Today's Webinar Agenda

Time	Title	Speaker
00:00 – 00:10	Introductions and Announcements	Nicolas Cuttriss, MD, MPH, FAAP
00:10 – 00:25	Halting CKD Progression: From Optimizing Hypertension Management to Newer Agents	Joseph Vassalotti, MD
00:25 – 00:30	Presentation Q & A	Questions submitted via Q & A by attendees
00:30 – 00:35	Case presentation	Pablo Fragoso, RPh
00:35 – 00:55	Case questions and recommendations	Hub team faculty & attendees Please provide your clarifying questions and recommendations via the Q&A
00:55 – 01:00	Wrap-up and announcements	Nicolas Cuttriss, MD, MPH, FAAP

Learning Objectives

Participants should be able to:

- Enhance hypertension detection and management in your patients with type 2 diabetes
- Describe the role of SGLT2 inhibitors in minimizing CKD progression in patients with type 2 diabetes
- Use the latest clinical evidence regarding the use of nonsteroidal mineralocorticoid receptor antagonists for treating patients with hypertension and type 2 diabetes

Presenting Faculty

Joseph Vassalotti, MD

Clinical Professor of Medicine
Icahn School of Medicine at
Mount Sinai, New York, NY
Chief Medical Officer
National Kidney Foundation

Disclosure Information

Boston University School of Medicine asks all individuals involved in the development and presentation of Accredited Continuing Education activities to disclose all financial relationships with ineligible companies. This information is disclosed to all activity participants prior to the start of the educational activity. Boston University School of Medicine has procedures to mitigate all relevant financial relationships with ineligible companies. In addition, faculty members are asked to disclose when any unapproved use of pharmaceuticals and devices is being discussed.

In accordance with the Standards for Integrity and Independence in Accredited Continuing Education, all relevant financial relationships with ineligible companies that faculty, planners, authors and anyone who may be in control of content have been mitigated. Faculty members do not plan on discussing unlabeled/investigational uses of a commercial product.

Faculty Presenters		
Robert Gabbay, MD, PhD	Presenting Faculty	Consulting fees/advisory boards: Lark, Health Reveal, Vida Health, Onduo
Crystal A. Gadegbeku, MD	Presenting Faculty	Consulting fees/advisory boards: Fresenius Kidney Care. Research Study Advisory Board: Bristol Myers Squibb
George Thomas, MD	Presenting Faculty	Consulting fees: Up to Date Contracted research: Boehringer Ingelheim
Katherine R. Tuttle, MD, FASN, FACP, FNKF	Presenting Faculty	Consulting fees/advisory boards: AstraZeneca, Bayer HealthCare Pharmaceuticals, Boehringer Ingelheim, Eli Lilly and Company, Gilead Sciences, Inc., Goldfinch Bio, Inc., Novo Nordisk Contracted research: Bayer HealthCare Pharmaceuticals, Goldfinch Bio, Inc., Travere Therapeutics, Inc.
Joseph Vassalotti, MD	Presenting Faculty	Consulting fees/advisory boards: Boehringer Ingelheim, Eli Lilly and Company, Renalytix

Disclosure Information, *cont.*

Curriculum Development		
Nicolas Cuttriss, MD, MPH, FAAP	Course Director, Core Faculty	Nothing to disclose
Nayan Arora, MD	Core Faculty	Consulting fees/advisory boards: George Clinical
Matthew Bouchonville, MD, CDCES	Core Faculty	Nothing to disclose
Kelly Close, MBA	Patient Advocate, Core Faculty	Founder: The DiaTribe Foundation and Close Concerns, education, advocacy and news service organizations
Phyllisa Deroze, PhD	Patient Advocate, Core Faculty	Nothing to disclose
Korey Hood, PhD	Core Faculty	Consulting fees/advisory boards: Cecelia Health, Insulet Corporation, LifeScan Diabetes Institute
Sean Oser, MD	Core Faculty	Consulting fees/advisory boards: Dexcom, Inc.
Daniel Saltman, MD	Core Faculty	Nothing to disclose
Jay H. Shubrook, DO	Core Faculty	Consulting fees/advisory boards: Abbott, AstraZeneca, Bayer HealthCare Pharmaceuticals Inc., Eli Lilly and Company, Novo Nordisk
Lisa Taylor, DNP, FNP-BC, BC-ADM, CDCES	CNE Nurse Advisor, Core Faculty	Nothing to disclose
Julie Valdes, PharmD	Core Faculty	Nothing to disclose
Planning Committee		
Linda G. Baer, MSPH, CHCP	Planning Committee Member	Nothing to disclose
Michael Burk, BS	BU, Senior Program Manager	Nothing to disclose
Samantha Gordon, MS	Manager, Accreditation	Nothing to disclose
Ilana Hardesty, MLA	BU, Assistant Director	Nothing to disclose
Catherine Sullivan, MD	BU, CME Accreditation Reviewer	Nothing to disclose
Sara C. Miller, MS, CPHQ	Planning Committee Member	Nothing to disclose
Julie White, MS, CHCP	Director, CME	Nothing to disclose

Accreditation

Physicians:

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Boston University School of Medicine and the ECHO Diabetes Action Network. Boston University School of Medicine is accredited by the ACCME to provide continuing medical education for physicians.

Boston University School of Medicine designates this live activity for a maximum of 1.0 *AMA PRA Category 1 Credit(s)™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurses:

This educational activity has been provided by Boston University School of Medicine Continuing Nursing Education and jointly-provided by the ECHO Diabetes Action Network.

Boston University School of Medicine Continuing Nursing Education is accredited with distinction as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Contact Hours: 1.0

Project ECHO® collects registration and participation data for some teleECHO® programs. Your individual data will be kept confidential. These data may be used for reports, maps, communications, surveys, quality assurance, evaluation, research, and to inform new initiatives.

