### Addressing Health Inequities

### **In Chronic Kidney Disease Care**

by Glahnnia Rates, MSHS, CCHW II
DPBH-State of Nevada, Office of State Epidemiology, Special Populations Unit

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## **Chronic Kidney Disease** (CKD)

**General Information** 

- Chronic kidney disease (or chronic kidney failure) involves a gradual loss of kidney function (Mayo Clinic, 2023)
- In the early stages of CKD, there may be few signs or symptoms, many dont know they have it until the condition is advanced (Mayo Clinic, 2023)
- Advanced CKD can cause high levels of fluid, electrolytes and wastes to build up in your body, and in some cases (depending on the progression of damage) an individual may need dialysis or a kidney transplant (Mayo Clinic, 2023)
- Risks factors for CKD includes: diabetes, hypertension, obesity, heart disease, a family history of CKD, inherited kidney disorders, prior damage to the kidneys, and older age (CDC, 2022)

Chronic Kidney
Disease Risks

### **CKD Risks**

CDC Interview: Former Director of the Division of Diabetes Translation (DDT), Dr. Ann Albright





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New cases of kidney failure

1,200



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### End Stage Kidney Disease (ESKD)

Some people living with CKD develop severe kidney damage and very low kidney function. If this condition progresses to the point where kickney dialysis or a kidney transplant is necessary stage kidney disease (ESKD). Although women have a slightly higher rate of CKD, women have a slightly higher rate of CKD, for every two (I) wamen who drawlop ESKD, three (3) men develop ESKD. African Americans are three (I) times more libely than Whites to develop ESKD. The American Midney Fund, using the US Reval Data System 201 annual Catta report, indicates 72:08 Nevada residents are Eving with ESKD.<sup>6</sup>

- 1. Per NRS 241.015(4), an advisory load;



Policies & Numbers

**Chronic Kidney Disease** 

Senate Bill (SB)

341

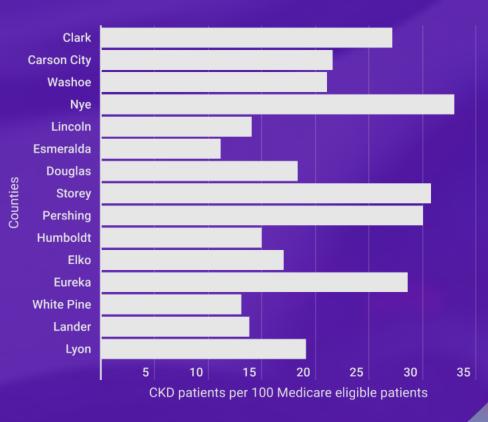
**Statistics** 

**Medicare** 



### **State Statistics**

Prevalence of Chronic Kidney Disease: Nevada by Counties

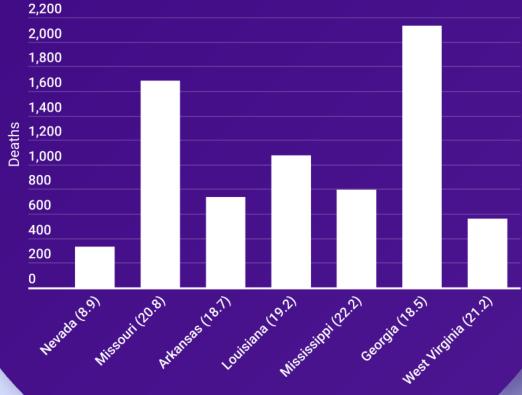


National Statistics

(Chronic Kidney Disease Surveillance System, 2019)

### **National Statistics**

Kidney Disease Mortality by State: Nevada in Comparison to High Prevalence States

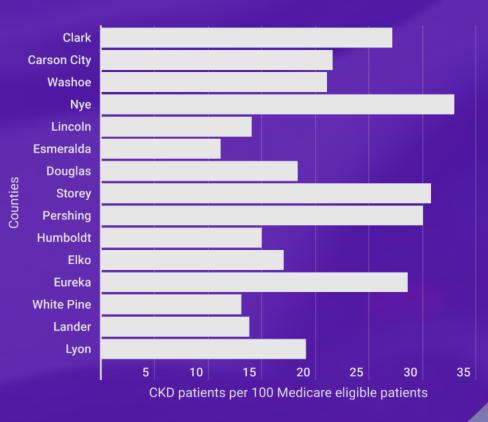


Death Rates Number of deaths per 100,000 people

(National Center for Health Statistics, 2020)

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Prevalence of Chronic Kidney Disease: Nevada by Counties



National Statistics

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### Medicare

## Coverage for All?

End Stage Kidney Disease (ESRD)



Medigap Coverage Information

Nevada Legislature Assemly Bill: AB 180

Relating to insurance; requiring the adoption of certain regulations governing policies to supplement Medicare for certain persons with disabilities (NV Legislature, 2022).

