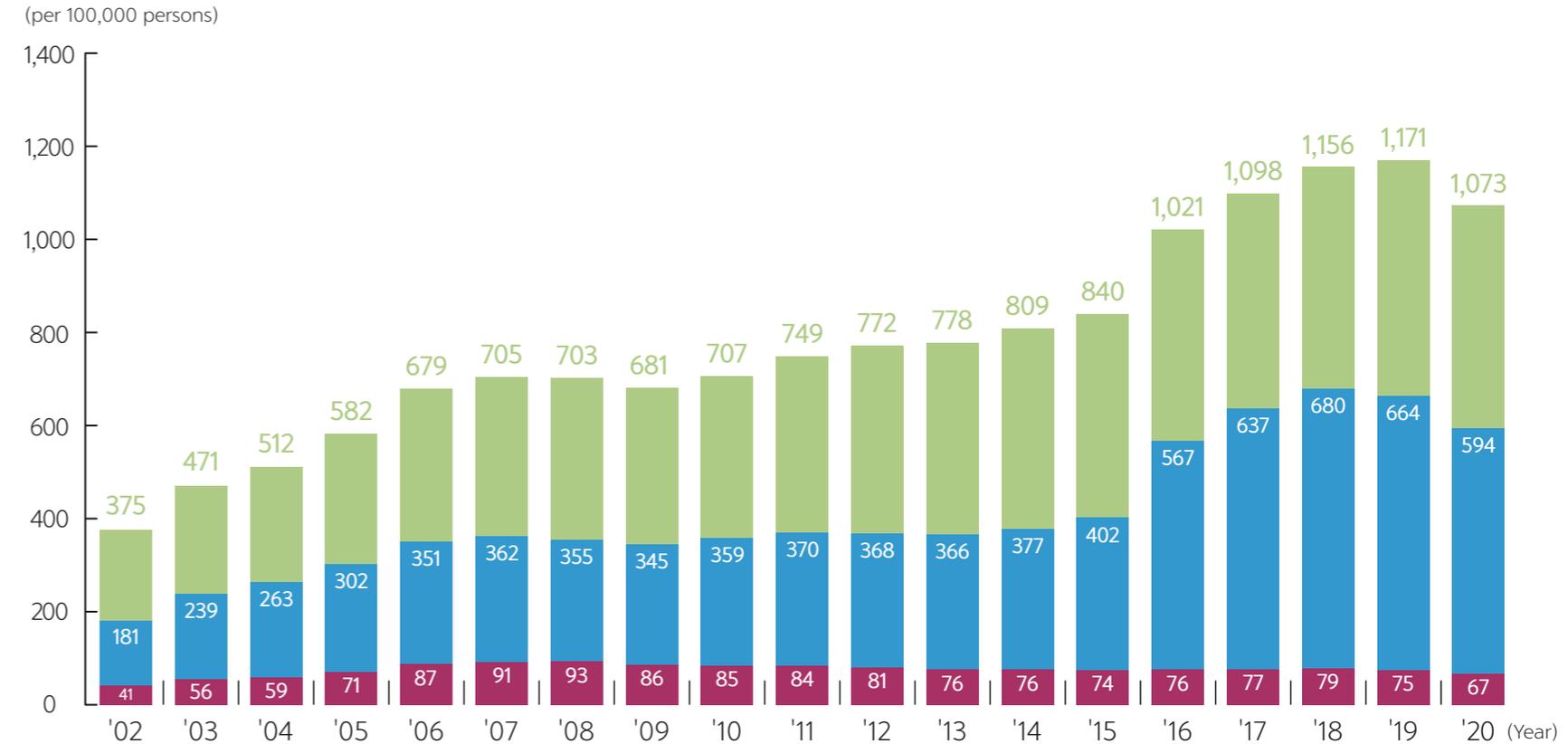
Hospitalization Rate for Heart Failure in the General Population

- Hospitalization rate for any cause
Total hospitalization of patients of heart failure in the general population
- Hospitalization rate for Heart Failure 1
Hospitalization for heart failure as a primary diagnosis
- Hospitalization rate for Heart Failure 2
Hospitalization for heart failure as a primary or secondary diagnosis



Age-standardized Hospitalization Rate for Heart Failure in the General Population

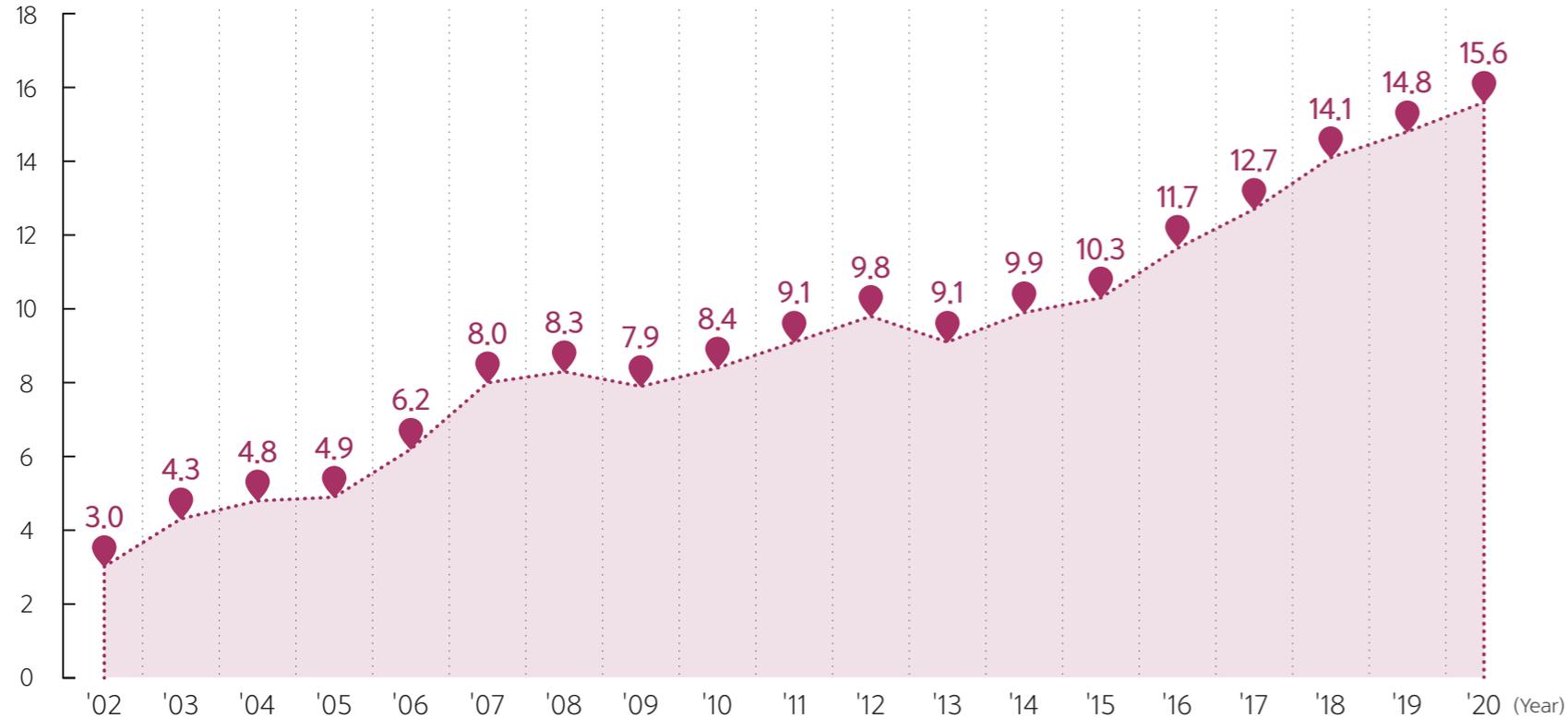
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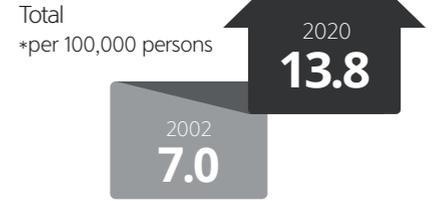
Mortality Rate for Heart Failure in the General Population