Assessment, Evaluation and How to Claim CME/CE Credit

In order to successfully complete this activity, you are required to attend the entire live virtual presentation and complete a posttest assessment and evaluation. A link to the assessment will be provided at the end of the presentation and in a follow-up email you will receive after the program. Upon completing the assessment, you will be provided with a link to complete the evaluation and claim your credit on Boston University School of Medicine's website.

Presentation Slides

A link to today's slides can be found in the Chat and in the Announcement email sent yesterday.

During the Webinar

Q&A Feature

For questions directed to the faculty related to the content of the session

Chat Feature

For Technical Questions or to Share Resources

Language Matters:
Help Facilitate System Change With Language in Your Workplace

*We are working hard to change the language around diabetes by adopting person-centered, strengths-based, and empowering words and messages. In accordance with updated standards, **please note:***

- ***We no longer use the word "diabetic" in any context**. Instead, we use "**person with diabetes**," "**person living with diabetes**," or "**diabetes-related**."*
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- *Please refer to https://tinyurl.com/SpeakingtheLanguageofDiabetes and https://tinyurl.com/UseofLanguageDiabetes for more information*
  Thank you for helping us to reduce stigma and change the language of diabetes!

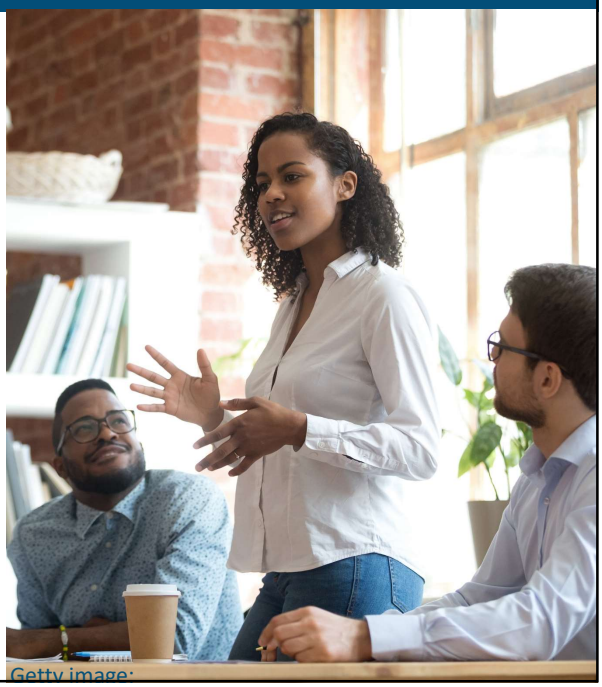
American Diabetes Association (ADA) and Association of Diabetes Care & Education

Our ECHO is a safe space for everyone.

We have a zero-tolerance policy for language that is discriminatory, disrespectful, racist, sexist, bullying, or offensive. As such, any participant will be removed from the webinar if you engage in any such behavior.

Thank you for keeping our ECHO a safe space for all.

Thank you for joining us. The program will begin shortly.


Getty image:

Thank you for joining us. The program will begin shortly.

Questions?
Looking for resources or more information?

Visit our websites: **https://cvent.me/qvDxg3**
https://www.echodiabetes.org/

Acknowledgment of Commercial Support

This activity is supported by an educational grant from Bayer HealthCare Pharmaceuticals.

Complimentary CME/CNE

Addressing Disparities in Diabetes With Project ECHO:

A Focus on Diabetes-Related CKD

An Initiative Addressing Complex Diabetes Management in the Primary Care Setting

Halting CKD Progression: From Optimizing Hypertension Management to Newer Agents

Developed in collaboration

EDAN ECHO Diabetes Action Network | Med-IQ | BU Boston University School of Medicine, Barry M. Manuel Continuing Medical Education Office

Welcome! Thank you for joining!

Acknowledgment

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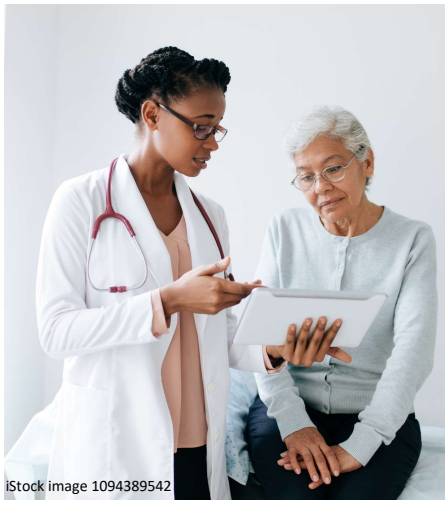
Our Goal

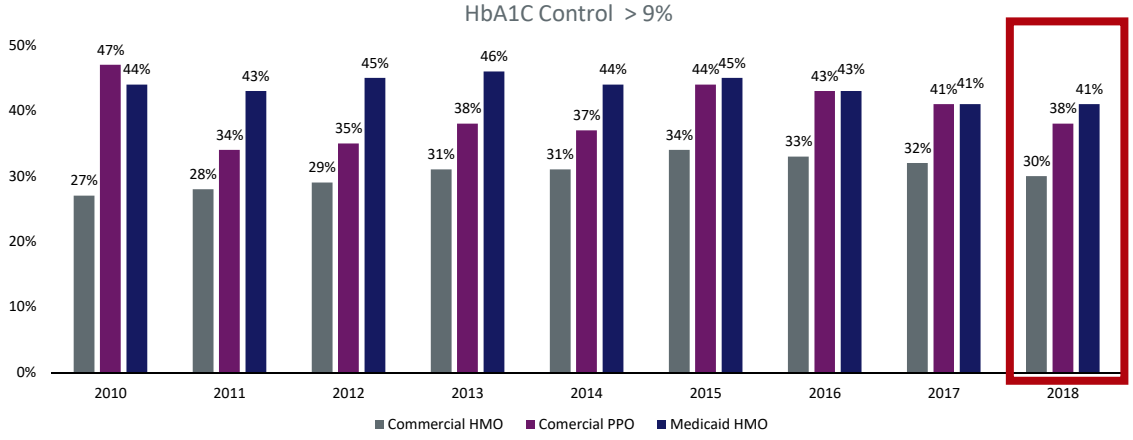
Address the urgent and persistent needs of vulnerable populations of people with diabetes complicated by CKD.