### **Does include:**

- Individuals over the age of 65, and some under 65 with disabilities
- Supplemental Medicare coverage for those over 65 from the federal government program, including prescriptions, hospital stays, and surgeries
- Adaption of regulations that authorize insurers to develop rates for premiums that are specific to covered individuals by the Commissioner

### Does not include:

- Individuals with ERSD
- Medicare Advantage plans established under part C
- Outpatient prescription drugs established under Medicare part D
- Any healthcare repayment plan under section 1833 (a)(1)(A) of the Social Security Act









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Senate Bill (SB) 341

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### Senate Bill (SB) 341

DPBH Grants to Suppourt Health Disparities Related to Kidney Disease in Nevada

- Allows the Division of Public and Behavioral Health (DPBH) to apply for grants addressing healthcare disparities and outcomes based on race and color or other demographics
- Offers DPBH the ability to establish and consult with an advisory committee to plan to increase education regarding kidney disease









New cases of kidney failure





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African Americans

## Health Inequities

"Chronic kidney disease has considerable health and economic costs to both individuals and the health care system and these costs disproportionately affect those who are Black, Indigenous, and People of Color."

-Tandrea Hillard-Boone, Senior Researcher at American Institute for Research (AIR) LatinX Americans

**Indigenous Americans** 

Transplantation

### African

Chronic Kidney Disease

### Americans



- Although African Americans account for only 13 percent of the U.S. population, they make-up approximately 35 percent of the people with kidney failure in the nation (NIH, 2014)
- Comorbidites that include diabetes and high blood pressure are the leading causes of kidney failure among African Americans (NIH, 2014)
- African Americans have a heightened risk of developing chronic and end-stage kidney disease. This association has been attributed to two common genetic variants – named G1 and G2 -- in APOL1, a gene that codes for a human-specific protein (Penn Medicine, 2017).

**Artificial Kidney** 

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### LatinX

Chronic Kidney Disease

### Americans



- Hispanics/Latinos are the largest minority in the United States. It is estimated that 57.5 million Hispanics/Latinos currently reside in the United States and this number is projected to double in the next 20 years (Lora et. al., 2020)
- Since 2000, the number of LatinX Americans with kidney failure has increased by more than 70 percent (NIH, 2014)
- Analyses of the National Health and Nutrition Examination Survey (NHANES) have consistently demonstrated lower rates of hypertension awareness, treatment, and control in Mexican Americans compared with non-Hispanic whites (Lora et. al., 2020)
- In comparison to individuals outside of this ethnic group, they are almost 1.3 times more likely to be diagnosed with kidney failure (NIH, 2014)
- The most commonly cited barriers to access preventative healthcare for this population were limited education, poverty, low reading levels, and the inability to understand or speak English (Forster et al., 2016)

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### Transplantation

Chronic Kidney Disease

"Between 1995 and 1999, Black and Asian patients were about half as likely as White patients, and Hispanic patients about 80 percent as likely as White patients, to receive a live donor kidney. Between 2010 and 2014, Black patients were about a quarter as likely as white patients to receive a live donor kidney, while Hispanic patients were about half as likely and Asians were about 40 percent as likely (JHU Medicine, 2018)."



- In a Jan 2018 report by Johns Hopkins Medicine, it found that despite efforts over the past two decades to increase the number of Black and Hispanic patients receiving kidney transplants from related or unrelated living donors, these racial/ethnic minority patients are still much less likely to undergo such transplants than non-Hispanic White patients (JHU Medicine, 2018)
- Researchers reported that health disparities have worsened in the past 20 years. In their findings, published in the Journal of the American Medical Association (based on a study of 453,162 adult firsttime kidney transplant candidates nationwide), they found the incidence of live donor kidney transplantation increased for some patients:
- From 1995 to 2014 among White patients, 7 percent to 11.4 percent
- Asian patients, 5.1 percent to 5.6 percent, but decreased over the same time period
- Black patients, decreased from 3.4 percent to 2.9 percent)
- Hispanic patients, decreased from 6.8 percent to 5.9 percent

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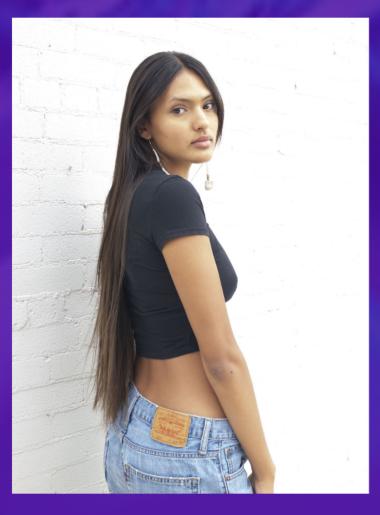
**Indigenous Americans** 