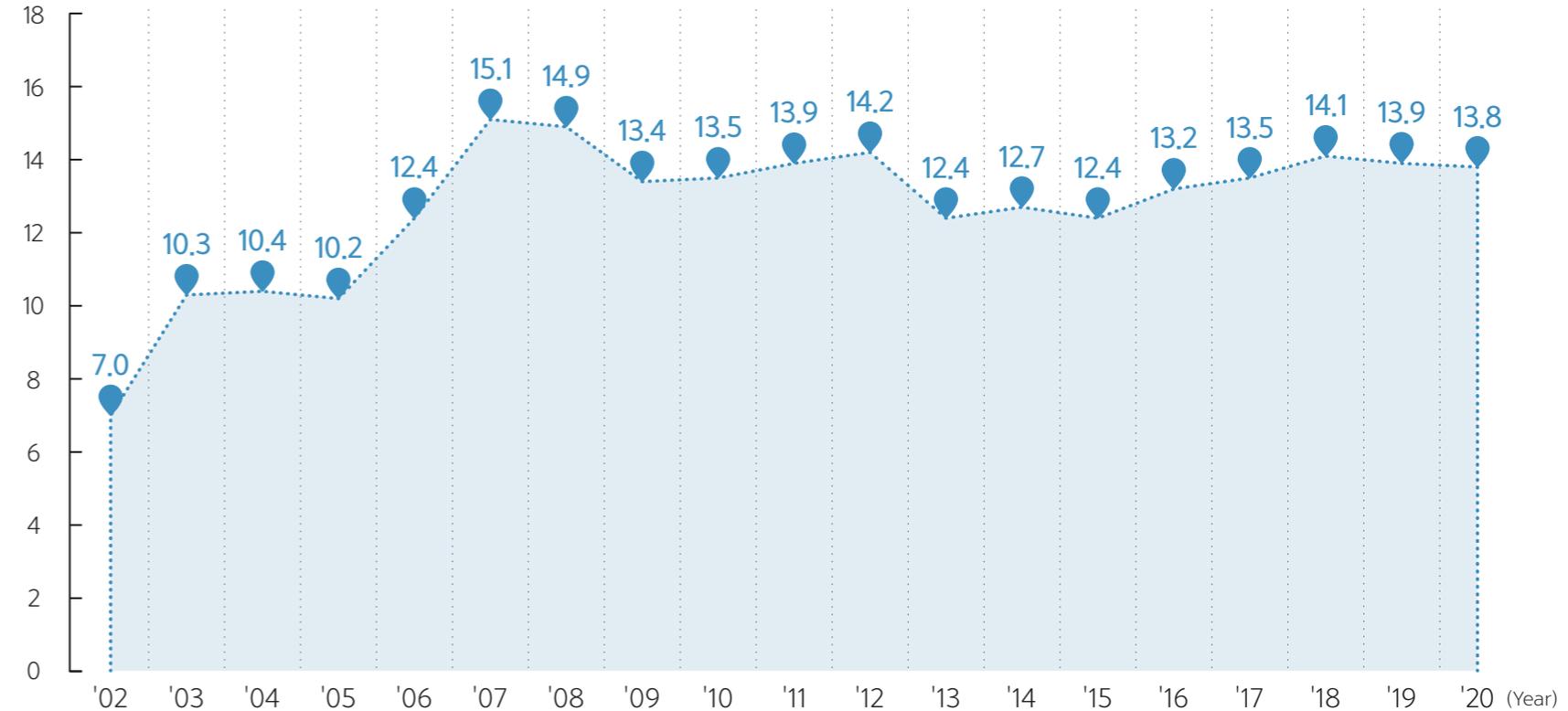
(per 100,000 persons)



Age-standardized Mortality Rate for Heart Failure in the General Population



(per 100,000 persons)



2 Characteristics and Prognosis of Patients with Heart Failure in Korea

2-1 Summary of Prognosis of Patients with Heart Failure in Korea

2-2 Summary of Characteristics of Patients with Heart Failure in Korea

2-3 Comorbidity Prevalence among Patients with Heart Failure

2-4 Hospitalization Rate among Patients with Heart Failure

2-5 Mortality Rate among Patients with Heart Failure

2-6 Age-specific Mortality Rate among Patients with Heart Failure

2-7 Mortality Rate during Hospitalization for Heart Failure

2-8 15-year Survival Rate of Patients with Heart Failure

2-9 1-year Survival Rate after the Diagnosis of Heart Failure

2-10 Medication Use among Patients with Heart Failure

2-11 Statistics of Treatment with Implantable Cardioverter-Defibrillator and Cardiac Resynchronization Therapy

2-12 Statistics of Heart Transplantation

2-13 Statistics of Left Ventricular Assist Device

2-14 Healthcare Cost per Patient with Heart Failure

Summary of Prognosis of Patients with Heart Failure



Hospitalization Rate for any cause
in Patients with Heart Failure



Hospitalization Rate for Heart Failure
in Patients with Heart Failure



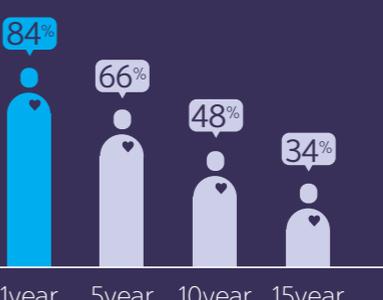
Mortality Rate in Patients
with Heart Failure



Survival Rate in Patients
with Heart Failure



Survival Rate in Inpatients
with Heart Failure



Summary of Characteristics of Patients with Heart Failure in Korea

Comorbidity
in 2020



Atrial fibrillation



20.3%

Chronic kidney disease



15.8%

Diabetes



58.8%

Hypertension



78.7%

Stroke



14.5%

Ischemic heart disease



50.6%

Medication
Use
in 2020



61.8%

Renin-Angiotensin
System Blockers

66.8%

Beta-blockers

15.9%

Aldosterone
Antagonists

52.5%

Diuretics

62.4%

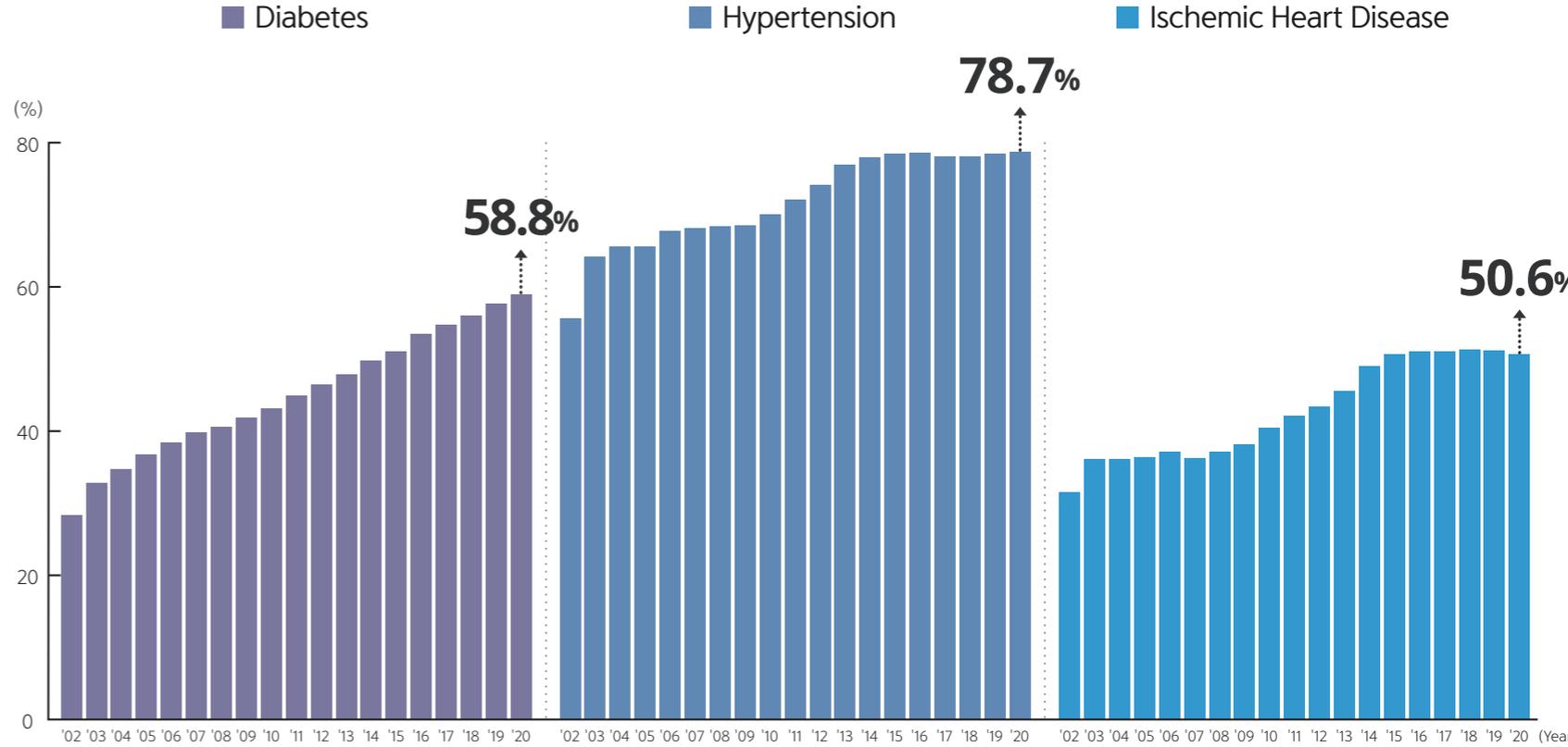
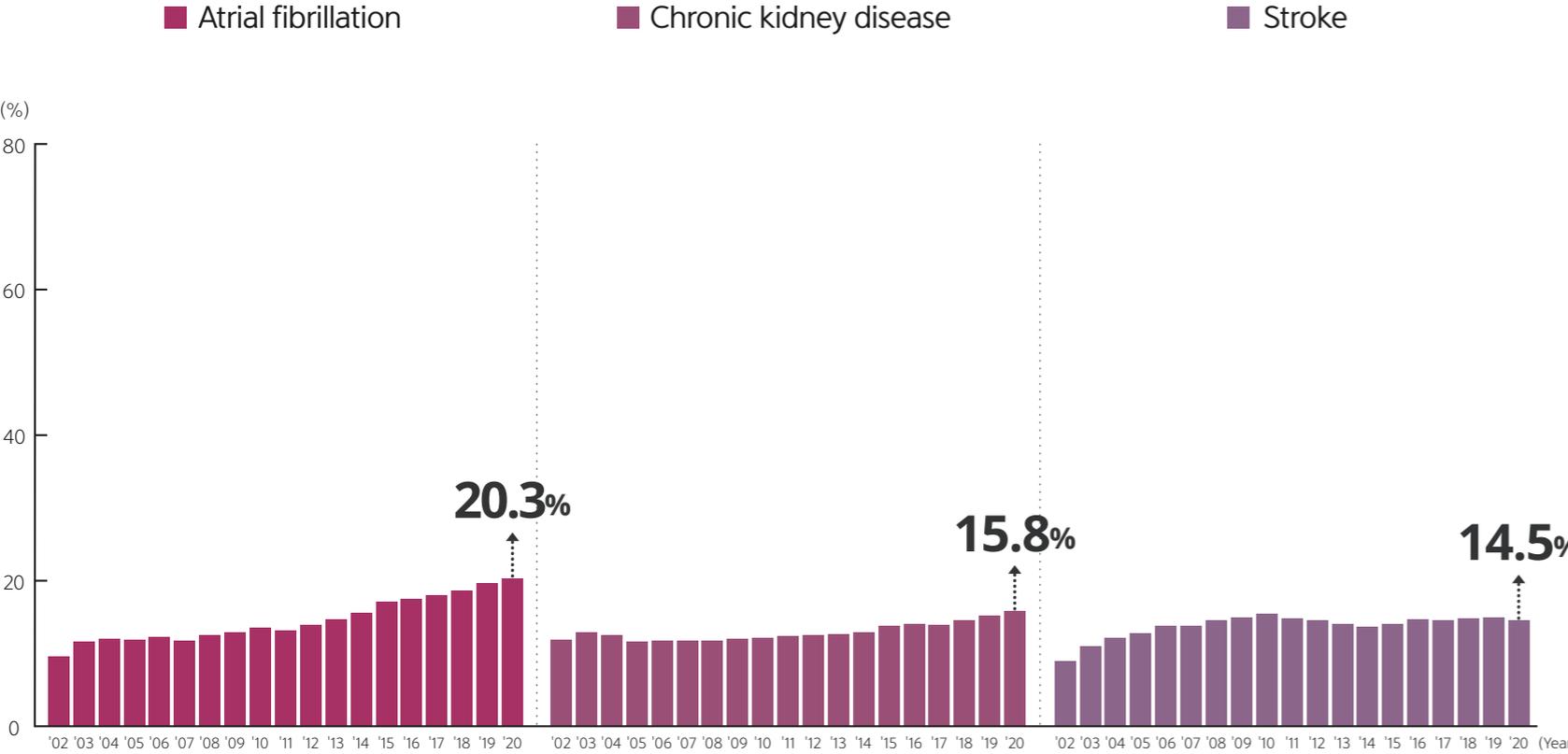
Statins

