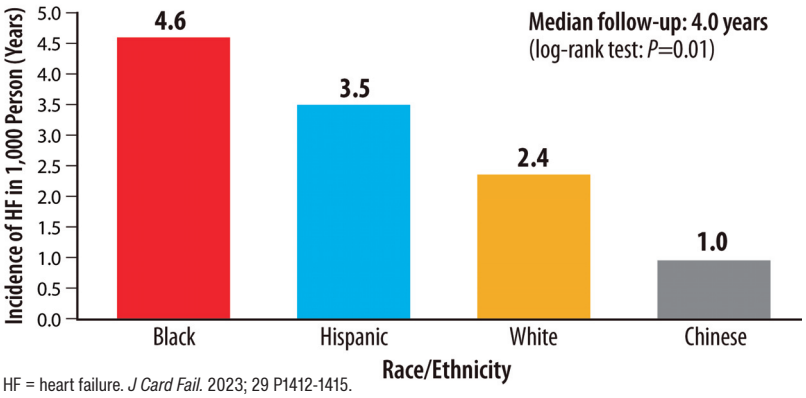
HFSTATS SHEET

HF Estimates by Race/Ethnicity, Age, and Sex

HFSTATS℠
HEART FAILURE SOCIETY OF AMERICA
ANNUAL REPORT

- The incidence and prevalence of HF is higher among Black individuals compared with other racial and ethnic groups (Fig.7). The prevalence of HF has increased among Black and Hispanic individuals over time (Fig.8).
- The prevalence of HF is higher among young and middle-aged Black adults compared with young and middle-aged White adults (Fig. 8).
- The higher prevalence of cardiometabolic risk factors in Black and Hispanic populations is related to disparities in SDoH and structural racism. Discrimination is linked to higher allostatic loads, telomere shortening, oxidative stress, and tissue inflammation, all of which contribute to accelerated aging and earlier development of disease.[1,2]

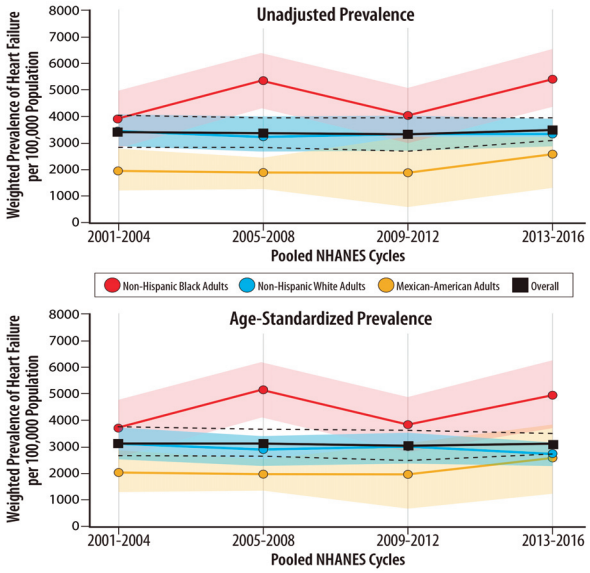
Figure 7: HF Incidence Rates by Race/Ethnicity in the US[3]



HF = heart failure. *J Card Fail.* 2023; 29 P1412-1415.

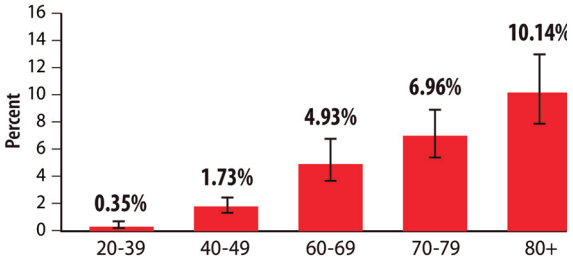
- HF is more prevalent among younger and middle-aged Black adults (age 35-64 years; 3864/100,000) compared with young and middle-aged White adults (1297/100,000).[4]
- In the overall population, HF is most prevalent among adults greater than 60 years old (Fig. 9). The risk of developing HF is 20-fold high among adults 60 years of age and older compared with those under 60 years of age.[5]
- Based on 2011–2012 to 2017–2020 pre-COVID NHANES data, there was a downward trend in the prevalence of HF over time among adults aged 80 years and older, as well as among adults aged 70–79 years (Fig. 9b).

Figure 8: Prevalence of HF from Pooled NHANES Cycles by Race/Ethnicity and Age[4]



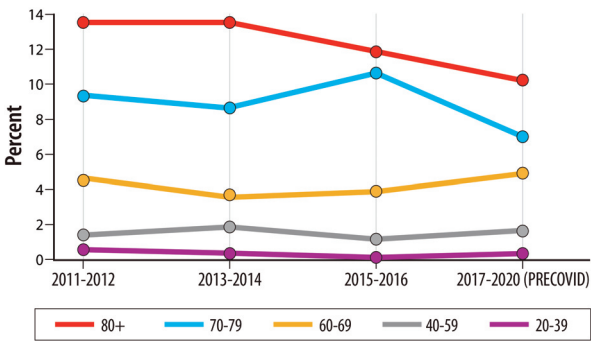
HF = heart failure; NHANES = National Health and Nutrition Examination Survey. *J Card Fail.* 2023; 29 P1412-1415.

