

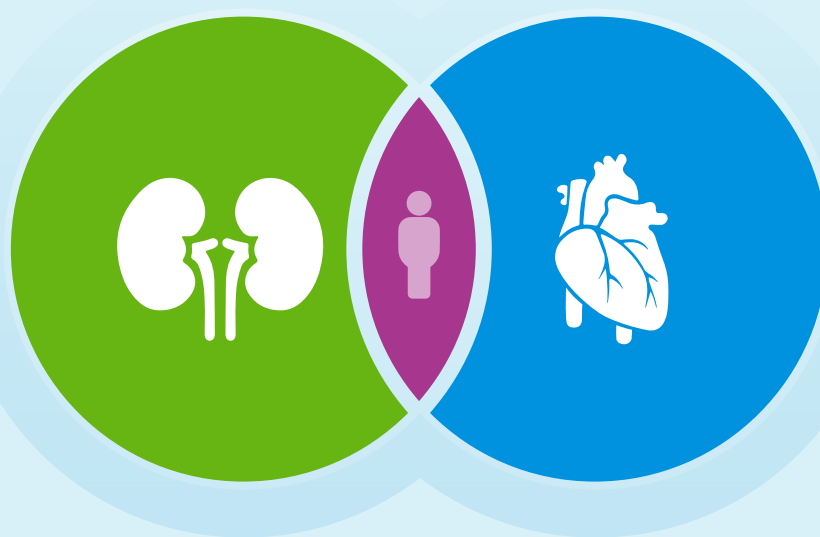
Examining the Overlapping Prevalence and Impact of **HEART FAILURE AND CHRONIC KIDNEY DISEASE**



The lifetime risk of heart failure has increased over time, and is now **1 in 4 people...**^{1,a}

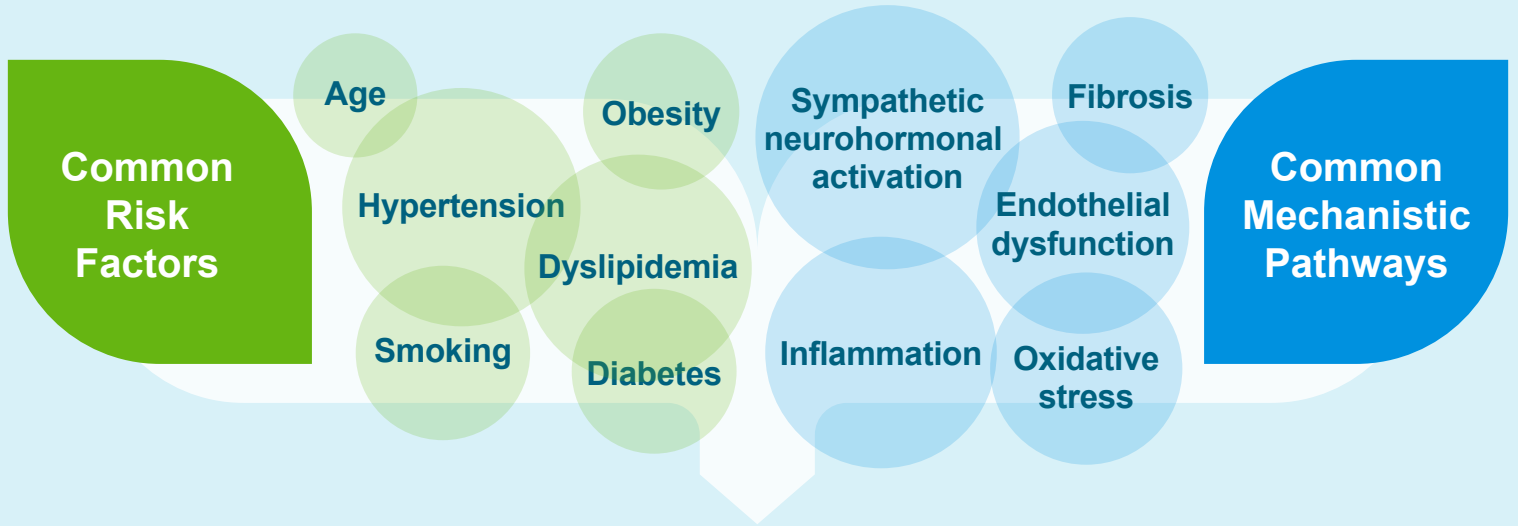
...and approximately 40-50% of patients with heart failure have comorbid CKD^{2,3,b}

