NCFH
National Center for Farmworker Health, Inc.
1770 967 FM | Buda, TX
www.ncfh.org

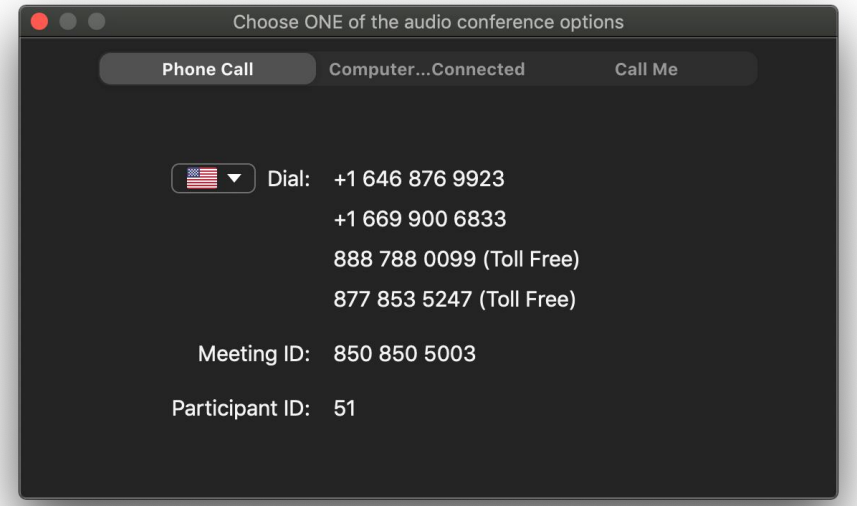
# Diabetes and Chronic Kidney Disease: Population Health Strategies to Improve Quality of Care and Reduce Cardiovascular Risk

June 6, 2024

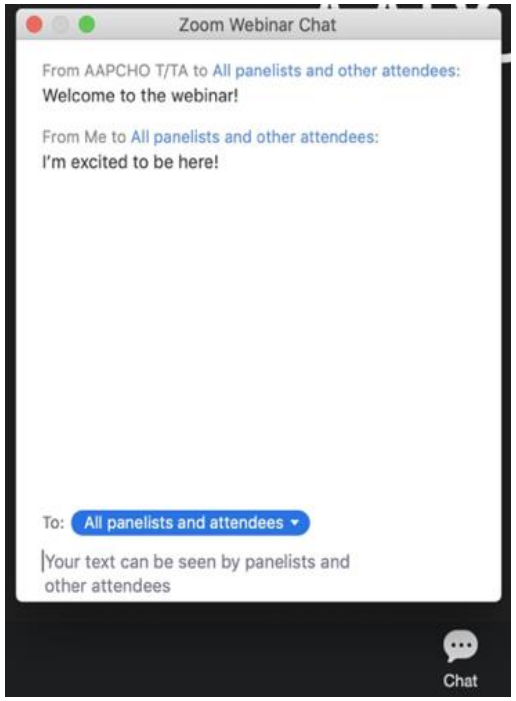
# Important Reminders

- The webinar will last approximately 60 minutes
- For technical issues, please send a chat to Vanessa Lopez
- This session will be recorded.
- The recording and electronic copy will be available in approximately one week.
- You will receive an email very soon after this session/webinar asking for your evaluation of this training session. Your feedback is greatly appreciated.

# Zoom Housekeeping


# Zoom Housekeeping



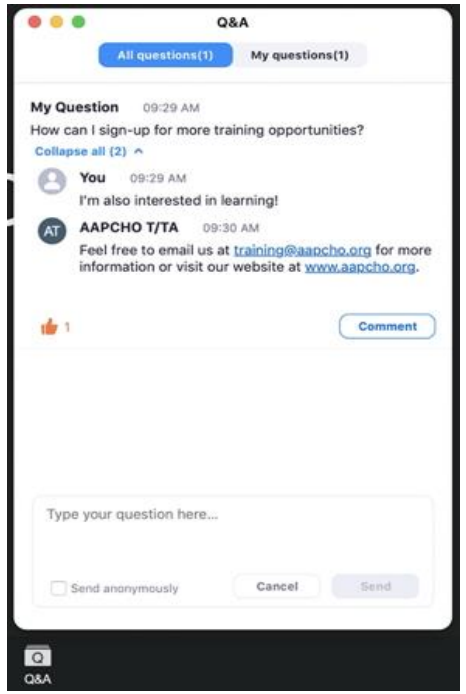

At any time during the webinar, you can ask questions. Please use the chat feature to send your questions to the panelists. At the end of the webinar, we will answer all questions.

Any questions that cannot be addressed during the webinar will be responded to the participants directly via email.

# Zoom Housekeeping

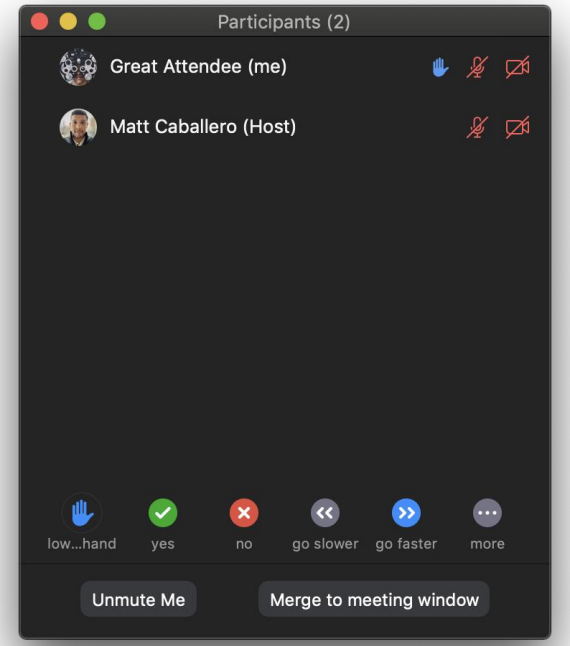
You can also ask questions using the **Q&A** feature and opt to submit them anonymous if you prefer. The Organizer and Speakers will be moderating and answering these questions throughout the presentation.

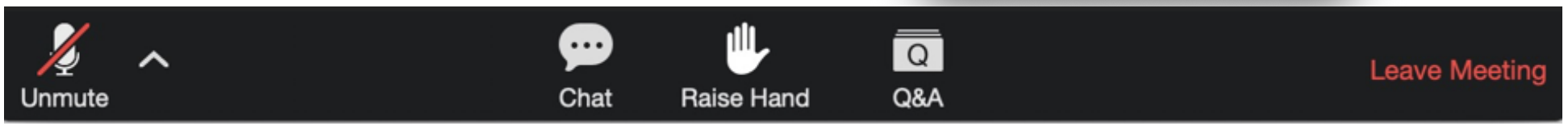
Any questions that cannot be addressed during the webinar will be responded to the participants directly via email.




# Zoom Housekeeping

You can use the **raise your hand** feature to ask questions or engage in discussion too. Moderators will accept your request and unmute your microphone.



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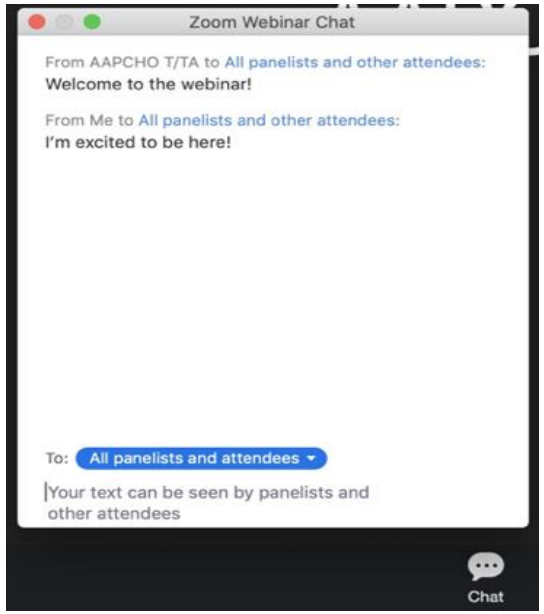
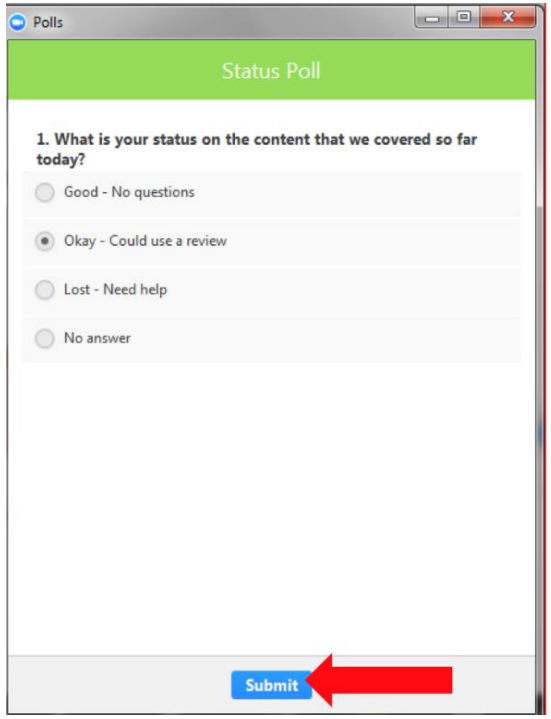



There will be a few poll questions that the presenter will ask you to answer. At the designated time, you will can answer the poll using the **Chat Box** and respond to the entire audience. The presenter will read the responses after the poll is closed.