16.7%

Anticoagulants

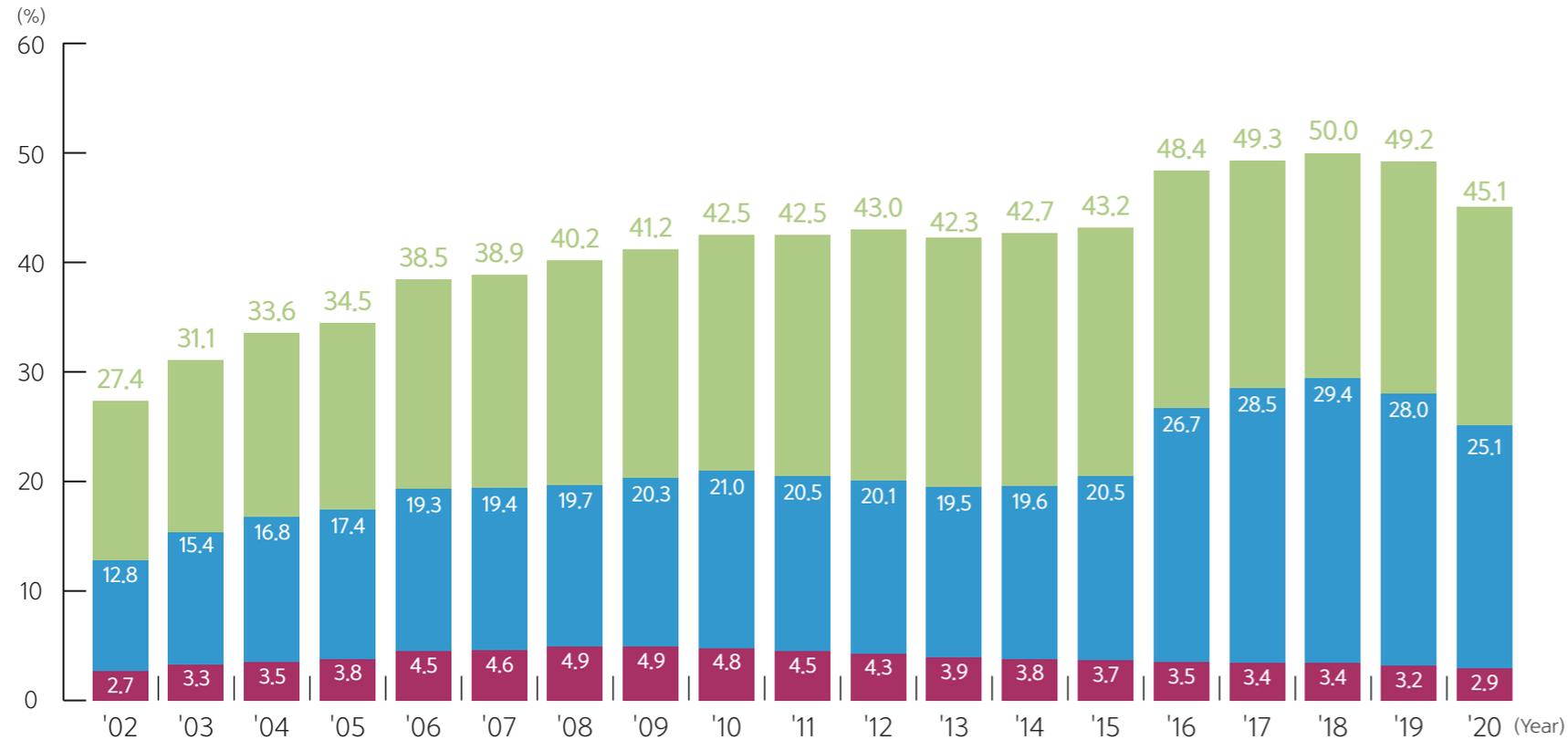
Comorbidity Prevalence among Patients with Heart Failure

Based on diagnosis codes entered during 365 days prior to the last healthcare usage with HF as the primary or secondary diagnosis in the year



Hospitalization Rate among Patients with Heart Failure

- Hospitalization rate for any cause
Total hospitalization of patients of heart failure
- Hospitalization rate for Heart Failure 1
Hospitalization for heart failure as a primary diagnosis
- Hospitalization rate for Heart Failure 2
Hospitalization for heart failure as a primary or secondary diagnosis

