VA Cooperative Studies Program Epidemiology Analytics Resource (CSPEAR)

Heart Failure

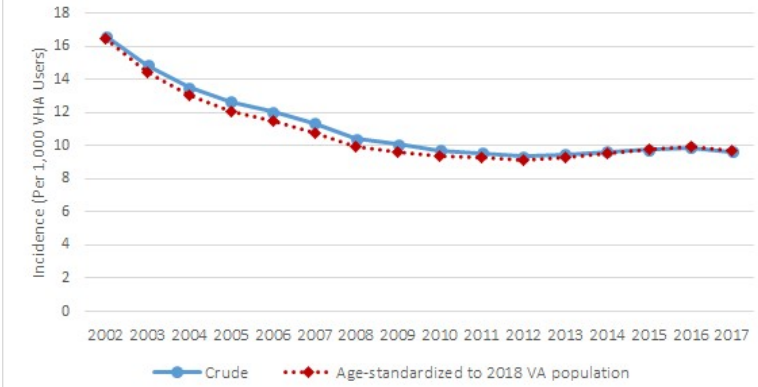
November 2019

Fact Sheet: Data on Patients Using VA Health Care

CSPEAR fact sheets provide leadership within the VA Office of Research and Development (ORD) with key information required to make informed decisions and plan appropriately for the needs of Veterans using VA health care.

Heart Failure (HF) is a complex, progressive condition caused by the reduced ability of the heart to pump blood so that the body does not receive a sufficient supply of blood and oxygen [1,2]. This results in a wide range of symptoms, including shortness of breath, fatigue, swelling of tissues, or increased heart rate [1-3]. After HF diagnosis, survival rates are estimated to be 50% at 5 years and 10% at 10 years [3,4]. HF rates are higher among men than women, however women have better rates of survival [5]. The prevalence of HF is increasing as the population ages and survival after diagnosis has increased due to improved treatments and therapies. Thus, HF remains a large burden on healthcare costs [6].

Trends in Heart Failure Incidence, 2002-2017

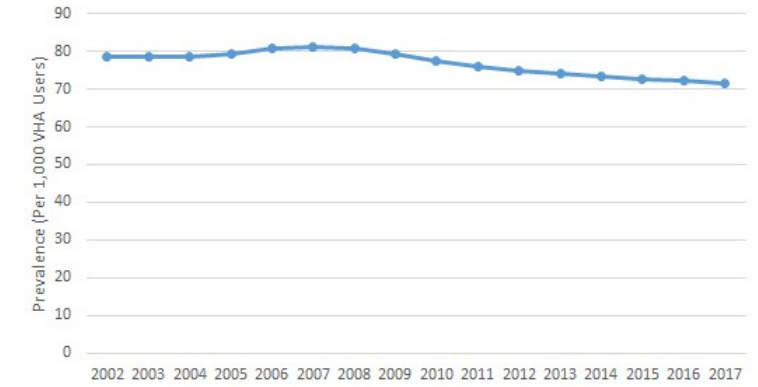


Both the crude and age-standardized incidence of HF among VHA users declined from 2002-2012 and remained essentially flat from 2012 onwards.

Fast Facts

- Between 2002-2017 there were 661,923 incident HF diagnoses among 9,083,387 VHA users, 97.6% male
- At least 27% of HF patients were Heart Failure with Reduced Ejection Fraction (HFrEF), defined as having left ventricular ejection fraction (LVEF) ≤35%
- At least 18% of HF patients were Heart Failure with Preserved Ejection Fraction (HFpEF), using a very specific definition requiring all recorded LVEF ≥50%, as well as diuretic use or elevated B-type natriuretic peptide (BNP) or N-terminal-pro-BNP (proBNP) lab levels [7]
- A higher percentage of females had HFpEF than HFrEF (3.6% vs. 1.7%)
- Females with heart failure (either HFrEF or HFpEF) have better survival rates than males

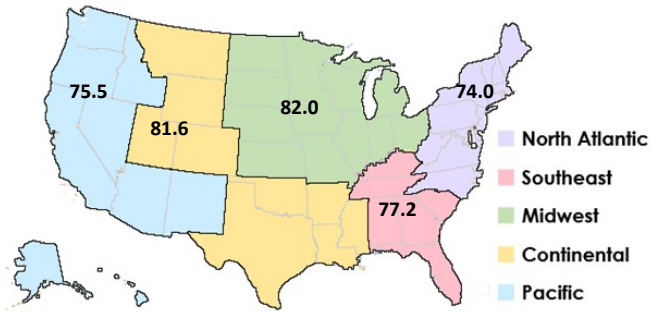
Trends in Heart Failure Prevalence, 2002-2017



The prevalence of HF among VHA users remained relatively stable from 2002-2017.

Incidence of Heart Failure by Region

Rates per 1,000 VHA users, standardized to 2018 VA population



The highest incidence of HF occurred in the Midwest and Continental United States.

Visit CSPEAR's website or contact CSPEAR@va.gov for more information.