# Zoom Housekeeping




There will be a few poll questions that the presenter will ask you to answer. At the designated time, you will see **Poll Box** pop-up and you can respond the questions. The presenter will read the responses after the poll is closed.

# Panelists
## National Kidney Foundation

Katelyn Laue

Senior Director,
Program Development

Keyerra Charles

Senior Director,
Health Equity

Amanda Crowley-Rios

Senior Director,
Programs

# Managing CKD Population Health in the Safety Net Health Setting:

***Opportunities to Improve Quality of Care and Reduce Cardiovascular Risk***

**June 6, 2024**

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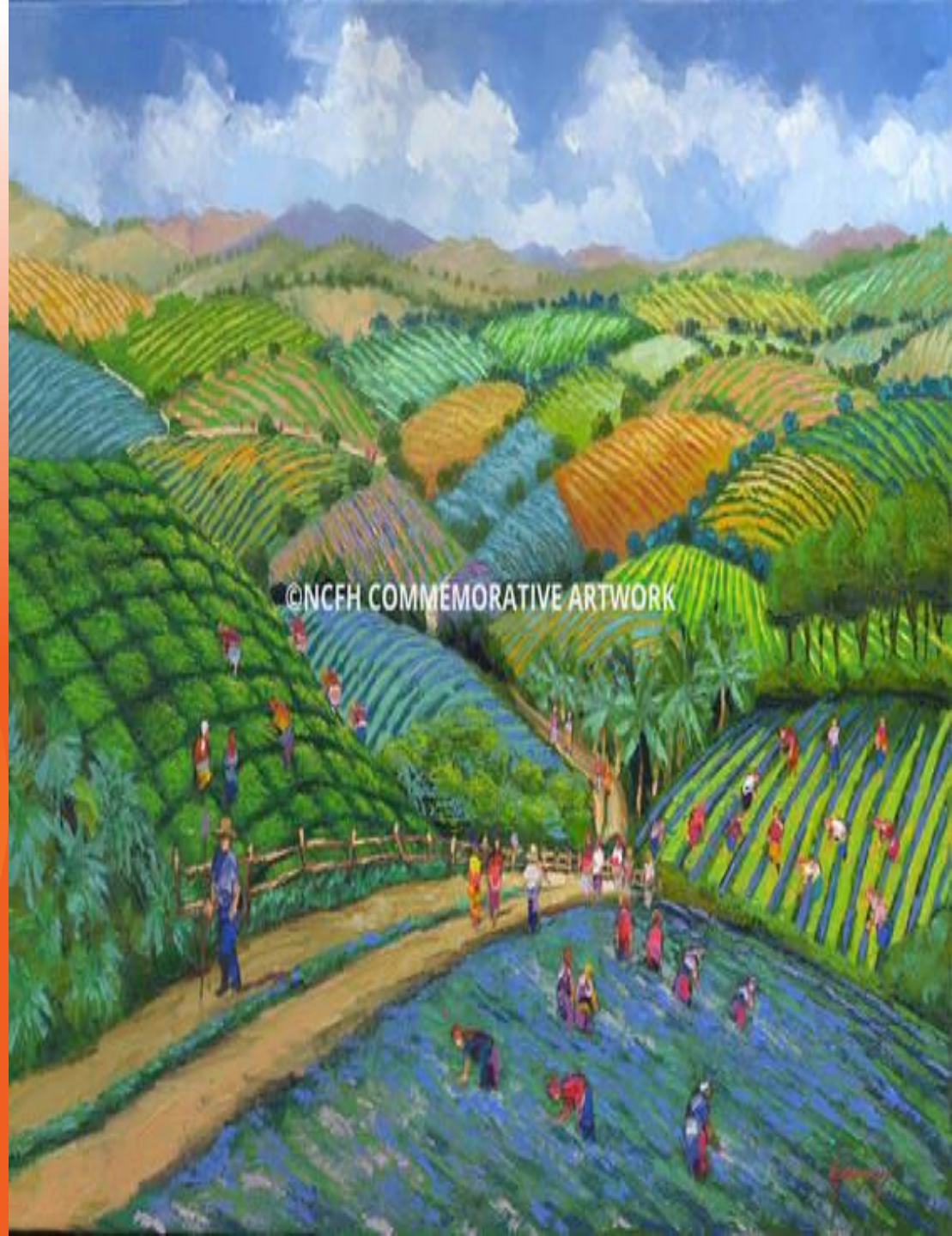


# Learning Objectives

- Describe the risk factors and cardiovascular impacts of CKD.
- Analyze the population health and health equity impacts of undiagnosed CKD in people with diabetes and the overall farmworker population.
- Articulate quality improvement strategies to improve health outcomes and reduce costs of care.

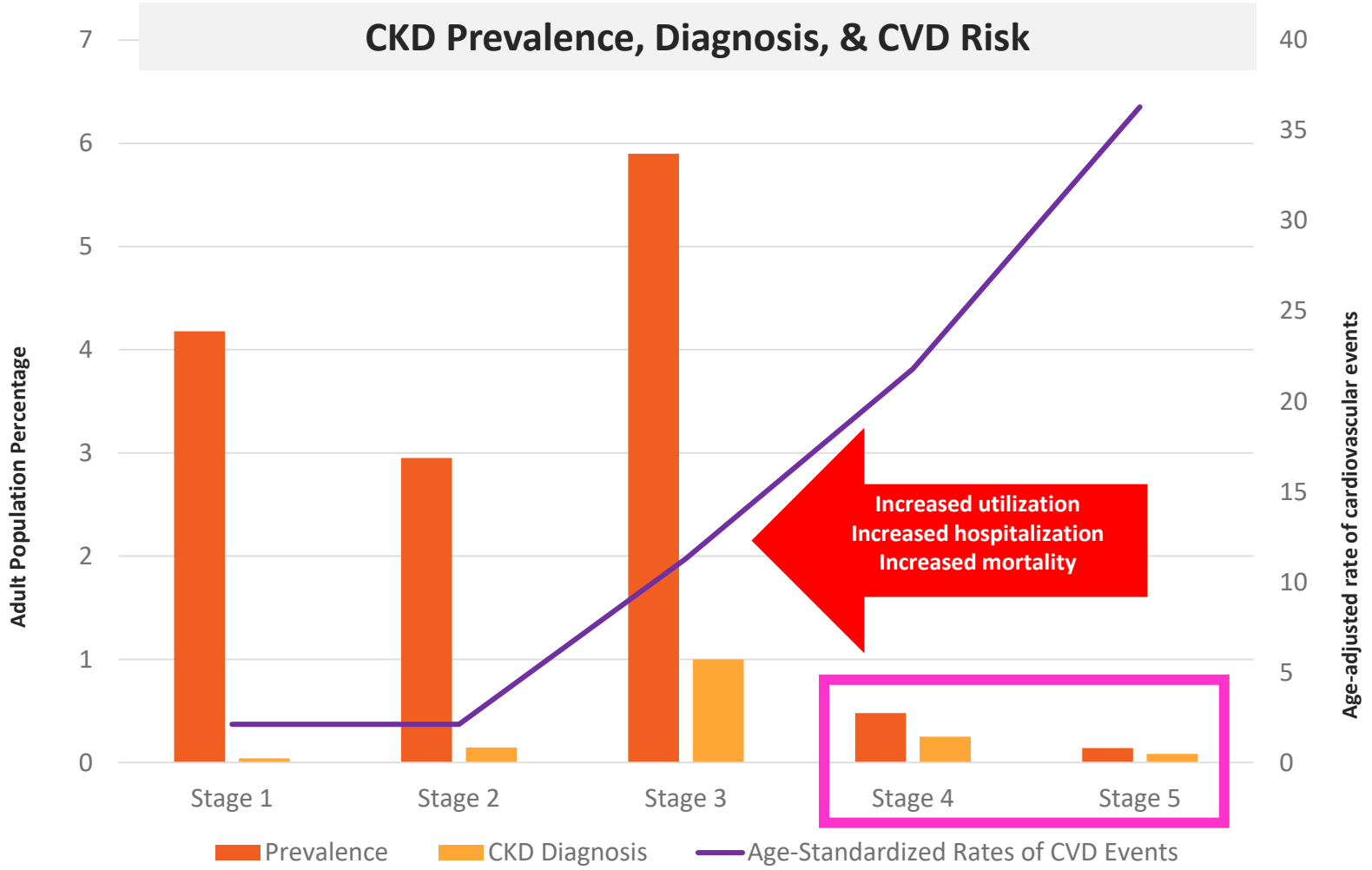
# Poll- Getting to Know the Audience

- What is your role in the care team?
  - Physician
  - Advanced Practitioner (NP/PA)
  - Nurse
  - Dietitian
  - Social Worker
  - Community Health Worker/Care Manager
  - Medical Assistant/LPN
  - Other
- Which migrant stream region do you practice in?  (Please share your state in the chat)
  - Eastern
  - Midwest
  - Western

# Overview of CKD, Complications and Health Equity

# Chronic Kidney Disease

- Affects 15% of adult population
  - 37 million Americans
- Represents 15% of Medicare population but represents 25% of the spend
- 90% remain undetected including almost 40% of people in ESRD
- 80% of undiagnosed patients already have diagnostic information in their medical record





United States Renal Data System. 2015 USRDS annual data report: Epidemiology of Kidney Disease in the United States. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2015.