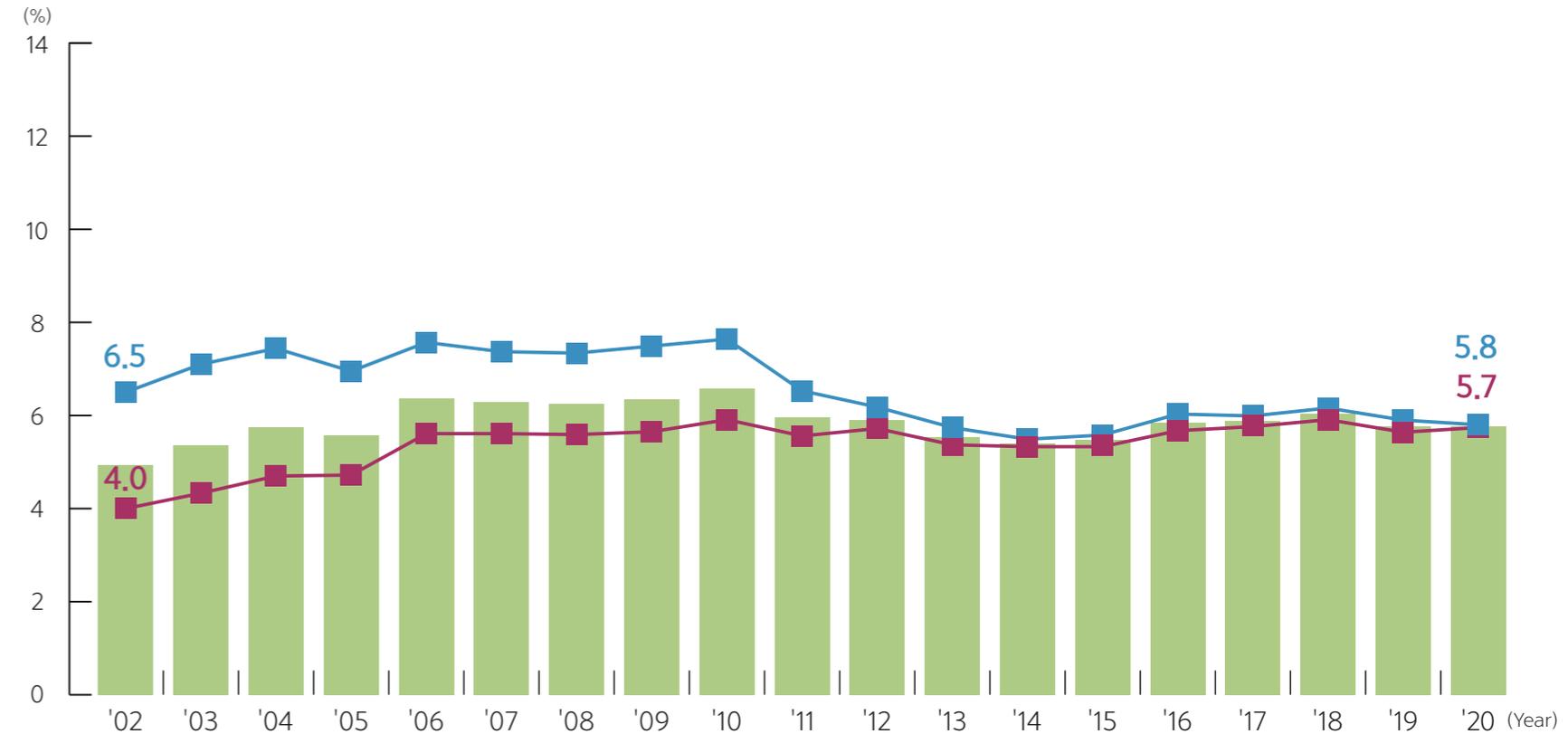


Mortality Rate among Patients with Heart Failure



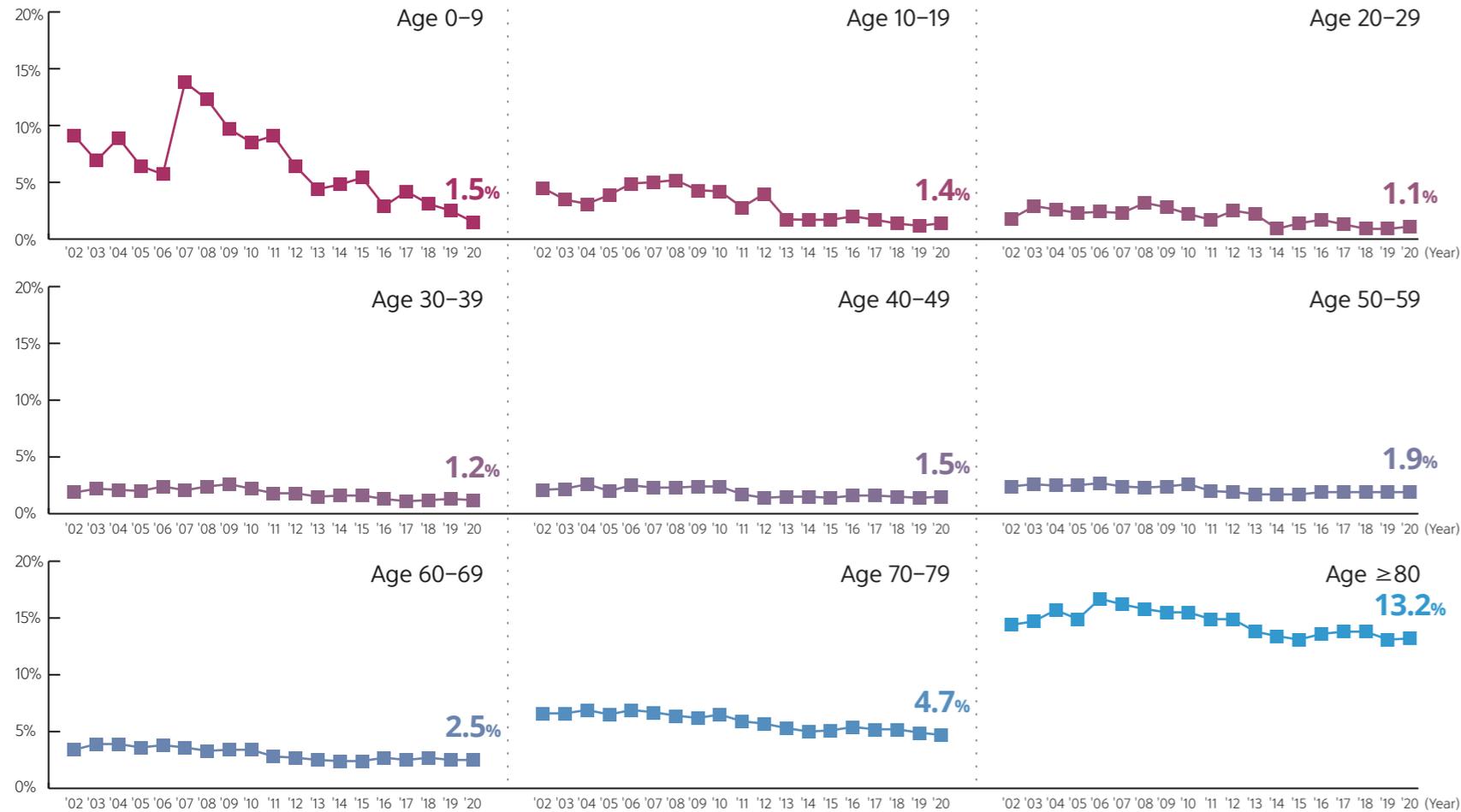
(Mortality of any cause)

- Total
- Man
- Woman



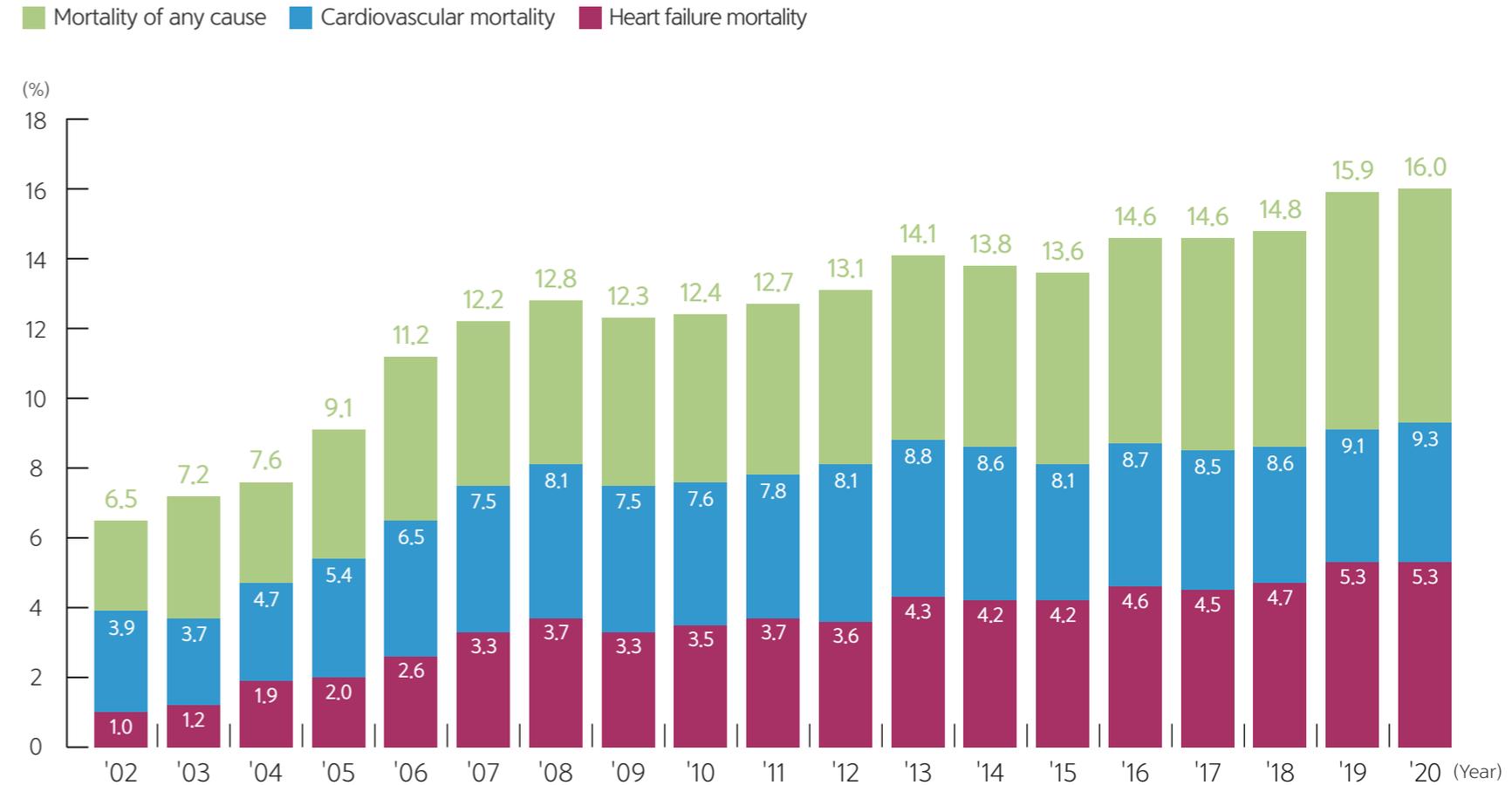
Age-specific Mortality Rate among Patients with Heart Failure

(Mortality of any cause)