Figure 9: 2017-2020 NHANES Heart Failure Prevalence by Age Categories[6]



NHANES = National Health and Nutrition Examination Survey. *J Card Fail.* 2023; 29 P1412-1415.

Figure 9b: NHANES Trends in Heart Failure Prevalence by Age[6]



NHANES = National Health and Nutrition Examination Survey. *J Card Fail.* 2023; 29 P1412-1415.

Table 5: Sex Specific Age-Standardized Prevalence Rate of HF Based on Underlying Disease[7]

	Global	Male	Female
All causes	831.0 (738.6 to 926.2)	844.6 (752.5 to 936.0)	817.5 (724.4 to 916.0)
Ischemic heart disease	220.1 (187.8 to 255.8)	259.7 (221.7 to 302.5)	186.3 (158.3 to 218.5)
Hypertensive heart disease	217.9 (184.1 to 254.1)	172.3 (145.8 to 201.5)	255.0 (216.5 to 296.9)
Chronic obstructive pulmonary disease	194.5 (159.2 to 230.8)	208.5 (170.0 to 248.5)	182.6 (149.7 to 218.7)
Other cardiomyopathy	53.9 (46.7 to 62.1)	53.1 (45.9 to 61.2)	54.5 (47.1 to 62.6
Non-rheumatic degenerative mitral valve disease	22.8 (14.7 to 32.6)	22.1 (14.5 to 31.8)	23.4 (15.1 to 33.8)
Other cardiovascular and circulatory diseases	20.3 (16.6 to 24.3)	22.9 (18.8 to 27.6)	18.0 (14.8 to 21.7)
Alcoholic cardiomyopathy	19.9 (16.8 to 23.3)	27.7 (23.4 to 32.4)	12.6 (10.6 to 14.7)
NonOrheumatic calcific aortic valve disease	18.9 (12.2 to 27.5)	20.4 (13.0 to 29.6)	17.7 (11.3 to 26.3)
Other cardiovascular and circulatory diseases	20.3 (16.6 to 24.3)	22.9 (18.8 to 27.6)	18.0 (14.8 to 21.7)
Rheumatic heart disease	14.9 (12.6 to 17.4)	11.0 (9.3 to 12.8)	18.4 (15.5 to 21.6)
Myocarditis	13.7 (11.8 to 15.8)	11.4 (9.7 to 13.1)	15.9 (13.6 to 18.2)
Congenital heart anomalies	7.5 (5.9 to 9.5)	7.8 (6.0 to 9.8)	7.3 (5.7 to 9.2)
Endocarditis	7.4 (6.3 to 8.5)	6.8 (5.8 to 7.9)	7.8 (6.6 to 9.1)
Interstitial lung disease and pulmonary sarcoidosis	5.4 (4.1 to 6.5)	5.9 (4.5 to 7.3)	5.0 (3.9 to 6.0)
Endocrine, metabolic, blood, and immune disorders	5.1 (4.2 to 6.1)	4.9 (4.1 to 5.8)	5.2 (4.3 to 6.3)
Other hemoglobinopathies and hemolytic anemias	4.2 (3.4 to 5.0)	3.8 (3.1 to 4.7)	4.6 (3.8 to 5.5)
Chagas disease	3.7 (2.4 to 5.3)	4.8 (3.4 to 6.4)	2.7 (1.6 to 4.2)
Other non-rheumatic valve diseases	0.350 (0.287 to 0.421)	0.291 (0.239 to 0.347)	0.394 (0.322 to 0.476)
G6PD deficiency	0.249 (0.206 to 0.301)	0.346 (0.283 to 0.420)	0.162 (0.133 to 0.195)
Silicosis	0.140 (0.116 to 0.168)	0.305 (0.252 to 0.363)	0.006 (0.005 to 0.008)
Coal workers pneumoconiosis	0.089 (0.075 to 0.104)	0.186 (0.157 to 0.217)	0.010 (0.008 to 0.011)
Asbestosis	0.073 (0.061 to 0.086)	0.141 (0.117 to 0.165)	0.024 (0.019 to 0.029)
Other pneumoconiosis	0.053 (0.045 to 0.062)	0.093 (0.079 to 0.109)	0.021 (0.017 to 0.025)
Thalassemias	0.050 (0.039 to 0.063)	0.050 (0.039 to 0.063)	0.049 (0.036to 0.064)

G6PD = Glucose-6-phosphate dehydrogenase. *J Card Fail.* 2023; 29 P1412-1415.