Szczech, L.A., et al., Primary care detection of chronic kidney disease in adults with type-2 diabetes: the ADD-CKD Study (awareness, detection and drug therapy in type 2 diabetes and chronic kidney disease). PloS one, 2014. 9(11): p. e110535.

Go AS, Chertow GM, Fan D, McCulloch CE, Hsu C-y. Chronic Kidney Disease and the Risks of Death, Cardiovascular Events, and Hospitalization. New England Journal of Medicine. 2004;351(13):1296-1305.

# CKD Risk Factors

Diabetes

High Blood Pressure

Cardiovascular Disease

Age > 60 Years

Obesity

Family History of CKD

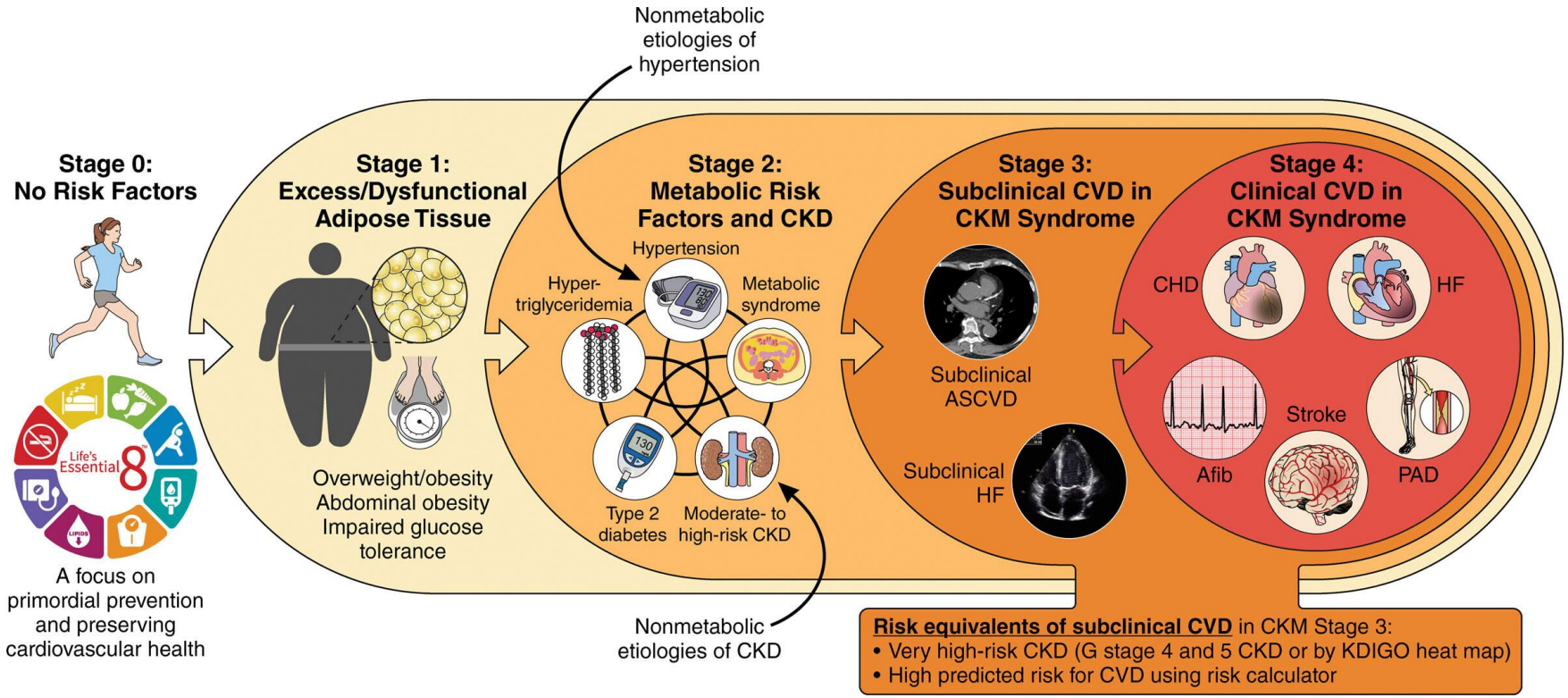
Personal History of AKI



US Centers for Disease Control and Prevention. CKD Risk Factors and Prevention. https://www.cdc.gov/kidneydisease/publications-resources/annual-report/ckd-risk-prevention.html

*AKI: Acute Kidney Injury*

**“Cardiovascular-kidney-metabolic health reflects the interplay among metabolic risk factors, chronic kidney disease, and the cardiovascular system and has profound impacts on morbidity and mortality.”**






Chiadi E. Ndumele. Circulation. Cardiovascular-Kidney-Metabolic Health: A Presidential Advisory From the American Heart Association, Volume: 148, Issue: 20, Pages: 1606-1635, DOI: (10.1161/CIR.0000000000001184)

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# Longstanding Health Disparities Exist in Kidney Disease

**Black Americans make up 13% of the US population but represent 33% of end-stage kidney disease population.**

Black Americans are 3.8 times more likely to develop ESKD,

Native Americans are 2.3 times more likely to develop ESKD,

Hispanic Americans are 2 times more likely to develop ESKD,

Asian Americans are 1.4 times more likely to develop ESKD

(compared to White Americans)

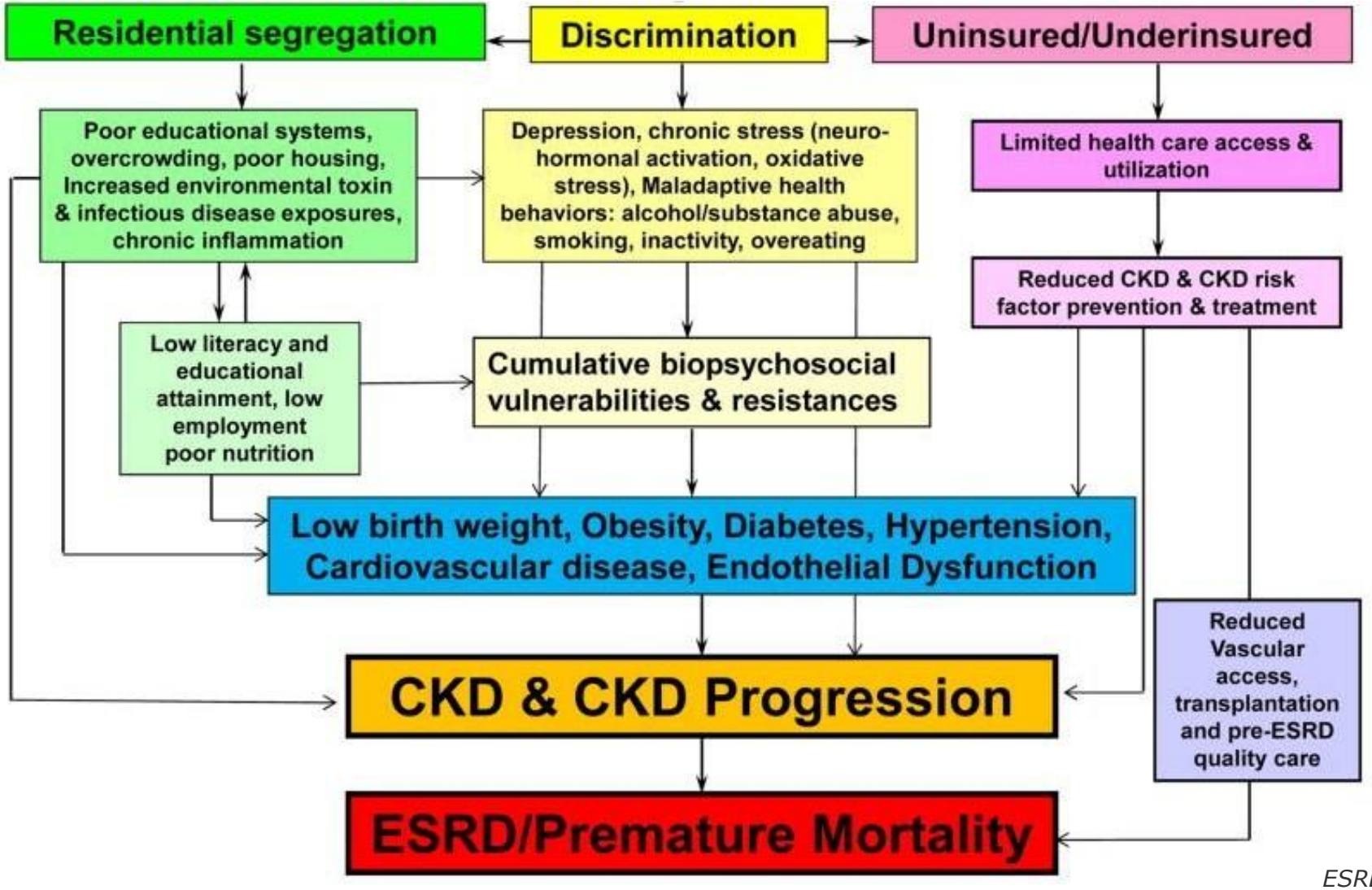
Communities of color less likely to:

- Be tested for CKD
- Receive timely referral to nephrology
- Utilize home dialysis
- Employ peritoneal dialysis
- Receive a fistula
- Be identified as a candidate for transplant
- Be referred for transplant evaluation
- Be placed on the waiting list
- Secure a living donor
- Receive a kidney transplant

Rural communities:

- More likely to be uninsured
- Have less access to primary care for diagnosing
- Have less access to kidney specialist to manage care
- Rural dialysis facilities were less likely to offer home dialysis as an option
- Rural patients were more often on home dialysis, but only because they traveled to urban dialysis centers for care
- Have higher risk for mortality while being on dialysis

# Interrelationship Between Socioeconomics and CKD




*ESRD: End-Stage Renal Disease*

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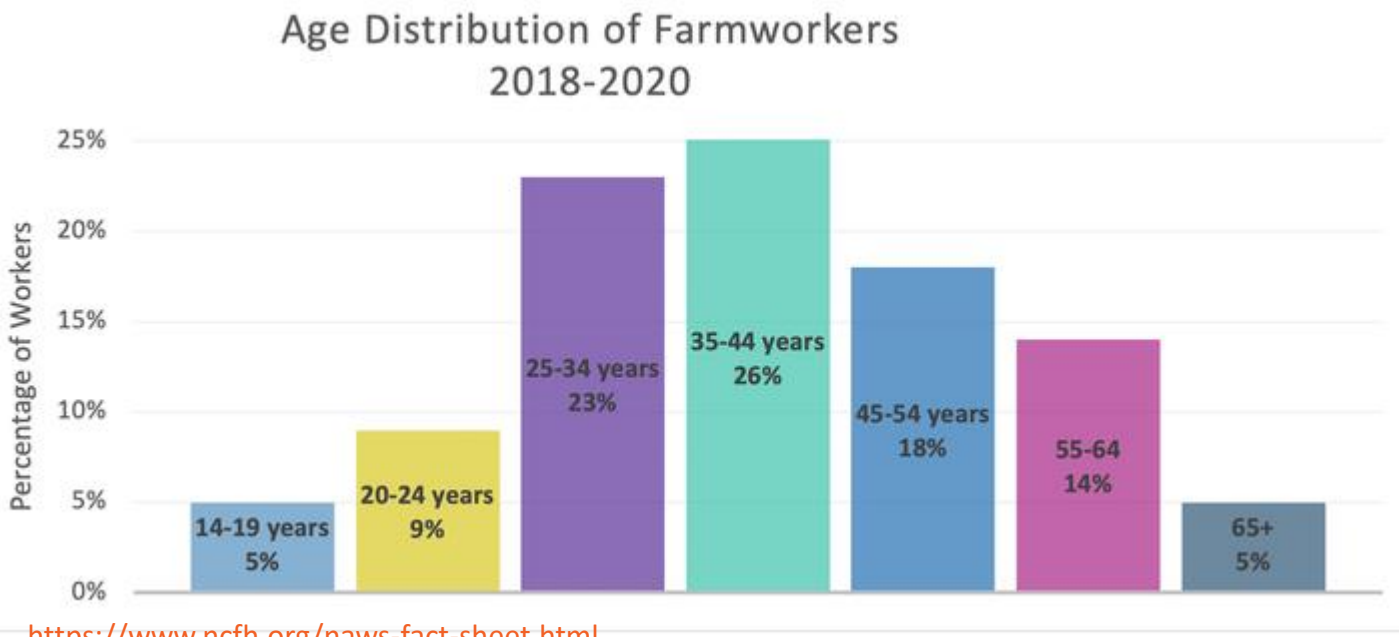
Nicholas SB, et al. *Adv Chronic Kidney Dis*. 2015;22(1):6-15.

# Burden of Chronic Disease among Farmworker Population

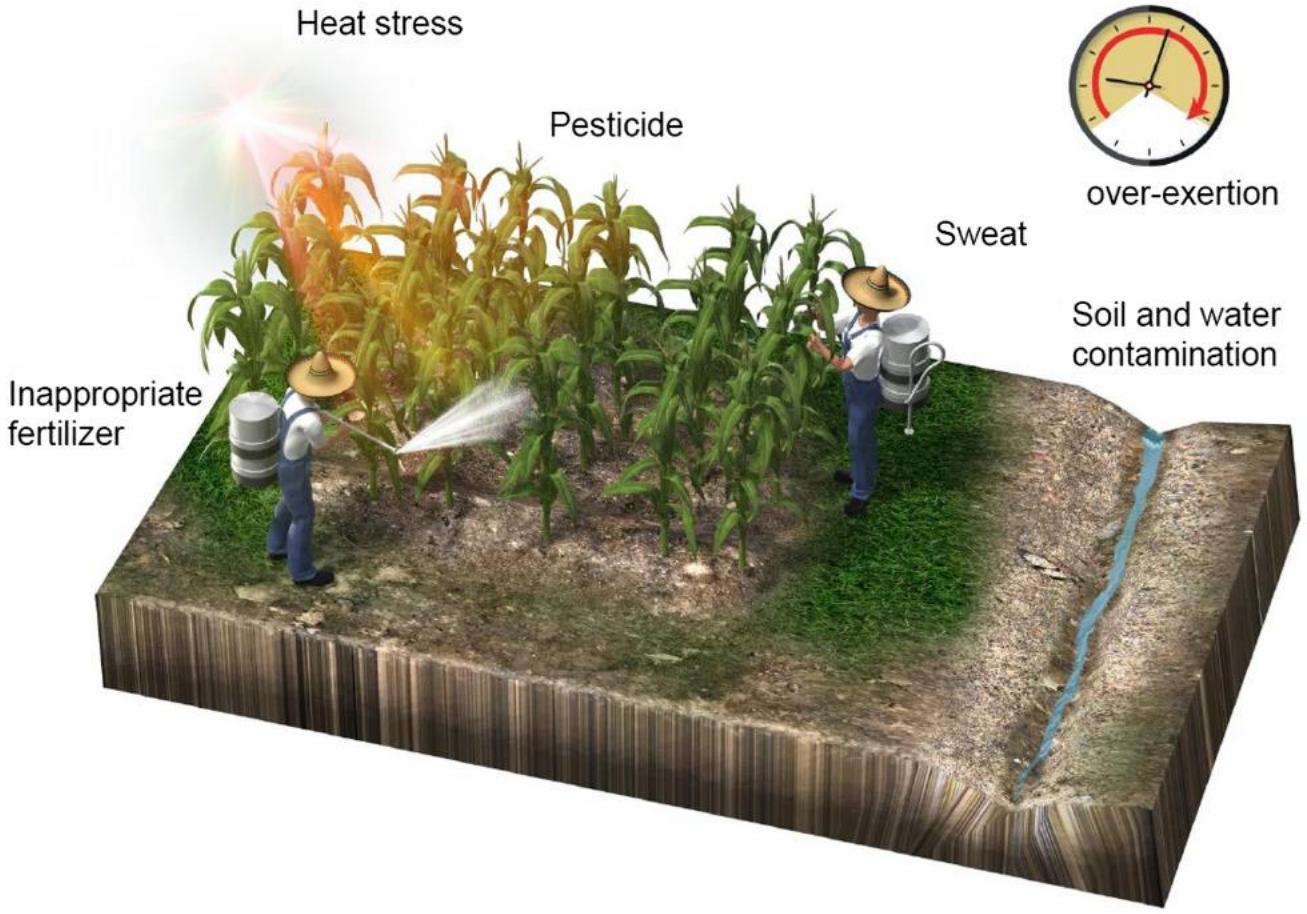



https://www.ncfh.org/naws-fact-sheet.html

| Diagnosis | Number of Agricultural Worker Patient with Diagnosis, 2021 (n = 1,015,162) |
|---|---|
| Overweight/obesity | 259,083 |
| Hypertension | 115,908 |
| Diabetes mellitus | 91,124 |
| Anxiety disorders, including post-traumatic stress disorder (PTSD) | 51,087 |
| Other mental disorders, excluding drug or alcohol dependence | 36,788 |
| Depression & other mood disorders | 36,317 |
| Asthma | 25,665 |
| Lack of expected normal physiological development (such as delayed milestone, failure to gain weight, failure to thrive), nutritional deficiencies in children only. This does not include sexual or mental development. | 23,474 |
| Contact dermatitis and other eczema | 14,587 |