We seek to engage clinicians in the primary care setting by empowering and increasing their capacity to screen, diagnose, and manage renal complications of diabetes using the Project ECHO® (Extension for Community Healthcare Outcomes) model.


iStock image 1094389542

System Failure (Pre-Covid): Comprehensive Diabetes Care

National HEDIS Report Card:
HbA1C Control > 9%



https://www.ncqa.org/hedis/measures/comprehensive-diabetes-care/

Diabetes-Related CKD: System Failure

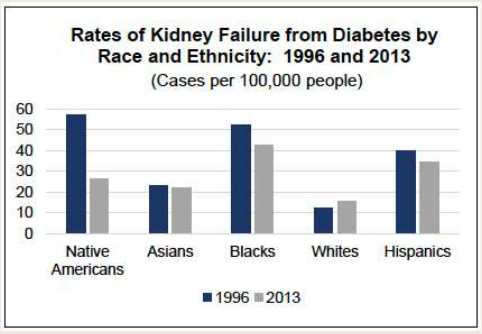
1 in 10 adults in US have diabetes

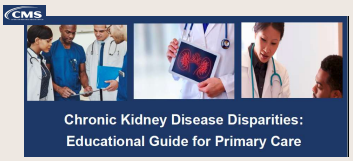
(double the burden in community health centers)

1 in 3 with diabetes have CKD

3 in 4 with DKD (stage 3 - 4) are UNAWARE!

Addressing Racial Disparities: Reasons for Hope





CDC National Diabetes Statistic Report; Bullock *et al. MMWR Morb Mortal Wkly Rep.* 2017;66:26-32; Narva A. *Am J Kidney Dis*. 2018;71(3):407-411.

#HealthEquityNow

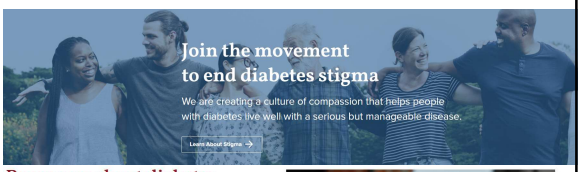
dStigmatize

American Diabetes Association.
Connected for Life

Health Equity Bill of Rights

The current health pandemic and its disproportionate toll on minority, low-income, and historically underserved Americans shines a troubling light on historic, systemic inequities in American health care. It is time for health equity now.

The **Health Equity Bill of Rights** envisions a future without unjust health disparities. It ensures the 122 million Americans living with diabetes and prediabetes, along with the millions more who are at high risk for diabetes – no matter their race, income, zip code, age, education or gender – get equal access to the most basic of human rights: their health. These rights include:



Resources about diabetes stigma

Click below to learn more about stigma and how to reduce its impact, as well as general information about diabetes:

Language Tools
Research
Basic Information About Diabetes
Organizations

https://www.diabetes.org/healthequitynow

https://www.dstigmatiz

Language Matters:
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American Diabetes Association (ADA) and Association of Diabetes Care & Education

Project ECHO
Extension for Community Healthcare Outcomes

Response to:

1. Poor outcomes and system failure
2. Lack of specialists
3. Increase disparities in care
4. Lack of confidence in primary care healthcare professions managing complex medical conditions

Project ECHO® www.echo.unm.edu

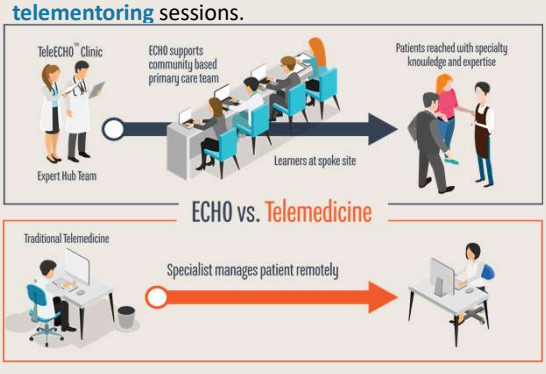
ECHODIABETES IN THE TIME OF COVID-19 www.diabetescovid.stanford.edu

EDAN ECHO DIABETES ACTION NETWORK www.echodiabetes.org

Project ECHO® Mission:
Democratizing medical knowledge and get best practice care to underserved people all over the world.

How ECHO® works:

ECHO is a hub-spoke model that connects providers with specialists through ongoing, interactive, **telementoring** sessions.