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## Indingenous

Chronic Kidney Disease in American Indians & Alaskan Natives

### Americans



- CKD among the Indigenous is largely due to comorbidities, like obesity and diabetes (Yracheta et. al., 2015)
- It is more prevalevnt within the Pima Indians of the Southwest (Yracheta et. al., 2015)
- Among the Indigenous, the prevalence of CKD is approxiamtely 22%, in comparison to the nation, they account for 1.5% of all cases (Indian Health Service, 2015)
- Obesity and diabetes were rare in most tribes before exposure to Western culture (Yracheta et. al., 2015)
- Environmental factors may drive the increased risk for obesity and diabetes in this population, with the exception of the Pima and Yuma tribes of the Southwest that have reported high rates of obseity among their women dating back to 1775 (Yracheta et. al., 2015)

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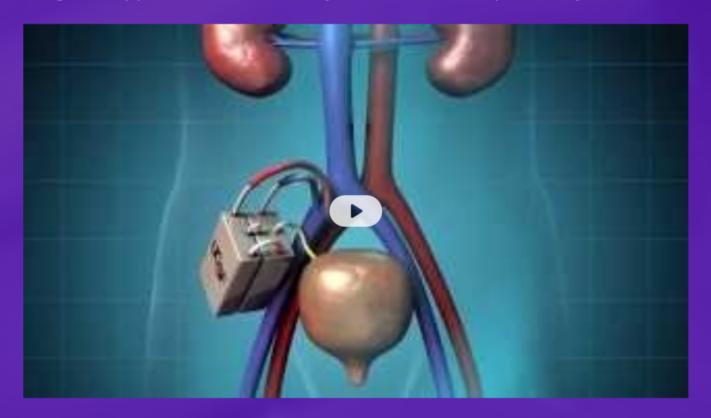
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### The Kidney Project

**University of California San Francisco (UCSF)** 

Creating a bioartificial kidney as a permanent solution to kidney failure

"Scientists at UCSF are working on a new approach to treating kidney failure that could one day free people from needing dialysis or having to take harsh drugs to suppress their immune system after a transplant (Gayde, 2023)."



- Kidney cells, housed in an implantable device called a bioreactor, can survive inside the body of a pig and mimic several important kidney functions. The device works like a pacemaker, and does not trigger the recipient's immune system (Gayde, 2023)
- The findings, published in Nature Communications on August 29, 2023, are an important step forward for The Kidney Project, which is jointly headed by UCSF's Technical Director, Shuvo Roy, PhD and Medical Director from Vanderbilt University Medical Center, William H. Fissell, MD (Gayde, 2023)
- Scientists plan to fill the bioreactor with different kidney cells that perform vital functions like balancing the body's fluids and releasing hormones to regulate blood pressure – then pair it with a device that filters waste from the blood (Gayde, 2023)
- The aim is to produce a human-scale device to improve on dialysis, which keeps people alive after their kidneys fail but is a currently poor substitute for having a real working organ (Gayde, 2023)
- More than 500,000 people in the U.S. require dialysis several times a week. Many seek kidney transplants, but there are not enough donors, and only about 20,000 people receive them each year (Gayde, 2023)



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# Health Chronic Kidney Disease Disparities Inequities



"Health disparities are inequitable and are directly related to the historical and current unequal distribution of social, political, economic, and environmental resources." -CDC, 2020

- Racial and ethnic minorities are more likely to progress from CKD to renal failure than their non-Hispanic White counterparts (CMS, 2021)
- Most CKD is a long-term consequence of difficult-to-control diabetes and hypertension, conditions that are more common among racial/ ethnic minorities and low-income populations (CMS, 2021)
- CKD progression has other consequences, such as anemia, hypertension, hypoglycemia, mineral and bone disturbances, cardiovascular disease, and death (CMS, 2021)
- Limited provider awareness of CKD risk factors and surveillance guidelines can contribute to low patient awareness (CMS, 2021)
- Many patients do not receive appropriate education about CKD and controlling risk factors, and minority patients are least likely to receive the information (CMS, 2021)

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To Addressing Chronic Kidney Disease Disparities

## Approaches



"A systematic review found that education programs rooted in multidisciplanary care models are effective in delaying or preventing CKD progression" - Narva, Norton & Boulware, 2018

- Forming multidisciplinary care teams (e.g., pharmacists, community health workers, dieticians, social workers) and assessing social determinants of health can help address disparities in care for CKD (CMS, 2021)
- Incorporate patient and family/caregiver preferences (e.g., cultural, religious, personal values) into treatment plans and educational efforts. (CMS, 2021)
- Identify community resources that can address social determinants of health, and connect patients with resources that can meet their needs (CMS, 2021)
- Individuals with CKD should receive timely referrals for specialty care, as those from under-resourced communities are less likely to see a nephrologist prior to starting dialysis, and are therefore also more likely to have poorer outcomes on dialysis (Tucker, 2021)
- Patients with kidney disease should be empowered to understand the stage of their kidney disease, and know how to vocate for themselves for referral to a nephrologist, and to advocate for themselves for referral for kidney transplantation (Tucker, 2021)
- A collective effort from primary care to the community level is needed with the help of patients, families, clinicians, and community health advocates working cooperatively to eliminate disparities in rates of kidney disease and its outcomes (Tucker, 2021)

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