. https://www.ncfh.org/facts-about-agricultural-workers-fact-sheet.html

# Non traditional Risk Factors for Kidney Disease




Nagai, Kei. "Environment and Chronic Kidney Disease in Farmers." *Renal Replacement Therapy*, vol. 7, no. 1, 13 Oct. 2021

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# Best Practices for Identifying and Managing CKD

# Poll- How would you rate your capacity or readiness to manage CKD in your population?

1. Not at all ready
2. Slightly Ready
3. Somewhat Ready
4. Ready
5. Extremely ready/Already managing

# Poll- What are the barriers to managing CKD in your clinic/system?

1. Knowledge or medications, lifestyle, and other therapies to manage CKD in primary care
2. Capacity or time
3. Competing priorities/level of urgency
4. Patient level social or cultural barriers
5. Unsure how to talk to patients about it/ Lack of access to patient resources or education material
6. Cost of treatments
7. Other (describe in chat)

**Two guideline-recommended tests to diagnose and risk stratify CKD:**

Serum creatinine with eGFR

Urine albumin-creatinine ratio

# Classification of CKD Based on GFR and Albuminuria Categories: "Heat Map"

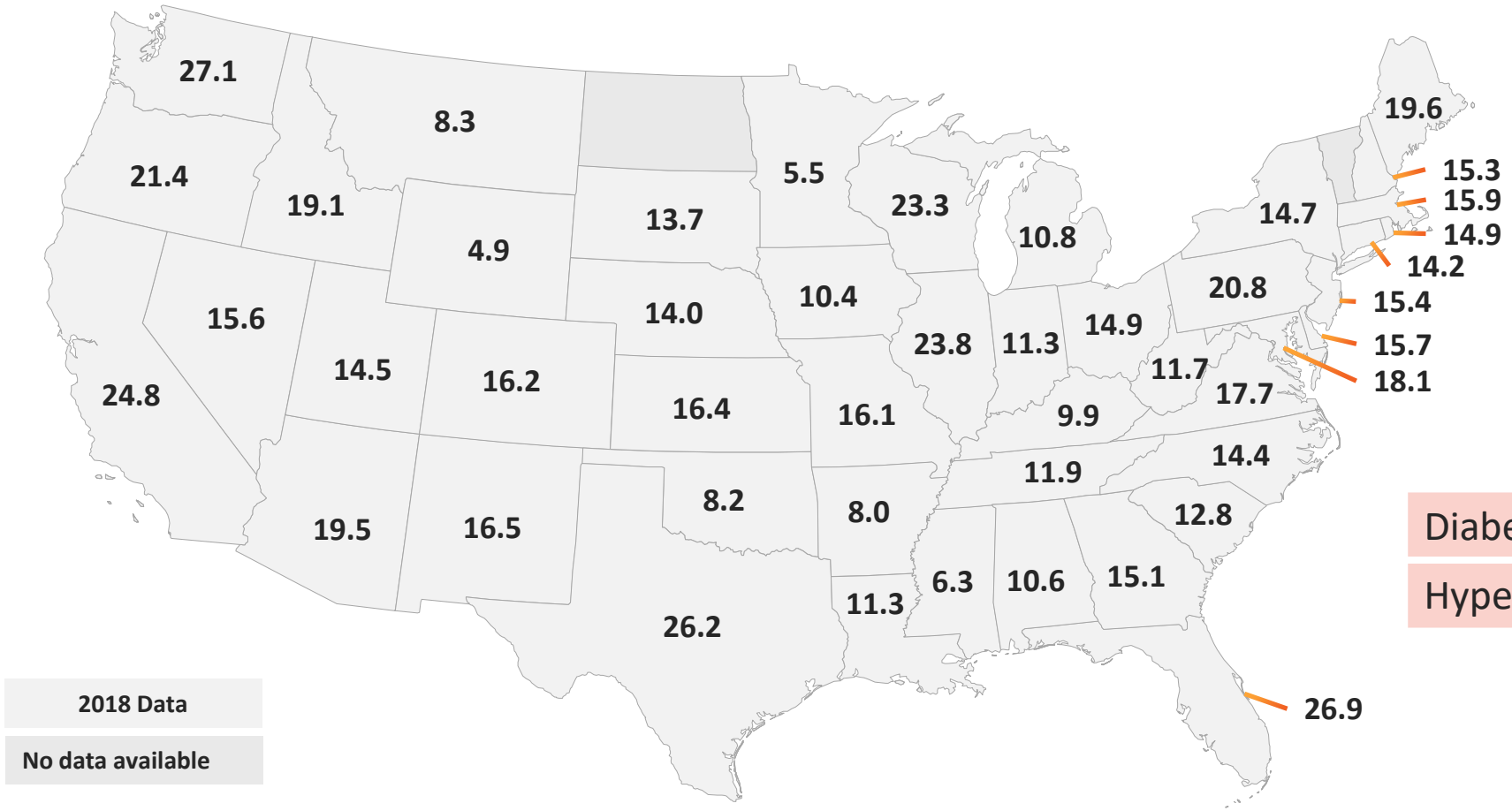
| Prognosis of CKD by GFR and Albuminuria Categories | | | | Albuminuria categories Description and range | | |
|---|---|---|---|---|---|---|
| | | | | A1 | A2 | A3 |
| | | | | Normal to mildly increased | Moderately increased | Severely increased |
| | | | | <30 mg/g <3 mg/mmol | 30-299 mg/g 3-29 mg/mmol | ≥300 mg/g ≥30 mg/mmol |
| GFR categories (mL/min/1.73 m²) Description and range | G1 | Normal or high | ≥90 | | | |
| | G2 | Mildly decreased | 60-89 | | | |
| | G3a | Mildly to moderately decreased | 45-59 | | | |
| | G3b | Moderately to severely decreased | 30-44 | | | |
| | G4 | Severely decreased | 15-29 | | | |
| | G5 | Kidney failure | <15 | | | |

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red, very high risk. KDIGO 2012

Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. *Kidney Int Suppls*. 2013;3:1-150.

# 80.3% of at-risk patients did not receive guideline concordant assessment (eGFR + uACR)

28,295,982 at-risk patients (16.2% diabetes/63.8 % hypertension/20.1% diabetes and hypertension)




| | |
|---|---|
| Diabetes & Hypertension | 41.4% |
| Hypertension | 10.5% |



Alfego, D., Ennis, J., Gillespie, B., Lewis, M. J., Montgomery, E., Ferre, S., Vassalotti, J., Letovsky, S. (2021). Chronic kidney disease testing among at-risk adults in the U.S. remains low: Real-world evidence from a national laboratory database. *Diabetes Care*.