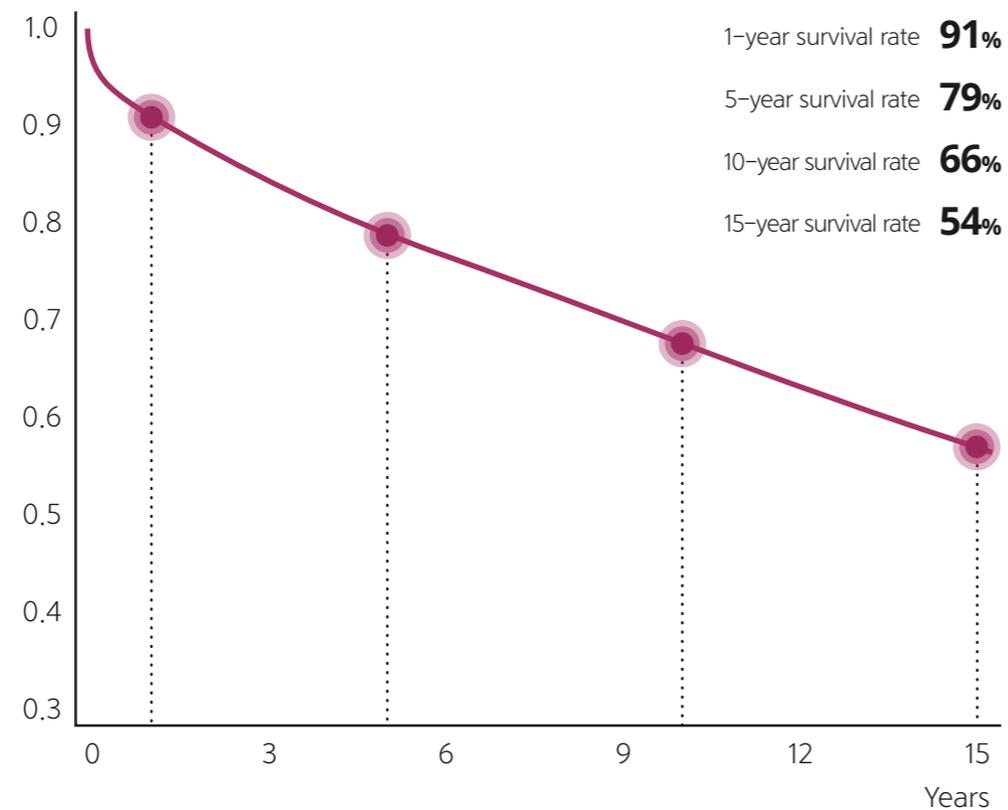
Mortality Rate during Hospitalization for Heart Failure

(During hospitalizations with heart failure as the primary diagnosis)



15-year Survival Rate of Total Patients with Heart Failure

— Survival Probability

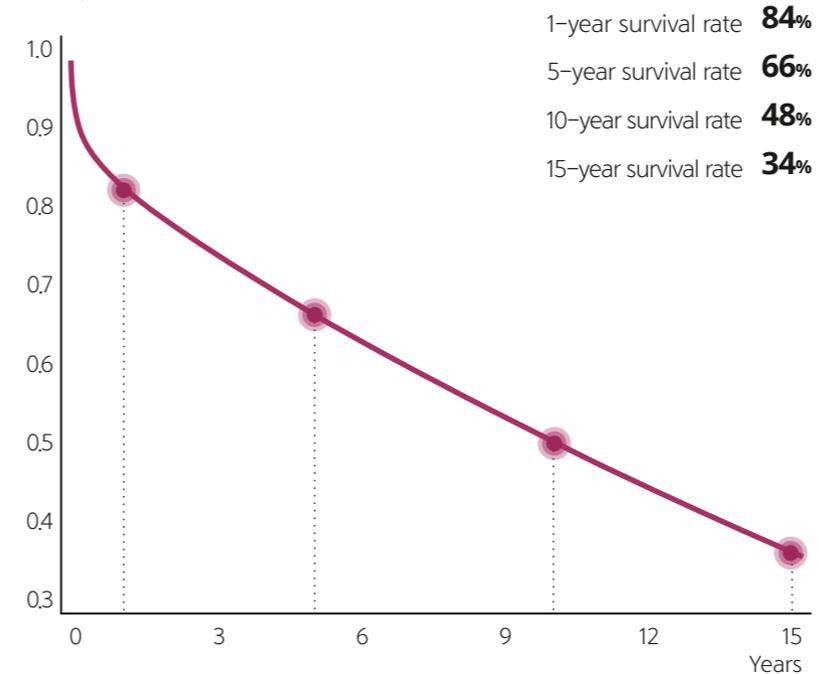


• ¹Patients with a history of hospitalization for heart failure at least once during follow-up period

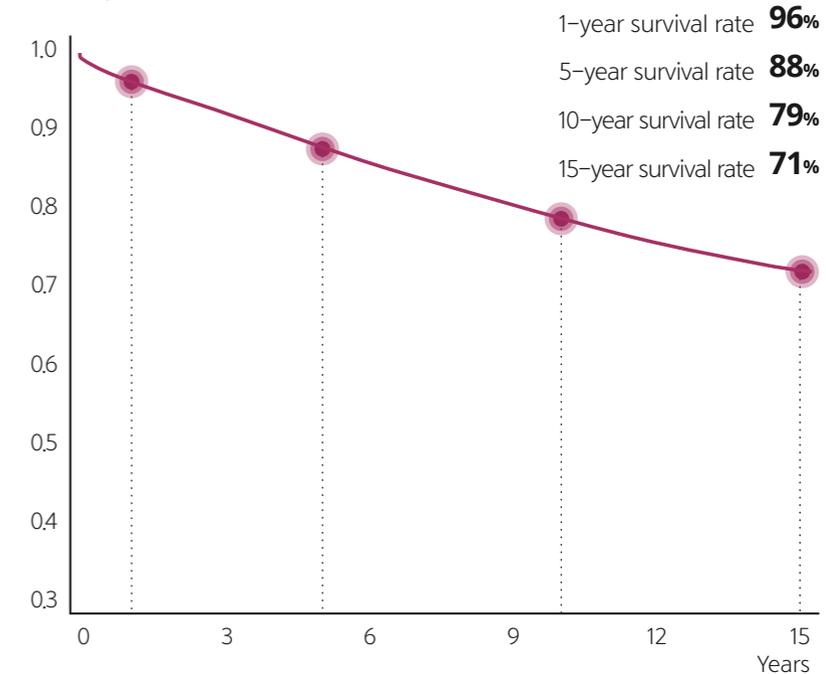
• ²Patients without a history of hospitalization for heart failure