~12M
Americans have CKD stages 3-5^{4,5,c}



~6.2M
Americans have HF^{6,d}

Common pathologic mechanisms promote organ damage and dysfunction in BOTH the heart and kidneys^{7,8}

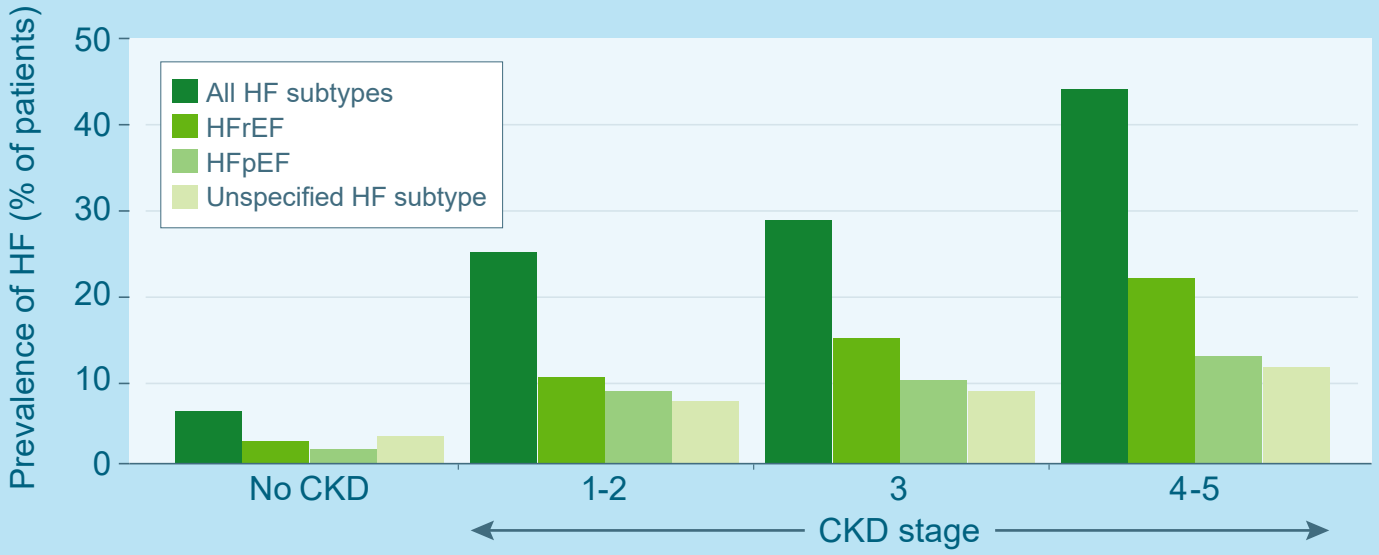


The overlapping clinical presentations result in a perpetual cycle:



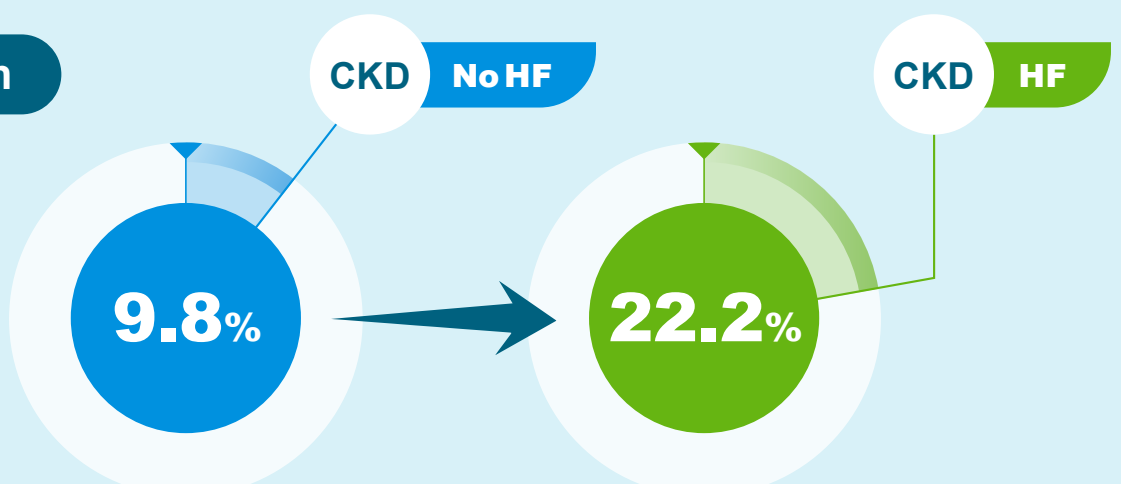
There is a **HIGH PREVALENCE OF HEART FAILURE** in patients with CKD that **INCREASES WITH CKD STAGE**⁹

HF in Patients With and Without CKD^{9,e}



And the risk of death is more than 2x higher in patients with CKD and heart failure compared with CKD alone⁹

Risk of death



AHA Presidential Advisory¹⁰

Optimizing cardiovascular–kidney–metabolic health in the population is a patient-centered effort and requires interdisciplinary care based on patient-specific factors

¹Lifetime risk of HF data derived from the Framingham Heart Study: 1965-2014.¹
²Data from a meta-analysis of 57 studies investigating baseline CKD and outcomes in patients with HF; 1,076,104 patients with HF were included in the individual studies used for the CKD analyses.³
³Estimated using prevalence data from NHANES 2017-2020.^{4,5}
⁴Based on NHANES data from 2013-2016 in adults ≥20 years old.⁶
⁵Results from the US Renal Data System in 2016 in patients aged 65 years and older.⁹
AHA, American Heart Association; **CKD**, chronic kidney disease; **CVD**, cardiovascular disease; **HF**, heart failure; **HFpEF**, heart failure with preserved ejection fraction; **HFrEF**, heart failure with reduced ejection fraction; **NHANES**, National Health and Nutrition Examination Survey.
¹. Bozkurt B, et al. *J Card Fail*. 2023;29(10):1412-1451. ². Paul SK, et al. *Diabetes Care*. 2022;45(8):1873-1881. ³. Damman K, et al. *European Heart Journal*. 2014;35(7):455-469. ⁴. CDC. Chronic Kidney Disease in the United States, 2023. <https://www.cdc.gov/kidneydisease/publications-resources/ckd-national-facts.html>. Updated May 30, 2023. Accessed on December 1, 2023. ⁵. CDC. Trends in Prevalence of CKD Stages Among US Adults. 2023. <https://nccd.cdc.gov/ckd/detail.aspx?Qnum=Q372>. Accessed December 11, 2023. ⁶. Virani SS, et al. *Circulation*. 2020;141(9):e139-e596. ⁷. Zannad F, Rossignol P. *Circulation*. 2018;138(9):929-944. ⁸. McCullough PA, et al. *J Am Heart Assoc*. 2022;11(11):e024139. ⁹. Romero-González G, et al. *Nefrologica*. 2020;40(3):223-236. ¹⁰. Ndumele CE, et al. *Circulation*. 2023;148(20):1606-1635.