- There are important sex differences in HF risk factors. Diabetes mellitus, hypertension, and tobacco use have a stronger association with HF in women, while CHD has a stronger association with HF in men (Table 5).

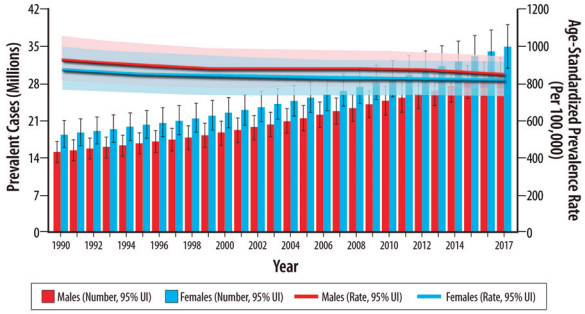
Table 6: Associations of Clinical Risk Factors with Incident Failure: Men vs Women[8]

	Men		Women		Interaction
	sHR (95% CI)	*p* Value	sHR (95% CI)	*p* Value	p_{int}
Age (per 10 yrs)	1.80 (1.67–1.95)	<0.001	2.07 (1.89–2.28)	<0.001	0.001
Smoking	1.36 (1.14–1.63)	0.001	1.50 (1.25–1.81)	<0.001	0.845
Diabetes mellitus	1.49 (1.28–1.72)	<0.001	1.76 (1.49–2.09)	<0.001	0.164
Hypertension	1.67 (1.45–1.93)	<0.001	1.98 (1.68–2.34)	<0.001	0.073
Body mass index (per 4 kg/m^2)	1.28 (1.21–1.36)	<0.001	1.18 (1.12–1.24)	<0.001	0.020
Atrial fibrillation	1.83 (1.37–2.44)	<0.001	2.58 (1.62–4.13)	<0.001	0.153
Myocardial infarction	2.19 (1.85–2.60)	<0.001	1.69 (1.28–2.22)	<0.001	0.349
Left ventricular hypertrophy	2.11 (1.62–2.75)	<0.001	1.76 (1.36–2.26)	<0.001	0.515
Left bundle branch block	2.43 (1.62–3.63)	<0.001	3.14 (2.13–4.64)	<0.001	0.281
C-statistic	0.80 (0.79–0.82)	–	0.83 (0.81–0.84)	–	–

Fine-Gray models were adjusted for the competing risk of death, and for the following variables: age, smoking, diabetes mellitus, hypertension, body mass index, atrial fibrillation, myocardial infarction, and left ventricular hypertrophy/left bundle branch block; strata statement included. Interaction p value (p_{int}) denotes sex•covariate interaction on a multiplicative scale in the total population.

AF = atrial fibrillation; BMI = body mass index; CI = confidence interval; HF = heart failure; MI = myocardial infarction; sHR = subdistribution hazard ration per unit change in the clinical covariate. *J Card Fail.* 2023; 29 P1412-1415.

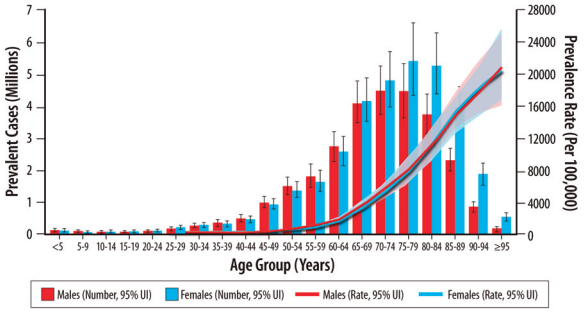
Figure 10: Trends in Numbers and Age-Standardized Rates of HF Prevalent Cases and the Global Level, 1990 to 2017[7]



UI = uncertainty interval. *J Card Fail.* 2023; 29 P1412-1415.

- Based on data from 195 countries from 1990 to 2017 in the GBD study, the global number of HF cases in 2017 was 64.3 million, of whom 34.8 million were women and 29.5 million were men (Fig. 10 and Table 5).

Figure 11: Age-Specific Numbers and Rates of HF Prevalent Cases by Sex, 2017[7]



Error bars indicate the 95% uncertainty interval (UI) for numbers. Shading indicates the 95% UI for rates. *J Card Fail.* 2023; 29 P1412-1415.

- The global number of HF cases has increased with more HF cases in women compared with men (Fig. 11).
- There are important sex differences in HF risk factors. Based on longitudinal data from 22,756 non-HF participants followed for 12.5 years in 4 cohorts, traditional HF risk factors were similarly associated with incident HF in both sexes, with the exception of age, which was more strongly associated with HF in women, and body mass index, which was more strongly associated with HF risk among men (Table 6).

For more information visit https://hfsa.org/hf-stats

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