15-year Survival Rate of Patients with Heart Failure

Inpatients with heart failure¹



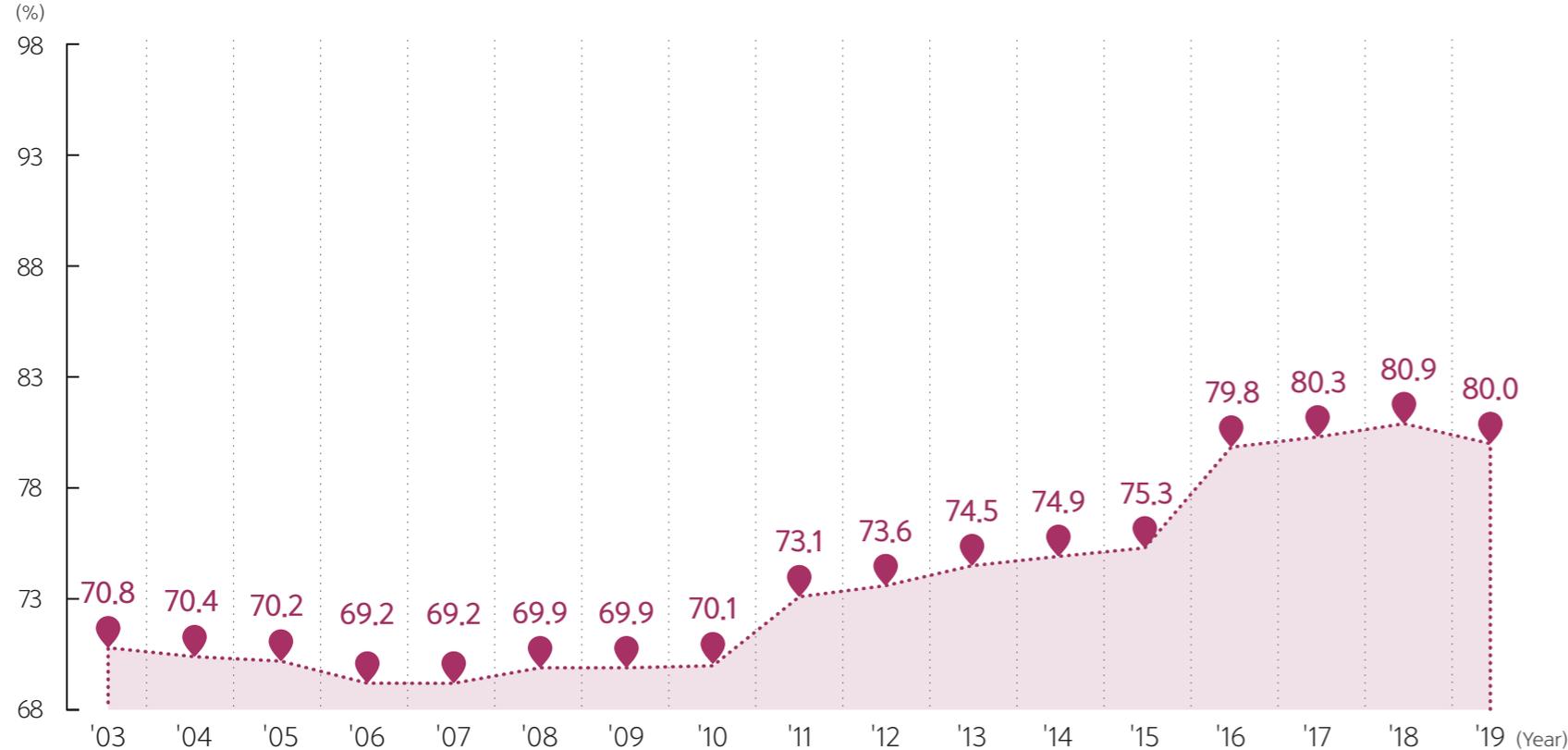
Outpatients with heart failure²



1-year Survival Rate after the Diagnosis for Heart Failure

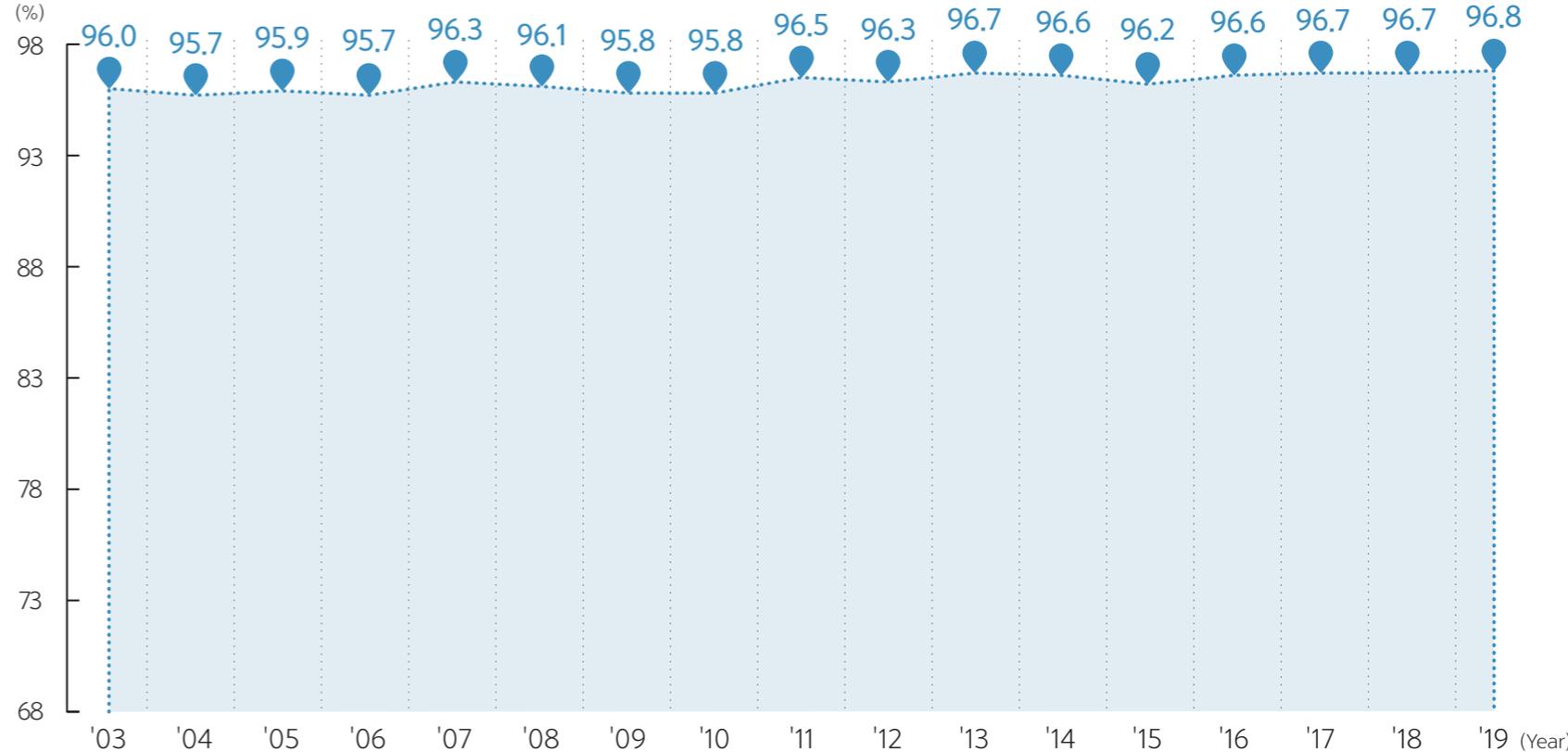
• ¹Patients who were first diagnosed with heart failure during hospitalization

● 1-year survival rate of inpatients¹ after first diagnosis for heart failure



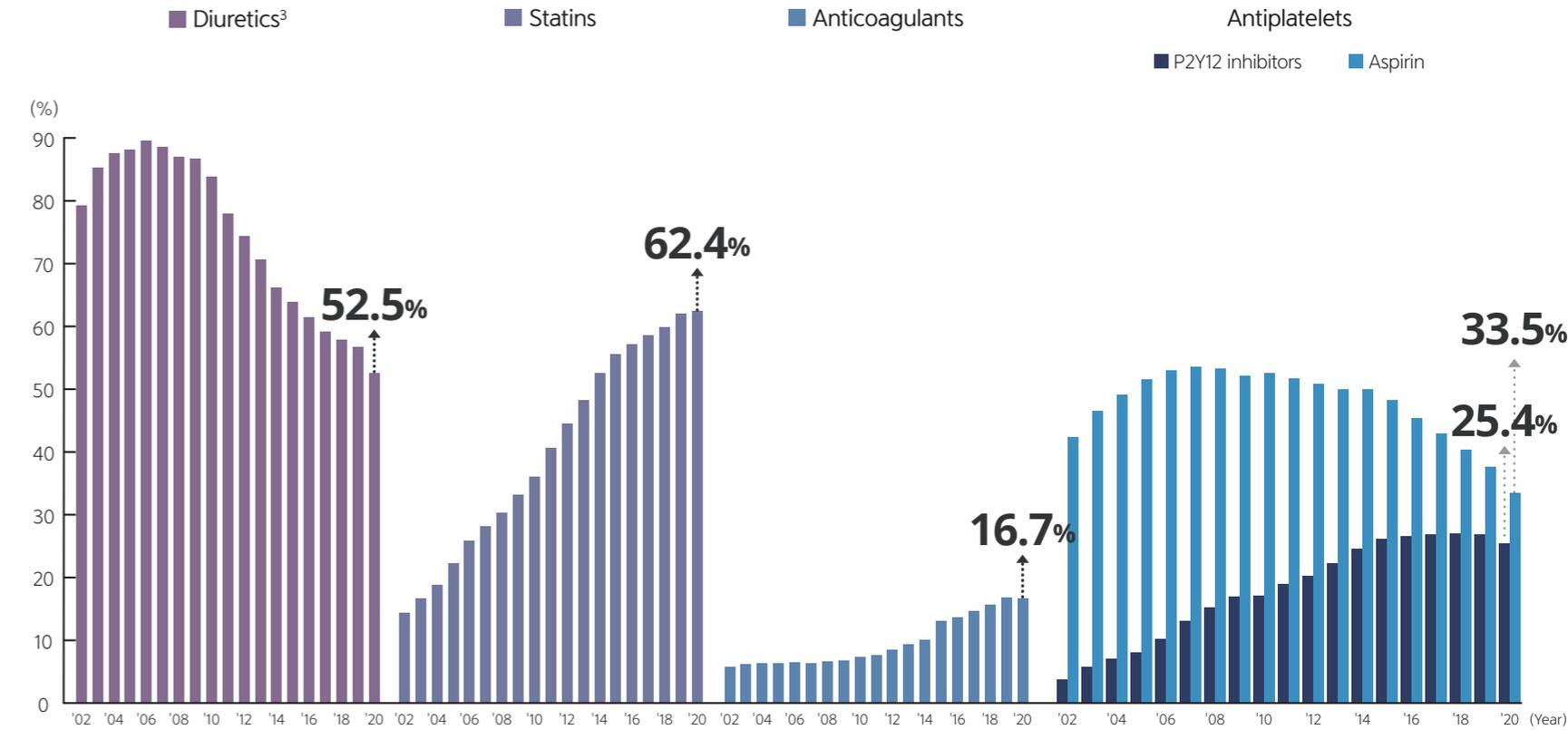
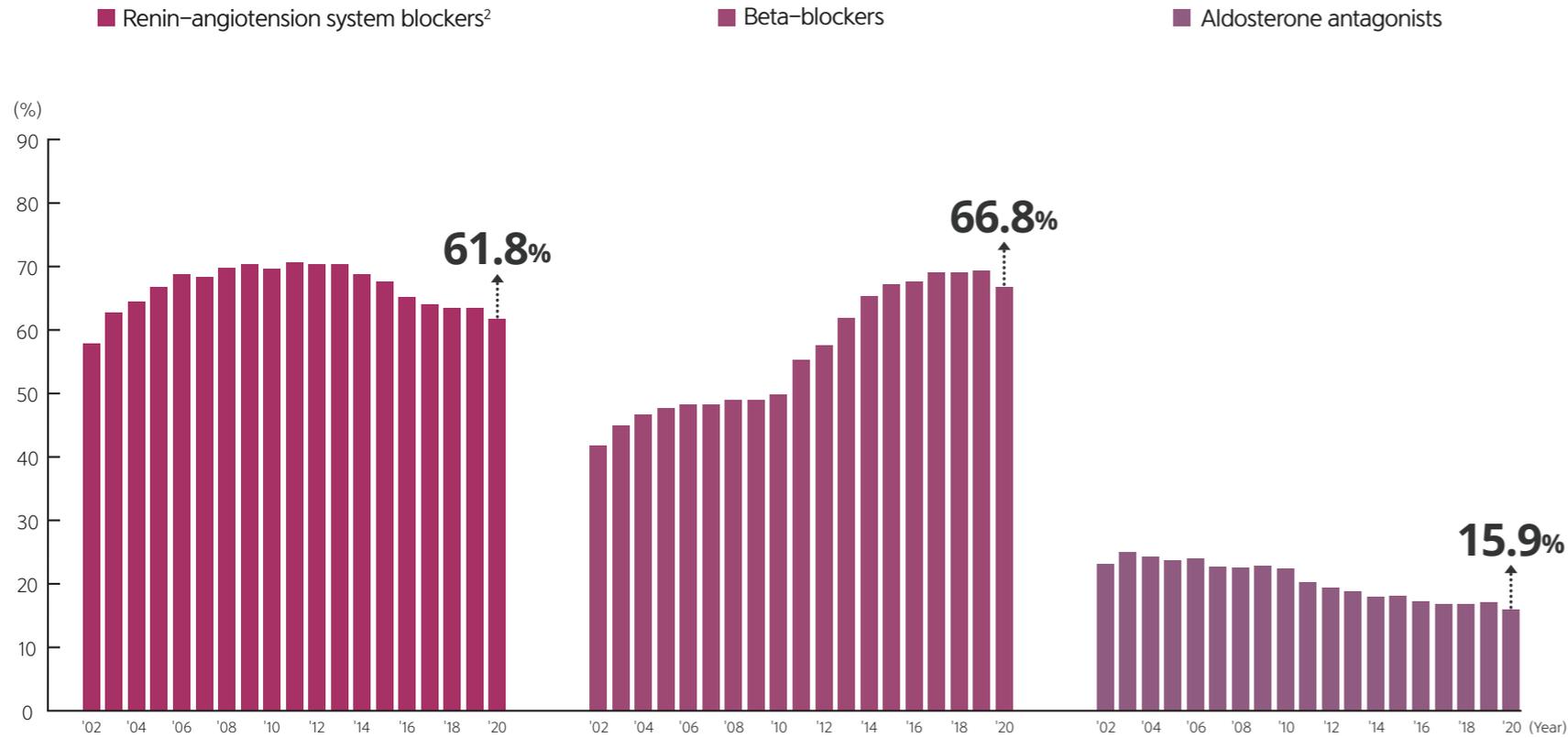
• ²Patients who were first diagnosed with heart failure in outpatient