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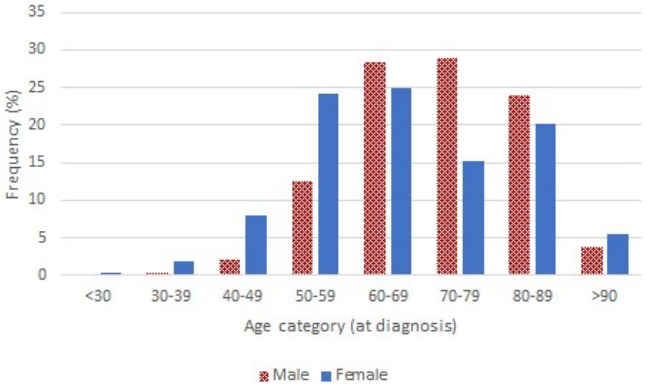
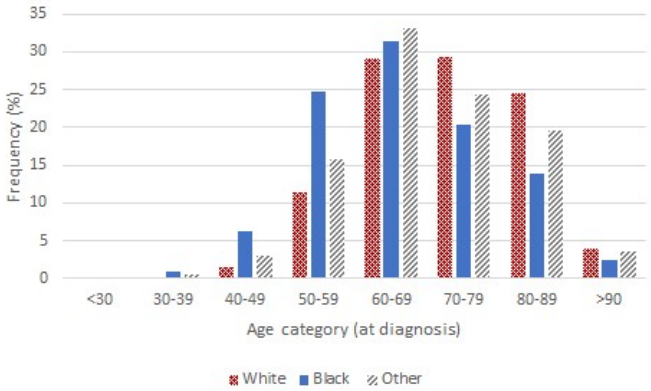
U.S. Department of Veterans Affairs
Veterans Health Administration
Cooperative Studies Program

Age at time of Heart Failure Diagnosis by Sex



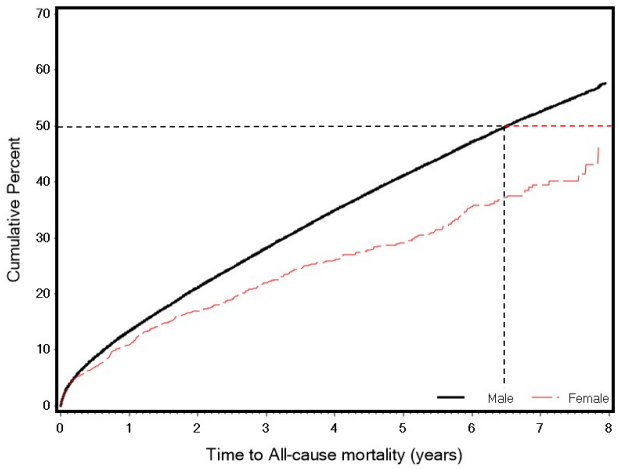
Among VHA users, 97.6% of HF cases were male. Females were more likely to be diagnosed with HF earlier than males. Nearly twice as many females as males were diagnosed at ages 50-59, while nearly twice as many males as females were diagnosed at ages 70-79.

Age at time of Heart Failure Diagnosis by Race



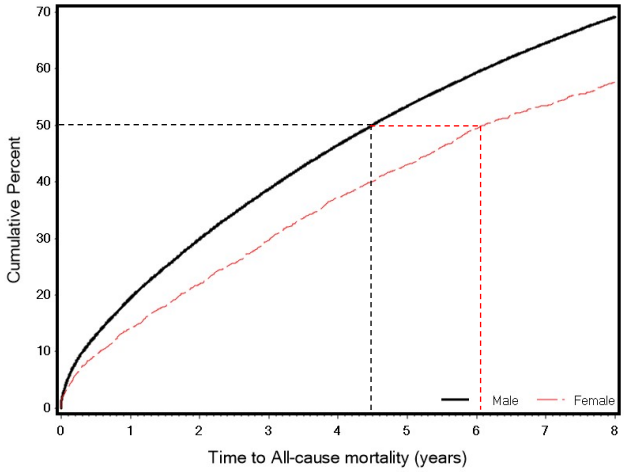
Among VHA users, 82.7% of HF cases were white. Blacks were more likely to be diagnosed with HF earlier than whites and other races. At ages 50-59, nearly twice as many blacks as whites and 1.7 times as many black as other races were diagnosed with HF.

Crude Cumulative Incidence of Mortality for HFrEF patients By Sex



Among HFrEF patients diagnosed at the VA between 2006-2012, about 60% of males and 71% of females survived at least 5 years after diagnosis. Median survival was approximately 6.5 years for males and beyond 8 years for females.

Crude Cumulative Incidence of Mortality for HFpEF patients By Sex



Among HFpEF patients diagnosed at the VA between 2002-2012, about 45% of males and 57% of females survived at least 5 years after diagnosis. Median survival was approximately 4.5 years for males and 6 years for females.

Data Source and Study Population

Data were extracted from the Corporate Data Warehouse (CDW), a national database that integrates clinical and administrative information in the Veterans Health Administration (VHA). The prevalence and incidence of HF from Jan 1, 2002 to Dec 31, 2017 were estimated among VHA users who were either inpatients or received primary care (N=9,083,387). Criteria for HF diagnosis included either 1 inpatient or 2 outpatient ICD-9-CM codes of 428.x or ICD-10-CM codes of I50.xx in the primary position. Current VHA users were defined as having at least one inpatient stay or primary care visit (one of the following stop codes in the primary position: 301, 303, 305, 306, 308-310, 312, 317, 318, 322, 323, 339, 348, 350, 533, 565) in the current and prior calendar year.

Notes: This work was conducted under the research protocols approved by the VA Boston Healthcare System institutional review board (IRB# 2868, IRB# 3042). This material is the result of work supported with resources and the use of facilities at the VA Cooperative Studies Program Epidemiology Center in Boston, MA. The contents do not represent the views of VA or the US Government.

References and Resources

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