Moving knowledge instead of patients

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00:55 – 01:00	Wrap-up and announcements	Nicolas Cuttriss, MD, MPH, FAAP

Housekeeping Items for Webinar

Q&A

For questions about the ***content*** of the Webinar or case presentations, please use the **Q & A Feature**

CHAT

For questions about ***technical issues or for sharing resources***, please use the **Chat Feature**

EDAN ECHO DIABETES ACTION NETWORK

https://cvent.me/qvDxg3 website will have additional resources related to diabetes and CKD in primary care

Evaluation

Please complete the **assessment** at the end of the session (essential for CME/CE credit)

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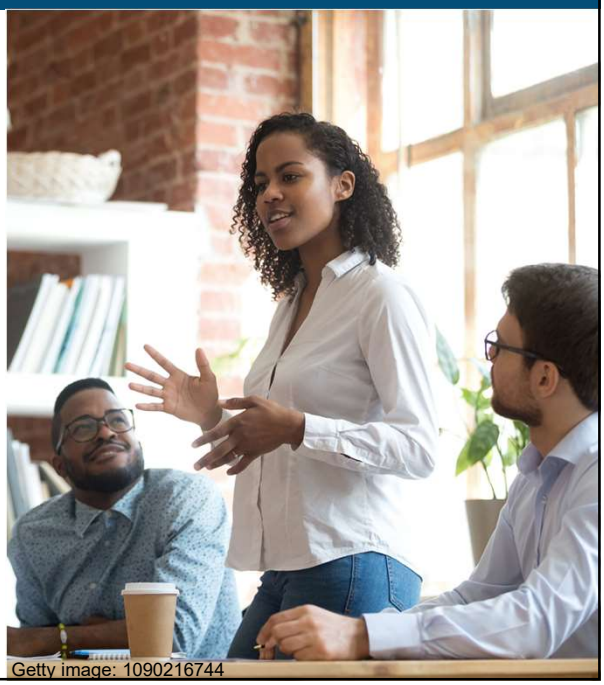
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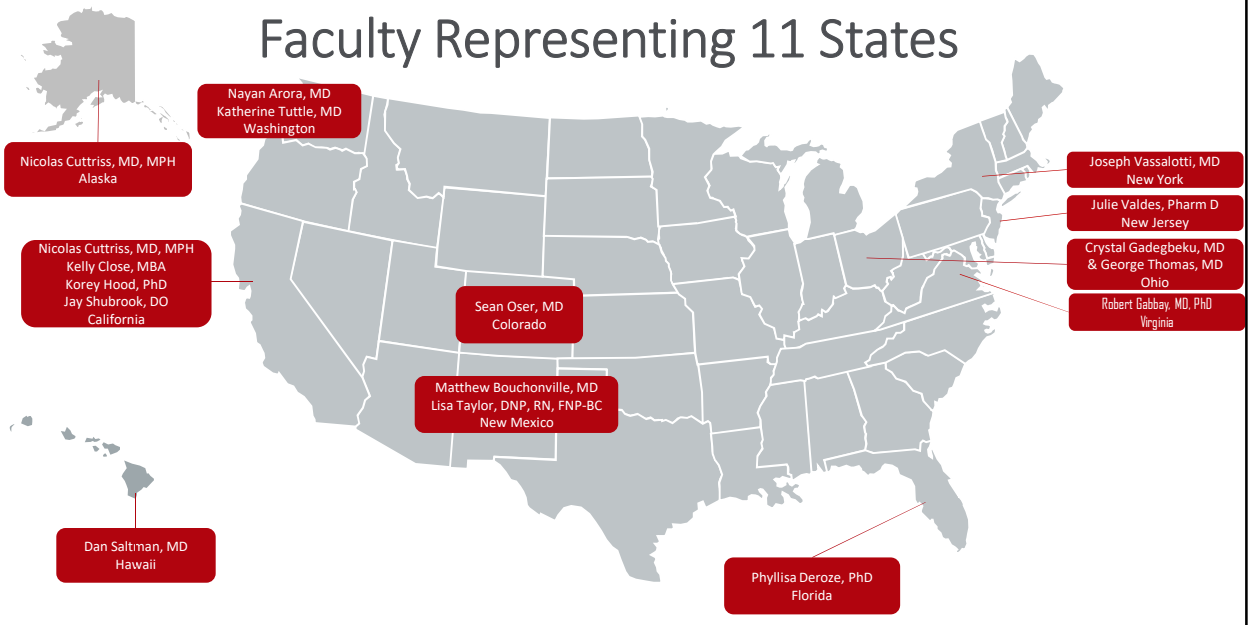
Faculty Representing 11 States



Series Topics

January 19: Approaches to Identifying CKD & the New Kidney Health Evaluation

Katherine R. Tuttle, MD, FASN, FACP, FNKF, Providence Health Care

February 16: Looking Beyond Glucose Control: Best Practices to Address Diabetes-Related CKD

Robert Gabbay, MD, PhD, FACP, American Diabetes Association

March 16: Addressing CKD Disparities and Social Determinants of Health to Achieve Diabetes Management Goals

Crystal Gadegbeku, MD, Cleveland Clinic
George Thomas, MD, Cleveland Clinic

April 20: Halting CKD Progression: From Optimizing Hypertension Management to Newer Agents

Joseph Vassalotti, MD, National Kidney Foundation

Joseph Vassalotti, MD

Clinical Professor of Medicine
Icahn School of Medicine at Mount Sinai, New York, NY
Chief Medical Officer
National Kidney Foundation

Presents:

Halting CKD Progression: From Optimizing Hypertension Management to Newer Agents

Complimentary CME/CNE

Addressing Disparities in Diabetes With Project ECHO:

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EDAN ECHO Diabetes Action Network | Med-IQ | BU Boston University School of Medicine, Barry M. Manuel Continuing Medical Education Office

Halting CKD Progression: From Optimizing Hypertension Management to Newer Agents

Joseph A. Vassalotti, MD

Chief Medical Officer, National Kidney Foundation

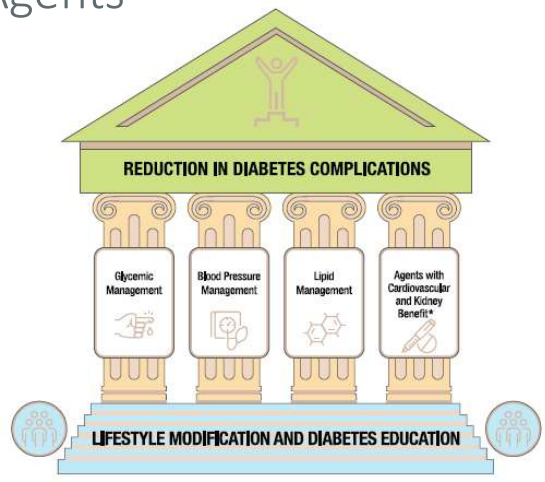
Clinical Professor, Icahn School of Medicine at Mount Sinai