# So how's CKD care in America?

CJASN
Clinical Journal of American Society of Nephrology

**186,961,565** weighted **visits 2006-2014**

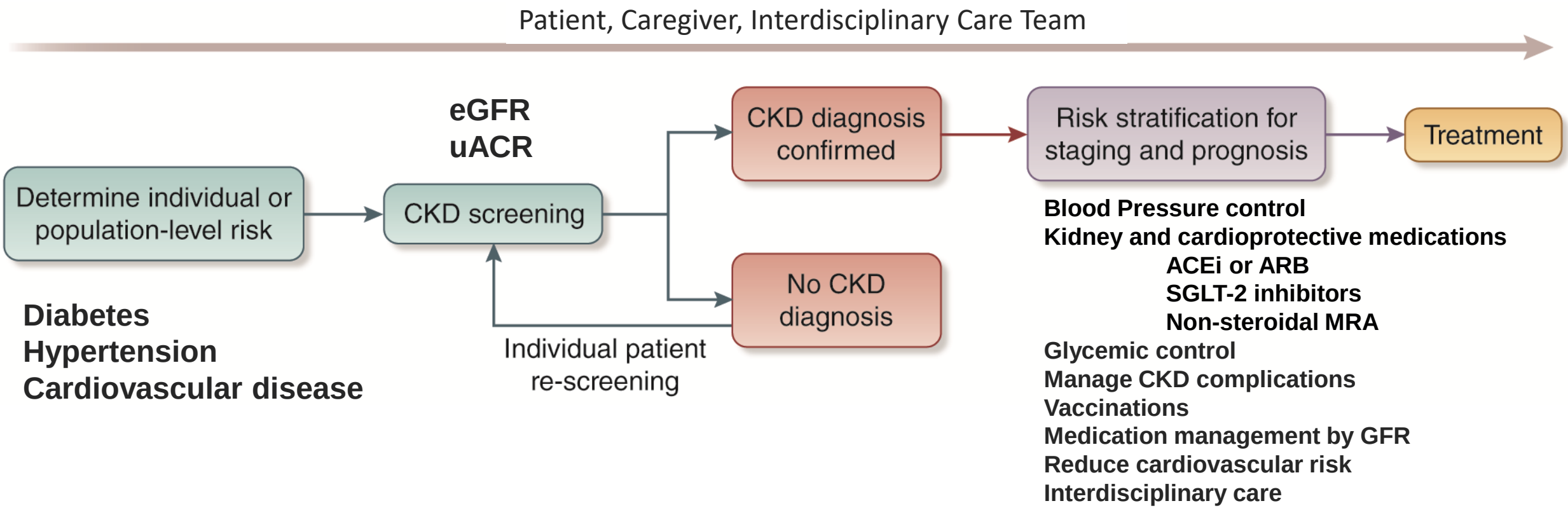
**2.7%**
**for patients with CKD**

| | BP checked? | BP > 130/80? | A1c > 7% | ACEi or ARB | Statin in Age > 50 |
|---|---|---|---|---|---|
| 2006-2008 | 89% | 46% | N/A | 45% | 29% |
| 2012-2014 | 93% | 48% | 40% | 36% | 31% |
| | P=0.025 | p=0.50 | | p=0.072 | p=0.92 |

**Conclusions** Patients with diagnosed CKD had a high prevalence of uncontrolled hypertension and diabetes. ACE and ARB use decreased and statin use was low and did not improve over time.

Sri Lekha Tummalapalli, Neil Powe, and Salomeh Keyhani. ***Trends in Quality of Care for Patients with CKD in the United States.*** CJASN doi: 10.2215/CJN.00060119. **Visual Abstract by Joel Topf, MD, FACP**

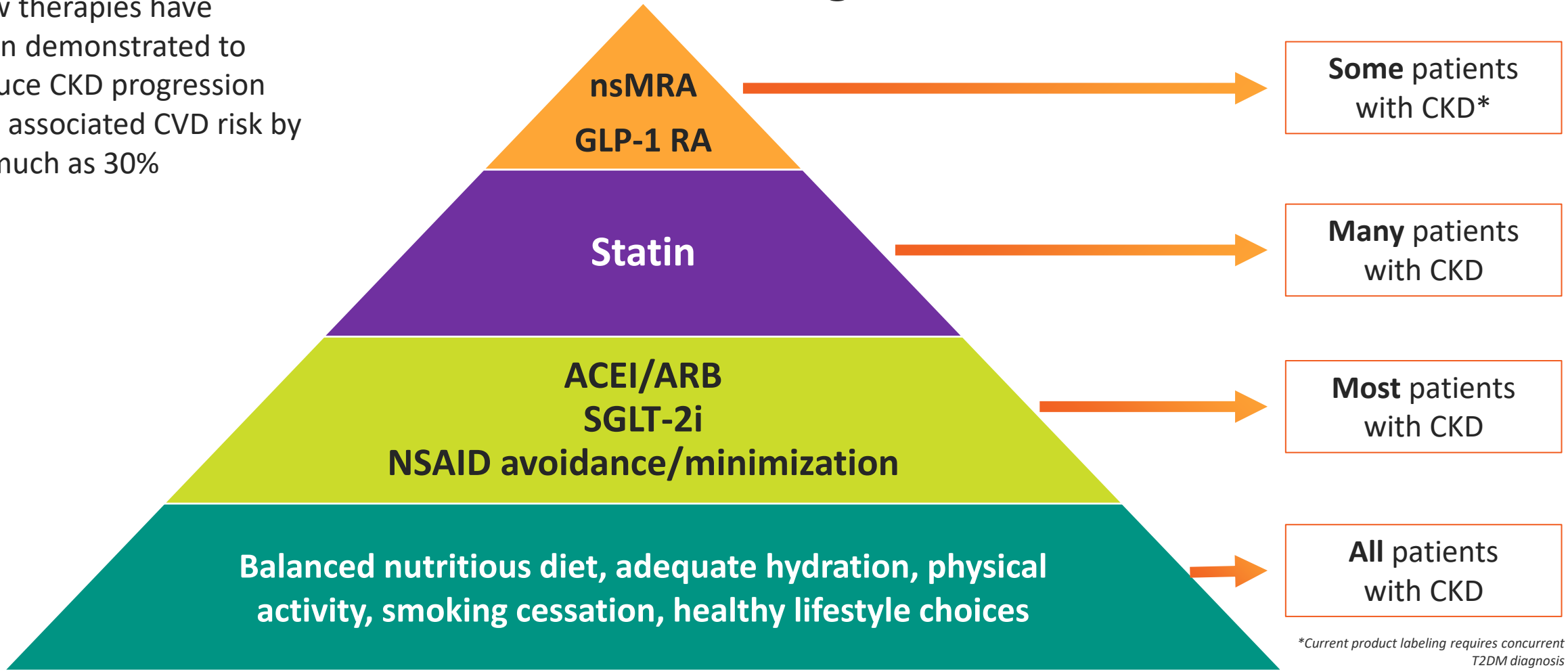
# Evaluating Risk of CKD Progression
# Concept Flow Map




Kidney Int. 2021;99(1):34-47.
Kidney Int Rep 2022;7(3):389-396.

# Interventions for Slowing CKD Progression and Reducing CV Risk

New therapies have been demonstrated to reduce CKD progression and associated CVD risk by as much as 30%




**Current product labeling requires concurrent T2DM diagnosis*


- de Boer IH, et al. *Kidney Int*. 2022;102(5):974-989.
- KDIGO. *Kidney Int Suppl*. 2013;3:1-150.
- KDOQI. *Am J Kidney Dis*. 2015;65(3):354-366.
- National Kidney Foundation. CKD care algorithm, updated March 2023.


*nsMRA: non-steroidal mineralocorticoid receptor antagonist*
*GLP-1 RA: glucagon-like peptide 1 receptor agonist*
*SGLT-2i: sodium-glucose cotransporter-2 inhibitor*
*ACEI: angiotensin converting enzyme inhibitor*
*ARB: angiotensin receptor blocker*
*NSAID: nonsteroidal anti-inflammatory drug*

# ACEI/ARB Considerations

## First-line therapy to **slow CKD progression**, **lower BP** (if needed), and **decrease CV risk**

- Indicated in the presence of **hypertension** or **albuminuria (uACR > 300 OR uACR >30 + DM)**
- Recommendation **includes Black patients**
- Evidence **does not support** giving ACEI/ARB preventatively in DM without HTN or albuminuria (i.e. “kidney protection”)
- Lower starting dose in advanced kidney disease or if patient without hypertension
- Titrated to highest tolerated/approved dose
- **Continue until dialysis (if tolerated)**

## Clinical Pearls

- **Avoid the combination** of ACEI and ARB
- History of angioedema with ACEI?
  - Consider an ARB - cross-reactivity is low < 10%; discuss risks & benefits with patient

## Patient/Laboratory Monitoring

- SCr will go up – this does not necessarily mean worsening kidney function (<30% is reasonable/expected)
- Potassium will also likely go up - monitor for hyperkalemia

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Inker LA, et al. *Am J Kidney Dis*. 2014;63(5):713-735.
KDIGO. *Kidney Int. Suppl*. 2013;3:1-150.
Brown T, et al. *J Clin Hypertens*. 2017;19:1377-1382.
Bhandari S, et al. *N Engl J Med*. 2022;387:2021-2032.

*ACEI: angiotensin converting enzyme inhibitor; ARB: angiotensin receptor blockers; BP: blood pressure; CV: cardiovascular; DM: diabetes; HTN: hypertension; SCr: serum creatinine; uACR: urine albumin-creatinine ratio*

# Population Health for CKD and Diabetes: Lessons from the Indian Health Service

"The 54% reduction in incidence occurred in this population during a 20-year period despite per capita health expenditures equaling only ~40% of that spent in the US civilian population. Although one might expect such a dramatic decrease in disease in this high-risk disadvantaged population to be associated with novel and costly new therapies, the medical interventions implemented by the IHS were routine: glucose control, blood pressure control, and use of renin-angiotensin-aldosterone system (RAAS) antagonists in appropriate patients. However a systematic population-based approach was instituted to implement this evidence-based care."