● 1-year survival rate of outpatients² after first diagnosis for heart failure



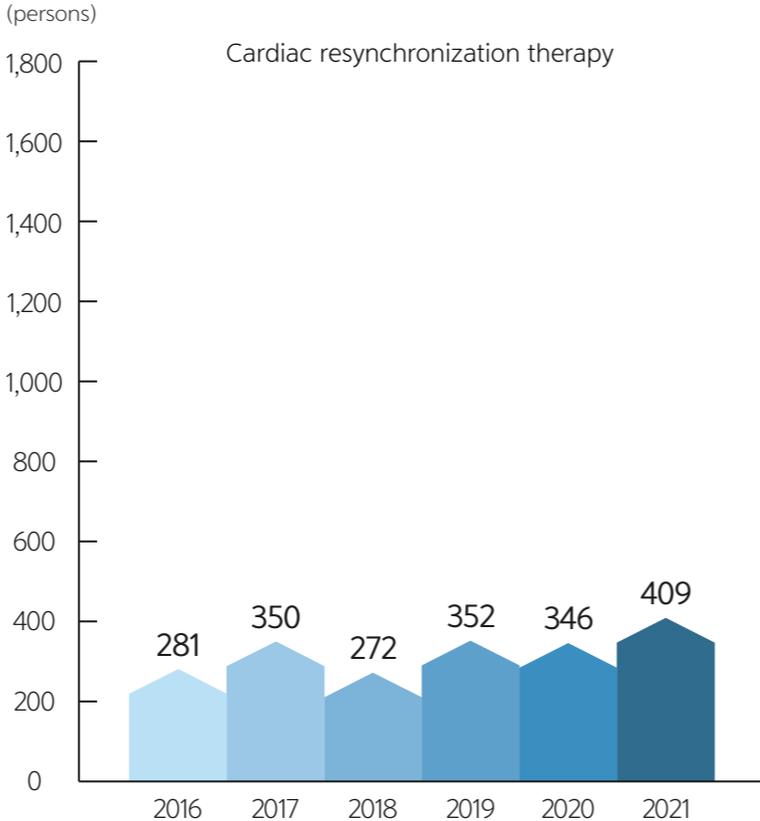
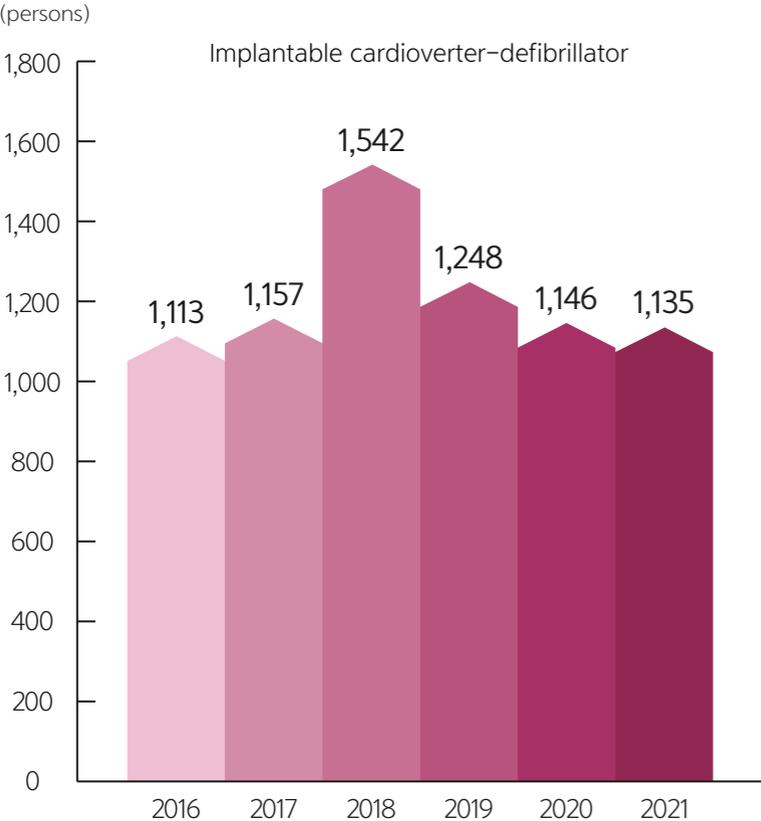
Medication¹ Use among Patients with Heart Failure

- ¹Examined prescription of the medications during the year
- ²Including angiotensin receptor-neprilysin inhibitor
- ³Including loop diuretics and thiazide-like diuretics
- Sodium-glucose co-transporter 2 inhibitors is not included into the analysis because it is not covered with the national health insurance in case of usage for heart failure



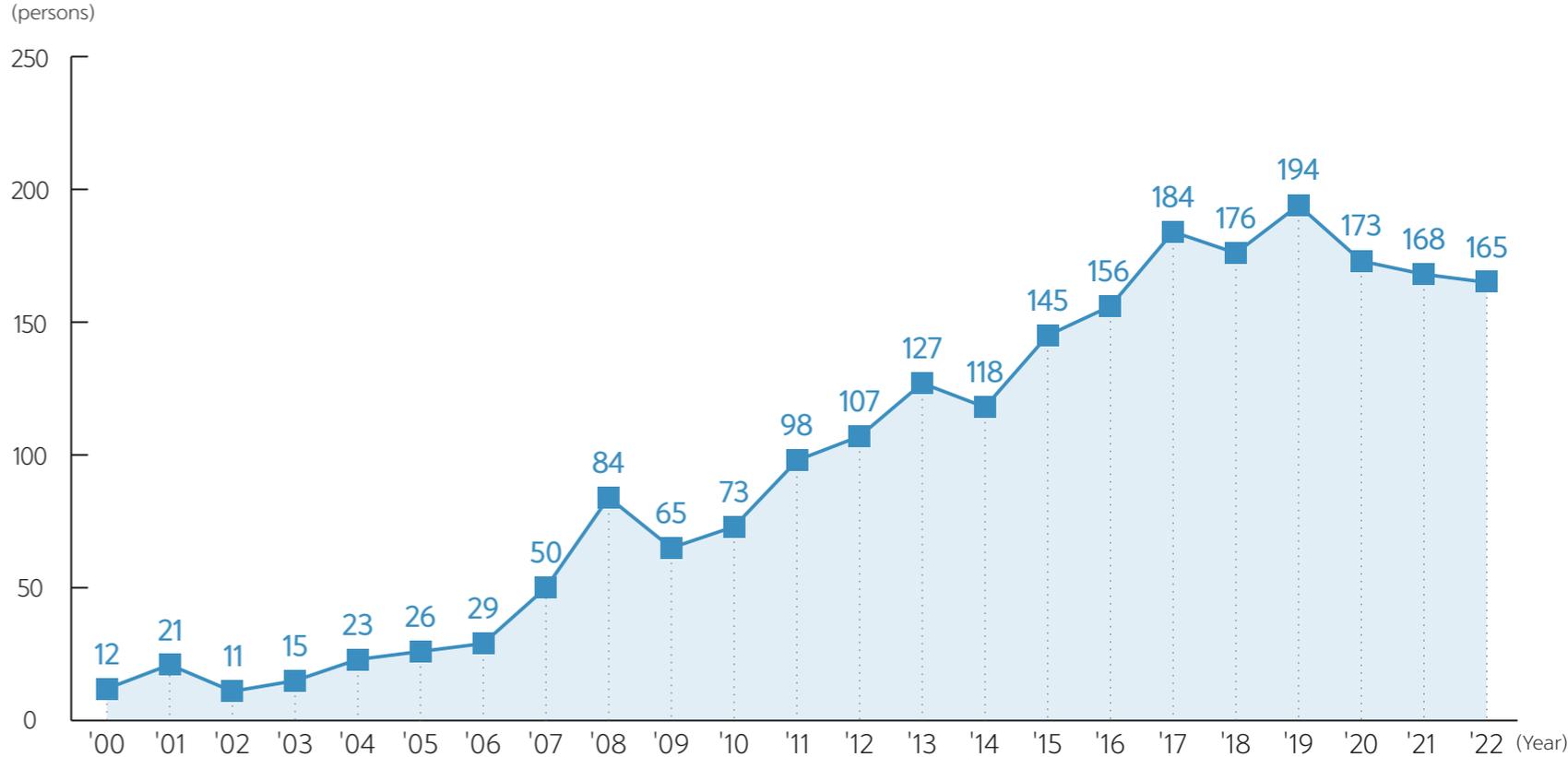
Statistics of Treatment with Implantable Cardioverter-defibrillator and Cardiac Resynchronization Therapy