New York, NY

@Joe_Vassalotti

National Kidney Foundation™

Icahn School of Medicine at Mount Sinai



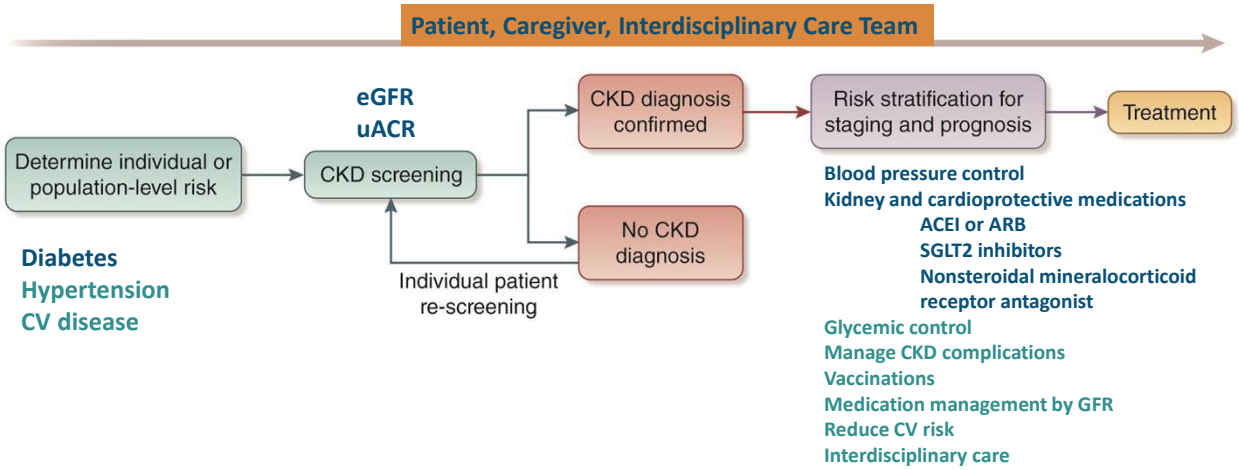
ADA PPC. *Diabetes Care*. 2022;45:S144-74.

Learning Objectives

Upon completion, participants should be able to:

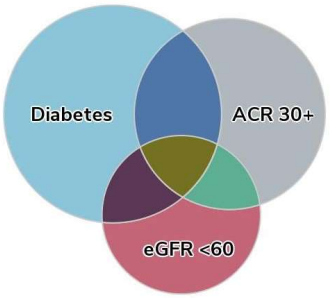
- Enhance hypertension detection and management in your patients with type 2 diabetes
- Describe the role of SGLT2 inhibitors in minimizing CKD progression in patients with type 2 diabetes
- Use the latest clinical evidence regarding the use of nonsteroidal mineralocorticoid receptor antagonists for treating patients with hypertension and type 2 diabetes

Evaluating Risk of CKD Progression



Shlipak MG, et al. *Kidney Int*. 2021;99:34-47;
Vassalotti JA, et al. *Kidney Int Rep*. 2022;7:389-96.

CKD Definition and Risk Stratification
CGA Classification: Cause - GFR - Albuminuria



NHANES 2013-2018:
13.1% of adults had diabetes
27.5% of those with diabetes had uACR > 30 mg/g
17.3% of those with diabetes had eGFR < 60 mL/min/1.73 m²

Naaneethan SD, et al. *Ann Intern Med*. 2021;174:385-94; USRDS. https://adr.usrds.org/2021.

Prognosis of CKD by GFR and albuminuria categories: KDIGO 2012

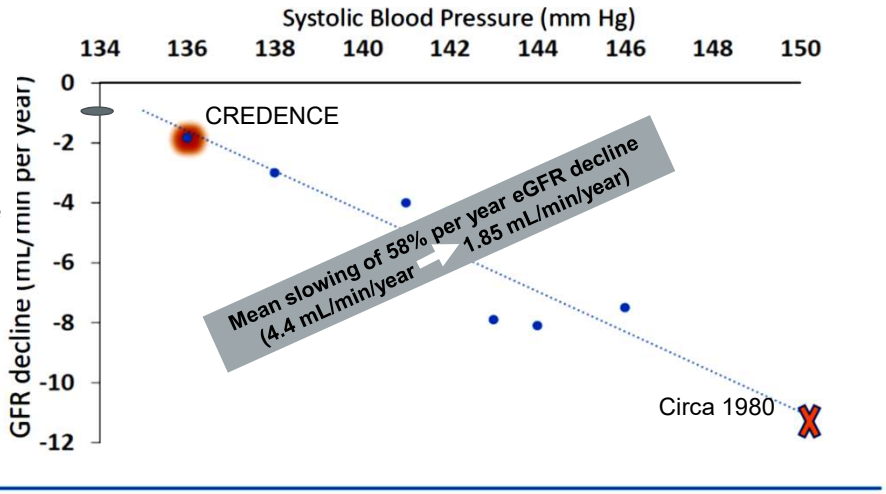
GFR categories (mL/min/1.73 m²) Description and range				Persistent albuminuria categories Description and range: A1 Normal to mildly increased <30 mg/g <3 mg/mmol	A2 Moderately increased 30–300 mg/g 3–30 mg/mmol	A3 Severely increased >300 mg/g >30 mg/mmol
	G1	Normal or high	≥90			
	G2	Mildly decreased	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.

