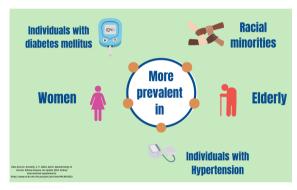
## Epidemiology of Chronic Kidney Disease and Cardiovascular Disease

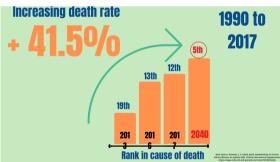
Hey everyone, welcome to our video series, Connecttwo! Today, we're diving into an important topic that affects millions of people worldwide.

Did you know that chronic kidney disease (CKD), has become a silent epidemic in the 21st century? That's right! CKD is now one of the leading causes of death globally. In 2017 alone, it was estimated that around 1 out of 10 individuals were affected by CKD worldwide.



It's shocking to see the impact of CKD, especially among individuals who may be affected by diabetes or hypertension, women, older adults, and racial minorities. CKD has emerged as one of the top causes of death globally. From 1990 to 2017, the mortality rate of CKD increased by 41.5%, and it's predicted to become the fifth leading cause of death by 2040.

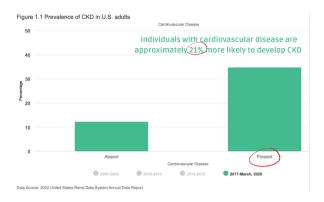




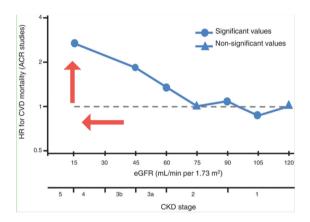
But it's not just a global issue. In the US alone, approximately 14% of the adult population, around 35.5 million people, have CKD, but up to 9 out of 10 people with CKD don't even know they have it. Many people are also not aware of the connection between kidney disease and cardiovascular disease (CVD). Cardiovascular disease is the leading cause of morbidity and mortality in people with CKD.



That's why it's so important to raise awareness and educate people about the risks. Individuals with cardiovascular disease are approximately 21% more likely to develop CKD. And it goes both ways! People with CKD have an increased risk of developing cardiovascular disease.



Check out this graph that shows the relationship between CKD progression and cardiovascular disease mortality. As kidney function decreases, the risk of CVD mortality increases.



- It's not just about age or gender either. CKD affects different populations differently. For example, older age groups are more likely to develop CKD, especially those aged 65 and older.
- Additionally, CKD is slightly more common in women than men. And when it comes to race and ethnicity, there are disparities too. That's right! Hispanic and Non-Hispanic Asian individuals in the US have a prevalence of around 13.7%. Non-Hispanic Black individuals are more affected, with a prevalence of approximately 19.5%.

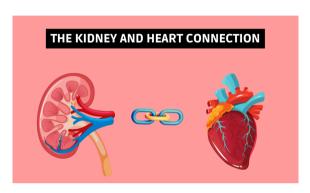
Percentage of US Adults Aged 18 Years and Older With CKD,† by Age, Sex, and Race/Ethnicity 18-44 45-64 12.3 Men 11.8 14.4 Women Non-Hispanic White 11.7 Non-Hispanic Black Non-Hispanic Asian 13.7 13.7 5.0 Percentage

<sup>†</sup>CKD stages 1–4 using data from the 2017–March 2020 National Health and Nutrition Examination Survey based on 2021 CKD Epidemiology Collaboration GFR estimating equation, including serum creatinine, age, and sex. For more details on methods, see "How Estimates Were Calculated."

"How Estimates Were Calculated."

These differences highlight the importance of addressing health disparities. It's not just about the disease itself. Awareness, education, and early detection are key to tackling this silent epidemic. We hope this video has shed some light on the connection between CKD and cardiovascular disease. We will talk more about these health disparities and other issues, in our upcoming videos.

Thanks for watching, and we'll see you in the next video! Stay healthy, everyone!



## Key-terms

- Chronic Kidney Disease (CKD): Chronic kidney disease (CKD) means that your kidneys are damaged and can't filter blood as they should. This damage can cause wastes to build up in your body. It can also cause other problems that can harm your health. Diabetes and high blood pressure are the most common causes of CKD.
- **Epidemic:** affecting or tending to affect a disproportionately large number of individuals within a population, community, or region at the same time
- Mortality Rate: the ratio between deaths and individuals in a specified population and during a particular time period: the incidence of deaths in a given population during a defined time period (such as one year) that is typically expressed per 1000 or 100,000 individuals
- Morbidity: a complication or undesirable side effect following surgery or medical treatment
- **Prevalence:** the degree to which something is prevalent, especially: the percentage of a population that is affected with a particular disease at a given time

## References:

- 1. Kovesdy, C. P. (2022, April). *Epidemiology of chronic kidney disease: An update 2022*. Kidney international supplements. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9073222/
- 2. *Places: Chronic kidney disease*. ArcGIS Hub. (n.d.). https://hub.arcgis.com/maps/cdcarcgis::places-chronic-kidney-disease/about
- 3. Centers for Disease Control and Prevention. (2022, February 28). *Chronic kidney disease basics*. Centers for Disease Control and Prevention. https://www.cdc.gov/kidneydisease/basics.html
- 4. U.S. Department of Health and Human Services. (n.d.). *Annual data report*. National Institute of Diabetes and Digestive and Kidney Diseases. https://usrds-adr.niddk.nih.gov/2022/chronic-kidney-disease/1-ckd-in-the-general-population
- 5. Cardiovascular disease in chronic kidney disease | circulation. (n.d.). https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.120.050686

- 6. Centers for Disease Control and Prevention. (2023, May 30). Chronic kidney disease in the United States, 2023. Centers for Disease Control and Prevention. https://www.cdc.gov/kidneydisease/publications-resources/ckd-national-facts.html#:~:text=CKD%20is%20more%20common%20in,Hispanic%20White%20adults%20(12% 25)
- 7. Centers for Disease Control and Prevention. (n.d.). *Kidney Disease Surveillance System*. Centers for Disease Control and Prevention. https://nccd.cdc.gov/CKD/
- 8. Merriam-Webster. (n.d.). Chronic kidney disease. In Merriam-Webster.com dictionary. From <a href="https://www.merriam-webster.com">www.merriam-webster.com</a>