Source: Asia Pacific Heart Rhythm Society White Book 2022



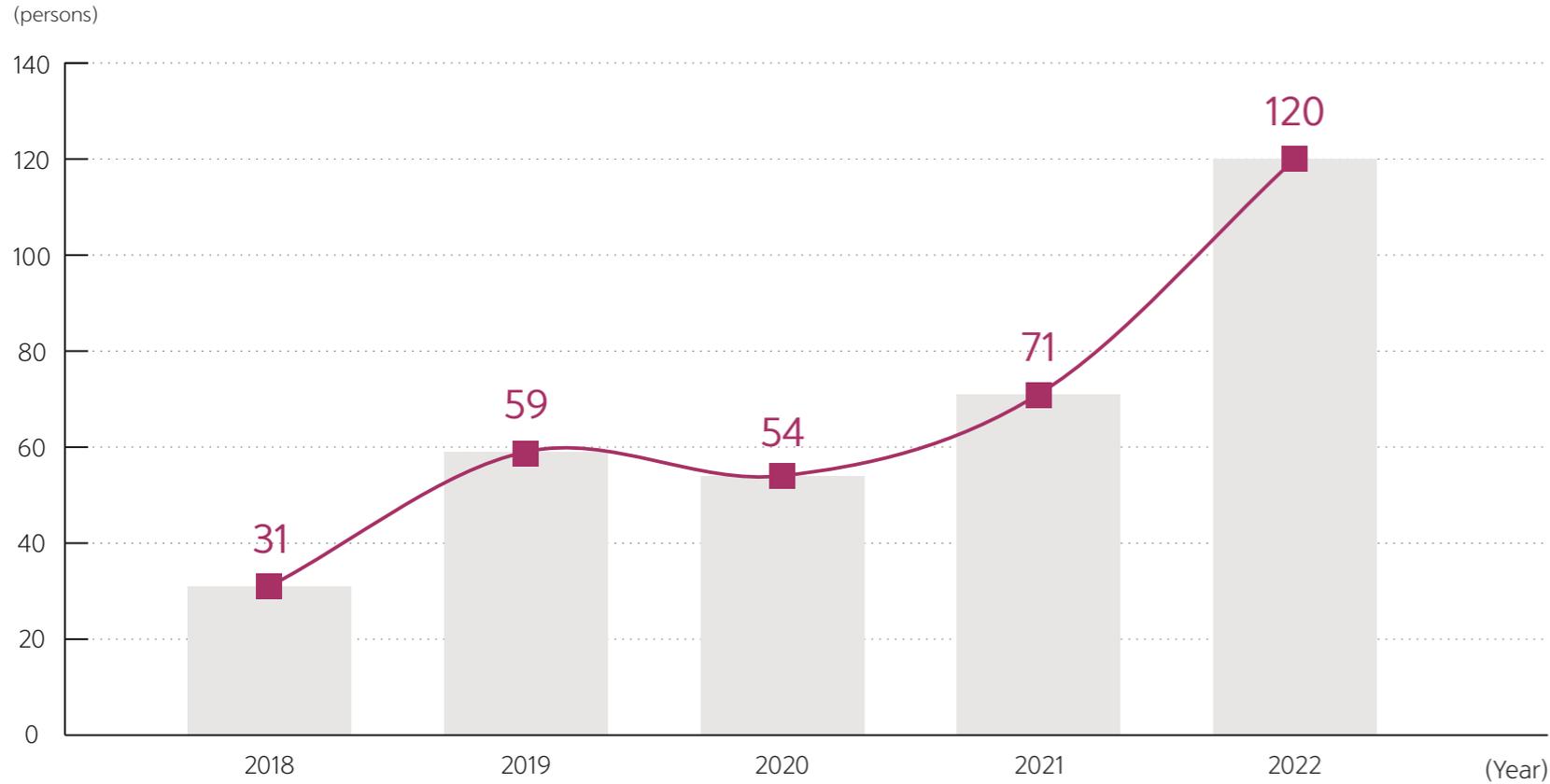
Statistics of Heart Transplantation

Source: The Korean Network for Organ Sharing (2022)



Statistics of Left Ventricular Assist Device

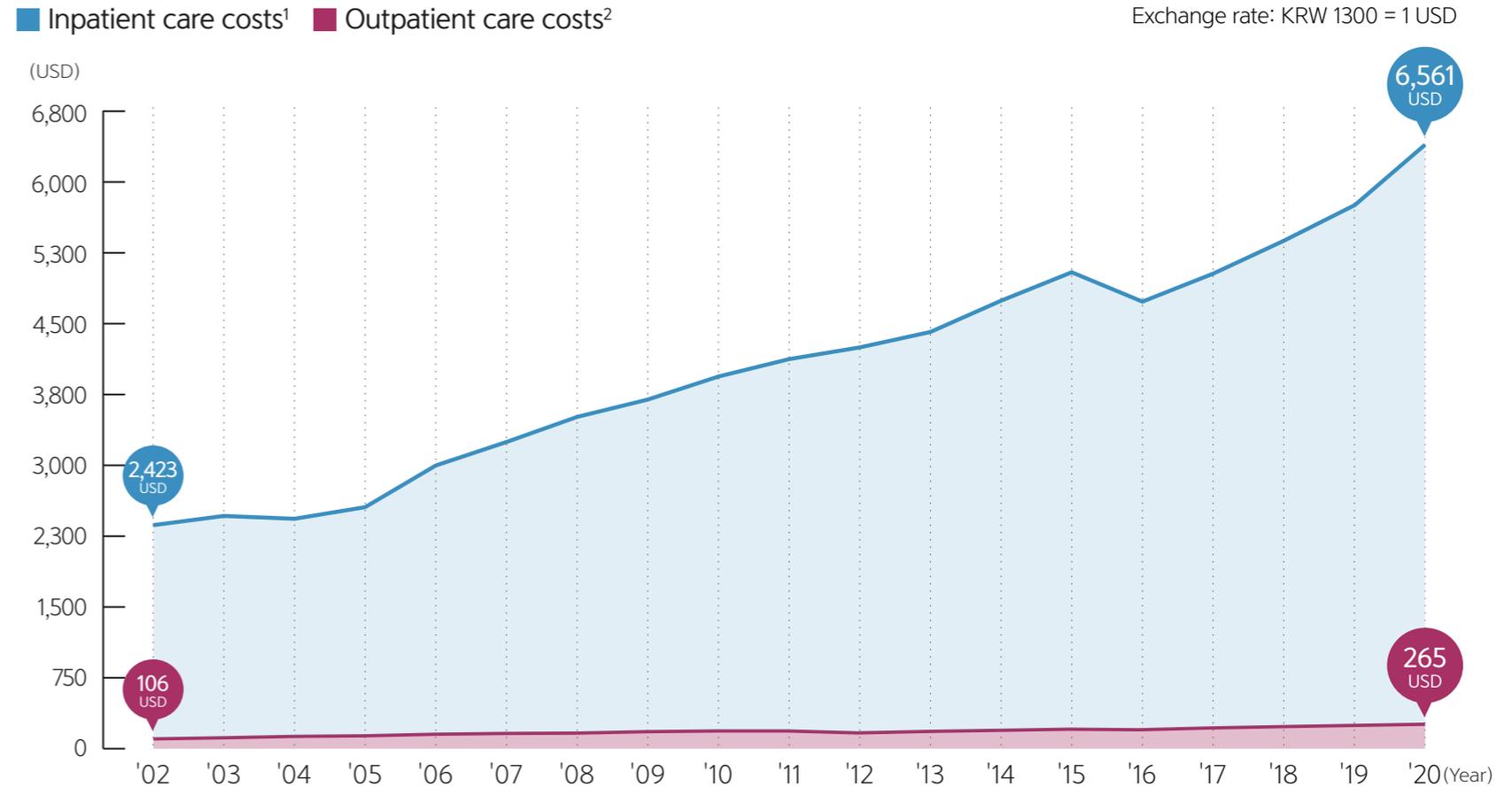
Source: Research from Abbott Korea and Medtronic Korea



Healthcare Cost per Patient with Heart Failure

Total costs
USD **2.4billion**

- ¹Healthcare claims per capita inpatient care costs for heart failure patients in a year.
- ²Healthcare claims per capita outpatient care costs for heart failure patients in a year.



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Published date: January 22, 2024

Publisher: Seok-Min Kang

Editor: Chan Joo Lee

Editorial committee member: Minjae Yoon, Ho Kyu Lee, Kyeong-Hyeon Chun

Design: Kinko's Hongdae Center

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