Annual eGFR Decline by Blood Pressure
From Clinical Trials in Diabetic Kidney Disease

Trials included in figure:
Captopril trial. *N Engl J Med*. 1993;
Hannadouche et al. *BMJ*. 1994;
Bakris et al. *Kidney Int*. 1996;
Bakris et al. *Hypertension*. 1997;
IDNT. *N Engl J Med*. 2001;
RENAAL. *N Engl J Med*. 2001;
CREDENCE. *N Engl J Med*. 2019 (**orange glow**).

X represents no treatment.



Bakris GL. *Am J Kidney Dis*. 2019;74:573-5.

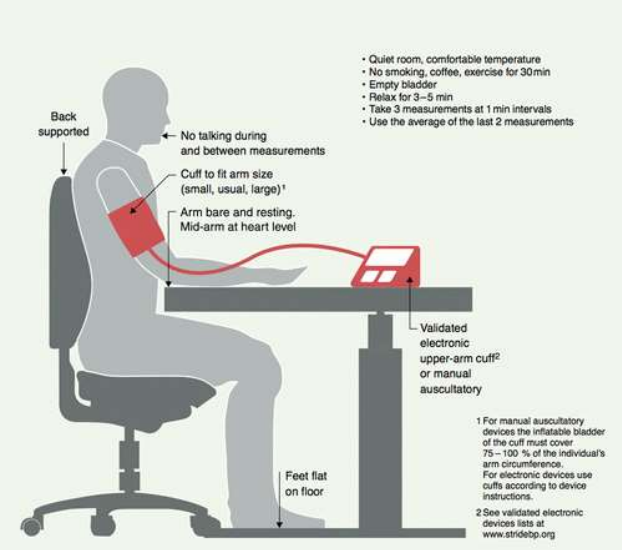
Methods of BP Measurement

Office BP Monitoring (OBPM)

Home BP Monitoring (HBPM)

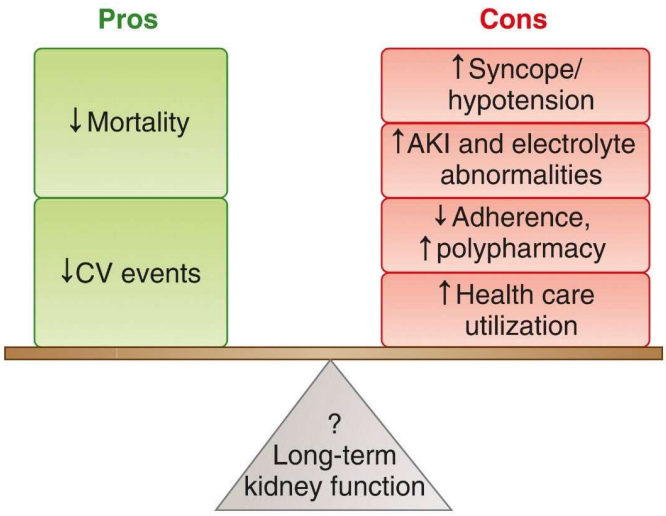
Ambulatory BP Monitoring (ABPM)

OBPM Technique



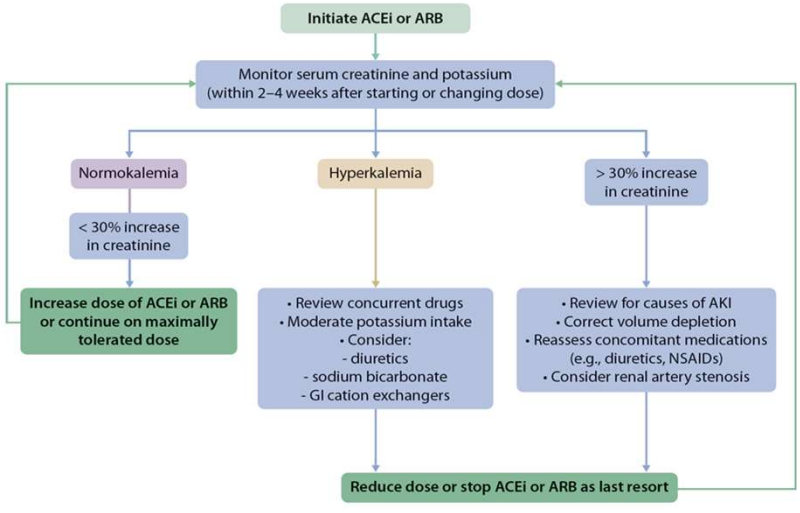
Unger T, et al. *Hypertension*. 2020;75:1334-57.

Target BP < 130/80 mm Hg?



Chang TL, et al. *Clin J Am Soc Nephrol*. 2018;13:1575-7.

ACEI or ARB: Dose Titration and Side Effect Monitoring



KDIGO Diabetes Work Group. *Kidney Int*. 2020;98:S1-115.