# Measures for CKD Care included in IHS Diabetes Care & Outcomes Audit Intervention

| Measure | Baseline | Impact |
|---|---|---|
| Improve average Hemoglobin A1C among people with DM | 10% | 8.1% |
| Continue blood pressure control among people with DM and CKD | 133/76 mmHg | 133/76 mmHg |
| Increase Urine Albumin-Creatinine Ratio Testing for early detection | 50% | 62% |
| Increase use of Ace Inhibitors (ACE) and Angiotensin Receptor Blockers (ARB) | 42% | 73% |

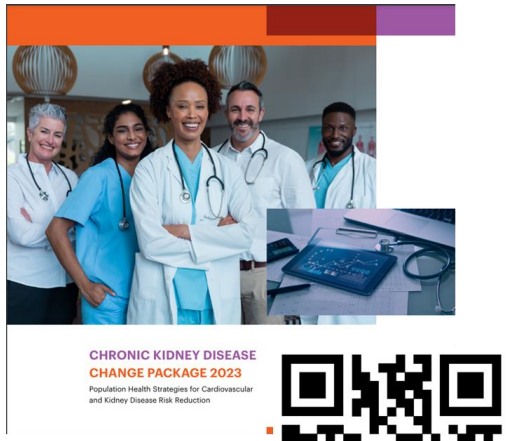
Intensive focus on mitigating health-related social needs and lifestyle impacts included in this intervention

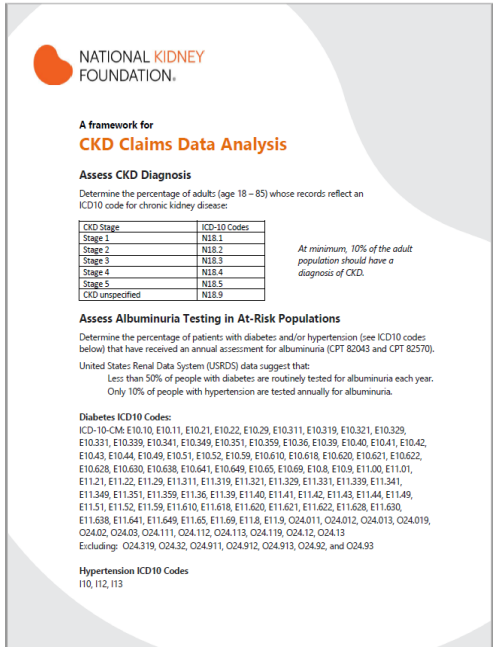
Narva A. Population Health for CKD and Diabetes: Lessons From the Indian Health Service. *American Journal of Kidney Diseases*. 2018;71(3):407-411.

# NKF Strategies, Tools, & Resources

CKD intercept

## CKD Change Package



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**A framework for**

### CKD Claims Data Analysis

**Assess CKD Diagnosis**

Determine the percentage of adults (age 18 – 85) whose records reflect an ICD10 code for chronic kidney disease:

| CKD Stage | ICD-10 Codes |
|---|---|
| Stage 1 | N18.1 |
| Stage 2 | N18.2 |
| Stage 3 | N18.3 |
| Stage 4 | N18.4 |
| Stage 5 | N18.5 |
| CKD unspecified | N18.9 |

*At minimum, 10% of the adult population should have a diagnosis of CKD.*

**Assess Albuminuria Testing in At-Risk Populations**

Determine the percentage of patients with diabetes and/or hypertension (see ICD10 codes below) that have received an annual assessment for albuminuria (CPT 82043 and CPT 82570).

United States Renal Data System (USRDS) data suggest that:

Less than 50% of people with diabetes are routinely tested for albuminuria each year.
Only 10% of people with hypertension are tested annually for albuminuria.

**Diabetes ICD10 Codes:**

ICD-10-CM: E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.329, E10.331, E10.339, E10.341, E10.349, E10.351, E10.359, E10.36, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E10.8, E10.9, E11.00, E11.01, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.329, E11.331, E11.339, E11.341, E11.349, E11.351, E11.359, E11.36, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, O24.011, O24.012, O24.013, O24.019, O24.02, O24.03, O24.111, O24.112, O24.113, O24.119, O24.12, O24.13

Excluding: O24.319, O24.32, O24.911, O24.912, O24.913, O24.92, and O24.93

**Hypertension ICD10 Codes**

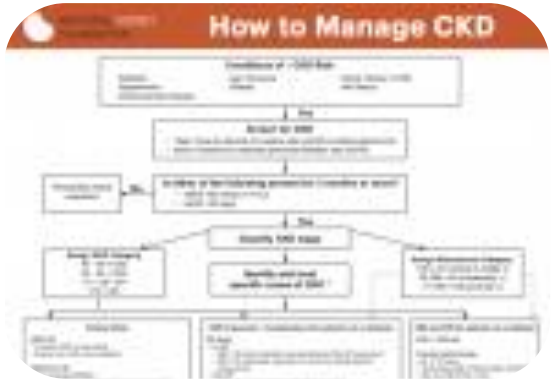
I10, I12, I13

## Learning Collaborative

## CKD Data Strategy

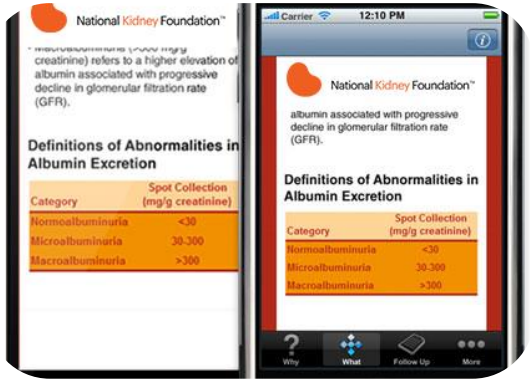
# Online Tools


[eGFR Calculator]




[CKD Care Algorithm]

[Heat Map Teaching Card]




[KDOQI Guidelines]

# Community Health Worker Education

Tools and training to educate CHW's in the awareness and prevention of CKD among those they serve

- 8 modules covering:
  - Kidney Disease and Risk Factors
  - Living with Kidney disease: Social Determinants of Health
  - CKD and Notes on Nutrition
  - Kidney Failure Treatment and Care
  - CHW Unite to improve CKD care
- Self paced learning
- Created for CHW, Health Navigators, Care Coordinators

SCAN ME

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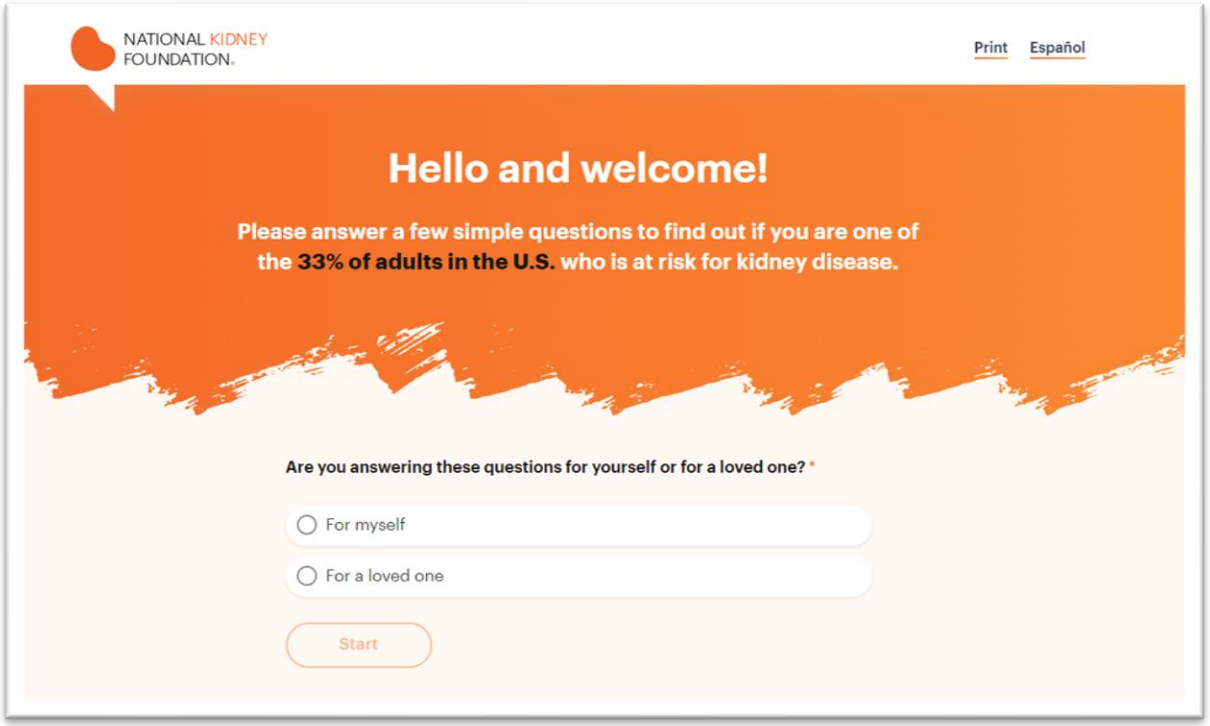
# Educational Resources for Patients/Community Members

*Available in English and Spanish*

## NKF Kidney Risk Quiz:

- Brief (5-8 question) quiz to identify individuals at highest risk for CKD.