Kidney and CV Protection With SGLT2 Inhibitors

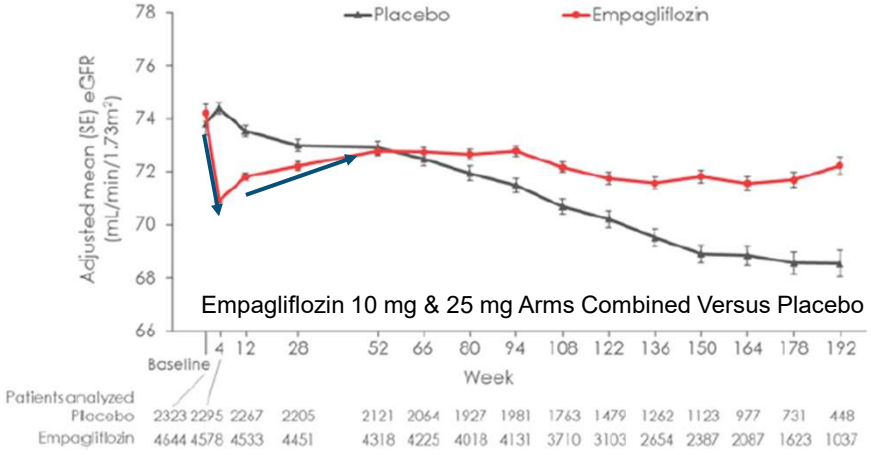
	DAPA-CKD[1]	CREDENCE[2]
Composite Kidney/CV Outcome[a]	HR (95% CI): 0.61 (0.51-0.72); *P* < .001	HR (95% CI): 0.70 (0.59-0.82); *P* = .00001
Composite Kidney Outcome[b]	0.56 (0.45-0.68); *P* < .001	0.66 (0.53-0.81); *P* < .001
CV Death or Hospitalization for HF	0.71 (0.55-0.92); *P* = .009	0.69 (0.57-0.83); *P* < .001
All-Cause Mortality	0.69 (0.53-0.88); *P* = .004	0.83 (0.68-1.02); *P* = NR

Comparison of studies should be interpreted with caution due to differences in study design

[a]Composite consisted of sustained ≥ 50% eGFR decline, ESKD, or renal or CV death in DAPA-CKD and doubling of serum creatinine, ESKD, or renal or CV death in CREDENCE.
[b]Composite consisted of sustained ≥ 50% eGFR decline, ESKD, or renal death in DAPA-CKD and doubling of serum creatinine, ESKD, or renal death in CREDENCE.

[1]Heerspink HJL, et al. *N Engl J Med*. 2020;383:1436-46; [2]Perkovic V, et al. *N Engl J Med*. 2019;380:2295-306.
[1]Incidences of SAEs and Aes were overall similar in the dapagliflozin and placebo groups; [2]Rates of SAEs and Aes were similar in canagliflozin and placebo groups; fracture and lower-limb amputations were not different between groups; DKA were low but higher in the canagliflozin group

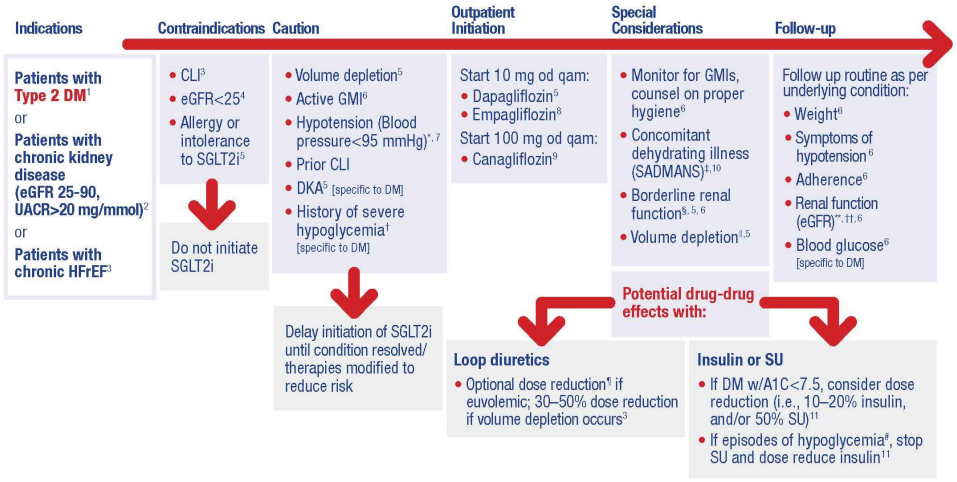
Typical Trend in eGFR With SGLT2 Inhibitors: Initial Decline With Long-Term Protection



EMPA-REG OUTCOME trial data shown, but similar pattern observed in other trials
Primary Outcome (not shown) 14% ↓3 Point MACE (13% ↓MI, 24% ↓CVA, 36% ↓CV Death)

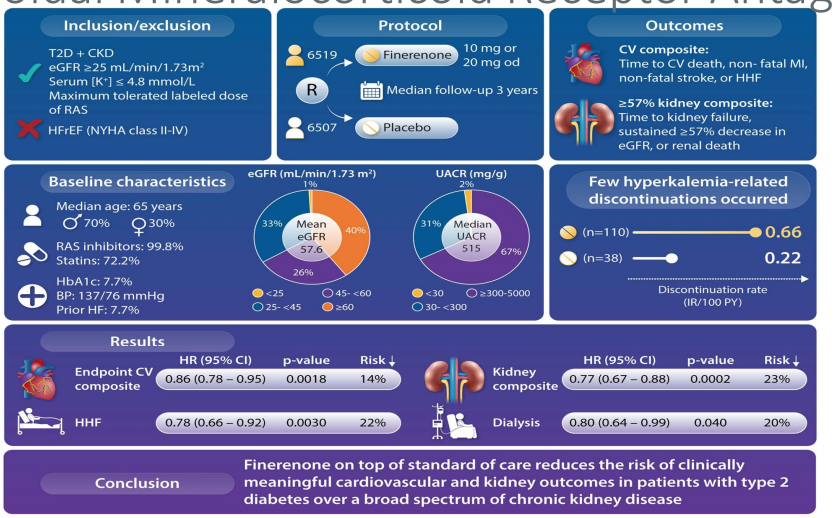
Wanner C, et al. *J Am Soc Nephrol*. 2018;29:2755-69.

Practical Approach to SGLT2 Inhibitors for Treatment of CV Disease



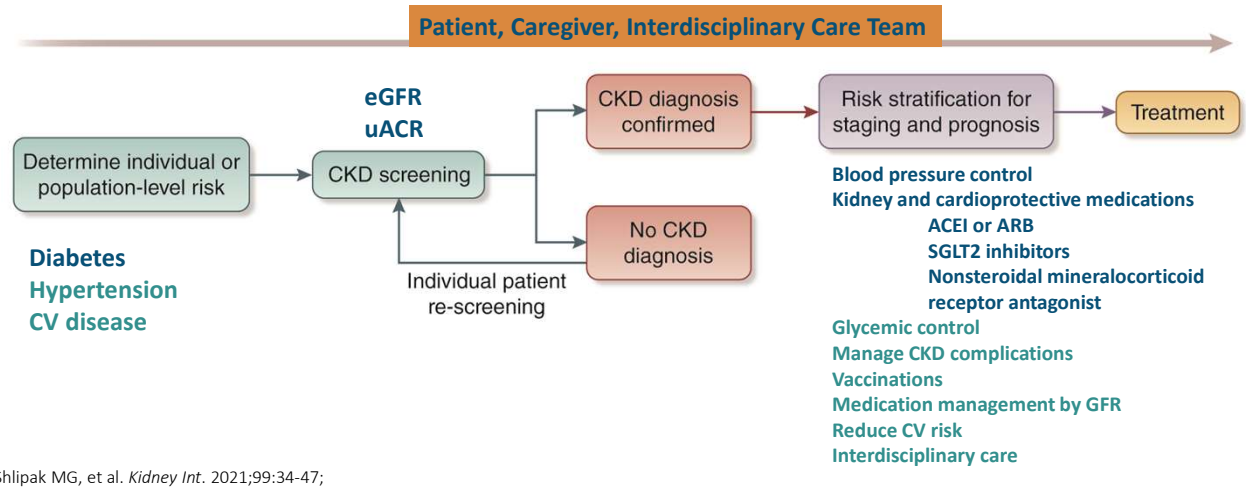
CLI = critical limb ischemia; GMI = genital mycotic infections; HFrEF = heart failure with reduced ejection fraction.
Canadian Heart Failure Society. https://heartfailure.ca/sites/default/files/chfs_practical_approach_algorithm_sglt2i.pdf

Kidney and CV Protection With a Nonsteroidal Mineralocorticoid Receptor Antagonist



Incidences of investigator-reported treatment- emergent AEs were similar between treatment groups; AEs affecting ≥5% in either group include hyperkalaemia, nasopharyngitis, arthralgia, back pain, urinary tract infection, diarrhea, anemia, hypertension, upper respiratory tract infection, peripheral edema, decreased glomerular filtration rate, hypoglycemia, dizziness, bronchitis, constipation, and pneumonia.
Agarwal R, et al. *Eur Heart J*. 2022;43:474-84.

Evaluating Risk of CKD Progression



Shlipak MG, et al. *Kidney Int*. 2021;99:34-47;
Vassalotti JA, et al. *Kidney Int Rep*. 2022;7:389-96.

Case Presentation

Submitted Case Presentation **70 y/o F with T2D + CKD + Depression What should be done next about kidney function? Is rise in A1c due to staying in bed all day and/or should other etiologies be explored?**

70 year-old Afro-Hispanic female with type 2 diabetes (T2D) complicated by CKD, obesity, depression and elevated liver function. She has lost 2 adult children and currently relies on her living daughter to care for her. Although physically able, she stays in bed all day until her daughter returns home. Behavioral health consultation pending and currently on anti-depressant but CBT and counseling challenging due to language barrier. LFTs also increased (ALT61, AST 51, GGT 297) and considering GI referral. Most recent A1c (8.7%) increased from 6 months prior (7.9%) and most recent random fasting glucose (168) increased from previous (136).

Kidney disease/Cardiometabolic disease:

- **CKD:** recent eGFR 43mL/min/1.73m^2; 24hr UCr clearance 10 mL/min (Ucr 35, Ur 24rc r 177, Cr 1.27)
- **ASCVD:** Yes (22.5%) **Heart Failure**: No
- **Hypertension:** Yes **Hypercholesterolemia:** Yes
- **Recent BP:** 130/74 mmHg **BMI:** 34 **Weight** 79 kg **Recent lipid panel:** TC:158, LDL 72, HDL 66, TG 116
- **Diabetes:** Diagnosed with T2D ~15 years ago with last A1c 8.7% and currently on SGLT2i, DPP4i and metformin therapy. CGM recently prescribed but not using yet. Previously on insulin – bad experience - but open to retrying.

Current Medication Management:

- Lisinopril-HCTZ (Prinzide®) 20mg-25mg
- Metoprolol tartrate (Lopressor®) 100mg BID
- Atorvastatin (Lipitor®) 20mg
- Duloxetine HCl (Cymbalta®) 60mg DR
- ASA 81mg
- Vit C 1000mg
- Omeprazole 40mg

Glucose-lowering agent(s):

- SGLT2i: Empagliflozin (Jardiance®) 25mg daily
- DPP4i: Sitagliptin (Junuvia®) 100mg daily
- Metformin 1000mg BID

Social support and concerns:

- **Last PQH-9:** 8 (Higher when preformed by Spanish-speaking pharmacist vs. by daughter translating) **Last PHQ-2:** 2
- **Last Diabetes Distress Scale:** Not reported
- **Barriers:** Language. CBT challenging due to translation services.
- **Support:** Lives with daughter + grandchildren. Relies on daughter for translation and care. Interested in home health aid but unsure if qualifies

Questions to the ECHO Diabetes Community: Are there any additional labs to order from nephrology perspective? How urgent is hepatology evaluation/referral? A1c rising – should thyroid be evaluated for staying in bed all day or other non dietary/lifestyle changes be looked into? How to approach depression and behavioral health while awaiting referral?