- Kidney Risk Campaign toolkit available for spreading increased awareness of kidney health



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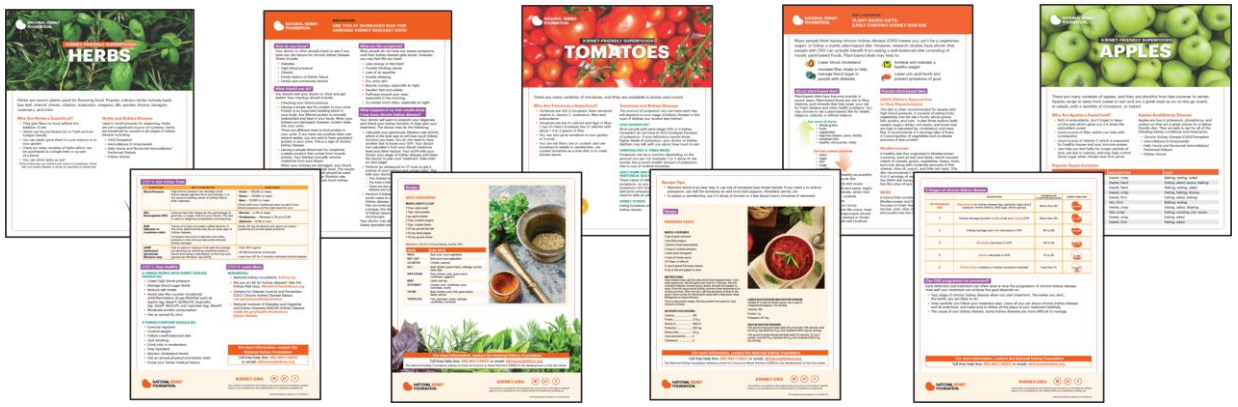


## Flyers:

- Summarizes densely packed educational information found in various web pages, brochures and other NKF deliverables.
- Translated in various languages

ENGLISH FLYERS

SPANISH FLYERS

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# Patient Solutions

## for Health Professionals

As you support those living with kidney disease, remember that NKF offers a suite of patient education and peer support programs in English and Spanish.

Explore the programs to see what is available to supplement the clinical care your practice or organization already provides.

kidney.org/professionals/patient-solutions-health-professionals

# PATIENT & COMMUNITY RESOURCES

NATIONAL KIDNEY FOUNDATION®

The National Kidney Foundation provides education, resources, recipes, and more to help you better understand your kidney health and how to live well with kidney disease.

## We Are Here To HELP

### Kidney Learning Center

Access self-paced, interactive education on kidney **transplant** and **living donation,** at no cost! NKF's Kidney Learning Center has answers for you.

### Healthy Recipes

Find a recipe that's right for you. Search by **diet needs** like low sugar or nut free, etc., and **meal type** like breakfast, snacks, side dishes, and more!

### Peer Support

NKF PEERS is a **peer mentoring** program, where kidney patients are connected via phone with trained mentors who have been there themselves.

NKF *Cares*
National Kidney Foundation

Have questions about kidney disease? We can help!

**1-855-NKF-CARES**
(855.653.2273)
Hablamos Español

kidney learning center

National Kidney Foundation

**LearningCenter.kidney.org**

# Free Kidney Health Education

***In English and Spanish!***

Learningcenter.kidney.org
Aprender.kidney.org

A range of educational topics are delivered by patients and living donors in video format:

- Kidney Disease Education: CKD Basics
- Treatment Options
- First Steps to Transplant
- Finding a Living Donor
- Becoming a Living Donor
- After Transplant


aprender.kidney.org

# Poll- What resources are you most interested in?

-Clinician Education/training
-Quality improvement tools to improve CKD testing/management
-CHW training
-Patient education materials
-Local programs
-Other (please describe or write in chat)

CKD intercept

# Thank You!

## For more information:

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# Questions/Discussion

NATIONAL KIDNEY FOUNDATION®

# Learning Session Evaluation

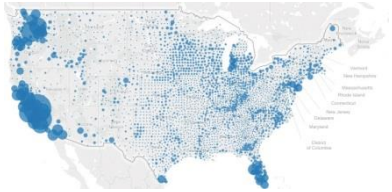
Survey link: https://www.surveymonkey.com/r/88FQ9JZ

# NCFH Commemorative Artwork


www.ncfh.org/store/c3/Commemorative_Artwork.html

# National Center for Farmworker Health

## Population Specific



[Population Estimation]


[Fact Sheets & Research]


[Health Center Learning Collaboratives]

## Health Education/Patient Education Resources


**[Resource Hubs]**
[Diabetes]
[Mental Health]
[SDOH]


[Digital Stories]


[Patient Education Materials]

## Governance/ Workforce Training


[Health Center ToolBox]


[Archived Webinars]


[Board Tools, Resources & Templates]

# NCFH Additional Resources

Una Voz Para La Salud
Call for Health

1 (800) 377-9968
1 (737) 414-5121 WhatsApp
*http://www.ncfh.org/callforhealth.html*

Helpline for Farmworkers and their families

- Connects Farmworkers to healthcare and social services
- Assists with limited financial resources for health services

# Farmworker Health Network

The **Farmworker Health Network** works cooperatively with HRSA to provide training and technical assistance to over **a thousand Community & Migrant Health Centers** throughout the U.S.

# Farmworker Health Network

## Farmworker Health Network

- Farmworker Justice **http://www.farmworkerjustice.org**
- Health Outreach Partners **http://www.outreach-partners.org**
- MHP Salud **http://www.mhpsalud.org**
- Migrant Clinicians Network **http://www.migrantclinician.org**
- National Association of Community Health Center **http://www.nachc.com**

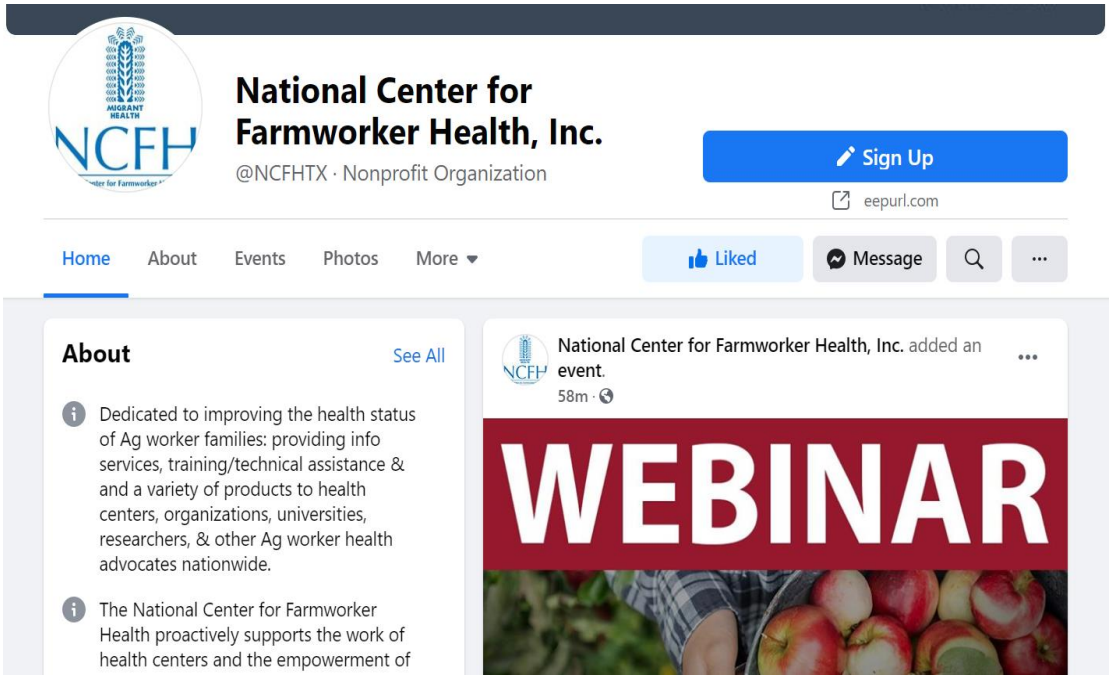
# Connect with NCFH!

Facebook and Twitter: @NCFHTX

Instagram: @Farmworkerhealth

YouTube: National Center for Farmworker Health

Linkedin: company/national-center-for-farmworker-health-ncfh-/



# NCFH Newsletters

Sign up for NCFH News


Sign up for Boletin de Sol a Sol Newsletter

# Thank You!

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