

**3rd Annual Disparities Partnership Forum
American Diabetes Association
November 18-19, 2009**

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Chief Medical Officer
National Kidney Foundation
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Mount Sinai School of Medicine**

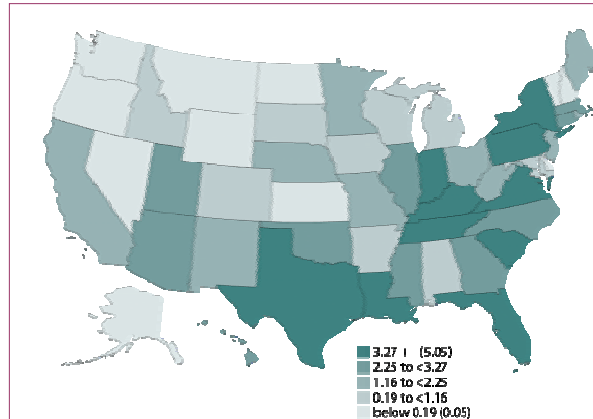


What is KEEP?

- **Free program started by the NKF to screen individuals at risk in the community for Chronic Kidney Disease**
- **To date over 140,000 participants**
- **Screening lasts 45 minutes - 1 hour**
- **Results sent to participants**
- **Results sent to participants' clinicians**
- **Comprehensive education and follow-up**



KEEP participants by state



KEEP: N=89,622 as of 12/31/07 shown above
KEEP: N > 140,000 as of 11/01/09



Kidney Early Evaluation Program Inclusion and Exclusion Criteria

Inclusion	Exclusion
1. Aged 18 \geq years	1. Kidney Replacement therapy Dialysis
2. Personal history Diabetes and/or Hypertension	Kidney Transplantation
3. Family history Diabetes and/or Hypertension and/or Chronic kidney disease	

Vassalotti et al. *Am J Kidney Dis.* 2009;53:S107-S114



Kidney Early Evaluation Program Screening Event Stations

Station	Comment
1. Registration	Review inclusion and <u>Exclusion criteria</u>
2. Screening questionnaire	Informed consent obtained <u>Questionnaire administered by volunteers as needed</u>
3. Physical measurements	Blood pressure, height, <u>weight recorded</u>
4. Blood and urine collection	<u>Blood drawn by phlebotomist</u>
5. Physician consultation	Review risk factors and on-site <u>test results</u>
6. Screening review	Ensure complete data collection

Vassalotti et al. *Am J Kidney Dis.* 2009;53:S107-S114

KEEP Parameters Evaluated

MEASUREMENTS

- Height and weight (BMI)
- Waist circumference
- Blood pressure

BLOOD

- Blood glucose

URINE

- Albumin-creatinine ratio

- Serum creatinine
- Glomerular filtration rate (estimated)
- Hemoglobin
- Lipid Panel
- Hemoglobin A1c[^]
- PTH*
- Calcium*
- Phosphorus*

[^] self-reported or measured diabetes

* eGFR < 60



**Attend a Free
Kidney Health Screening**



Do you or a family member have diabetes or high blood pressure?
or
 Does anyone in your family have kidney disease?

**If yes—you're at risk for
Kidney Disease.**

The National Kidney Foundation Serving East Tennessee
Has a Kidney Early Evaluation Program (KEEP)™ Just For You.

Tuesday, April 28, 2009
9 am – 1 pm
St. Mary's of Campbell County
923 E. Central Ave.
Lafollette, TN 37766

Call for more info: 865.688.5481 Must Be 18 Years of Age or Older

LOVE YOUR KIDNEYS™



KEEP Participant

- **47-year-old woman**
- **African American**
- **Diabetes and Hypertension**
- **No family history of either condition or CKD**

- **No history of dialysis or kidney transplantation**



St. Charles Borromeo Church
211 West 141st Street, New York, NY 10030





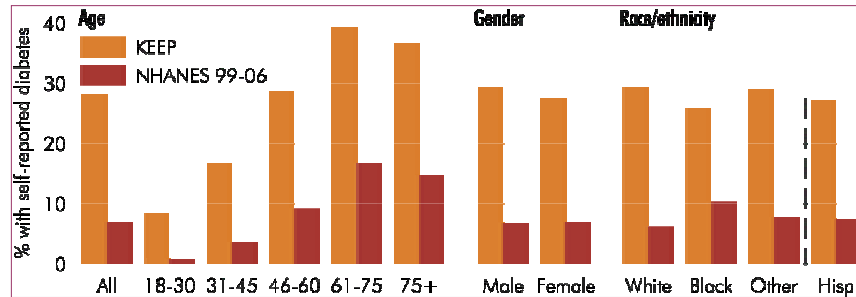




Events After the Screening



Self-reported Diabetes in KEEP & NHANES participants



KEEP: N= 88,812 for age
N= 88,752 for gender
N= 87,208 for race
N= 88,818 for ethnicity
NHANES:N=22,606

Self-reported diabetes: KEEP, self-reported diabetes, self-reported diabetic retinopathy, NHANES. To be classified as having self-reported diabetes, participants had to report being told by a doctor, at any time, that they had diabetes or sugar diabetes other than that related to pregnancy. Participants answering "borderline" to the question were classified as non-diabetic.



Distribution by Race and Ethnicity: KEEP 2000 to 2007 and NHANES 1999 to 2006

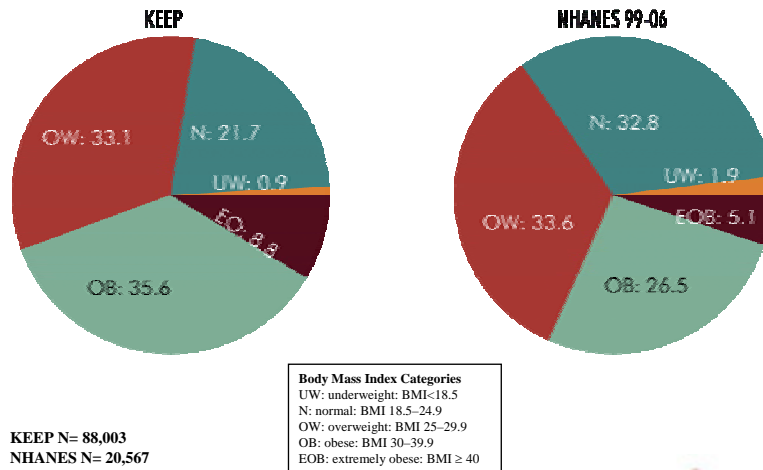
	KEEP		NHANES*	
	N	%	N	%
Race				
White	41,625	47.8	10,935	71.39
African American	29,603	34.0	4,799	11.31
Native American	3,904	4.5		
Asian/Pacific Islander	4,837	5.6		
Other race+	7,084	8.1	6,890	17.3
Ethnicity				
Non-Hispanic	78,422	87.6	16,492	87.23
Hispanic	11,130	12.4	6,132	12.77

*NHANES cohort is limited to persons age 18 and older
+In NHANES, Native Americans and Asian/Pacific Islanders cannot be identified from the "other" category.

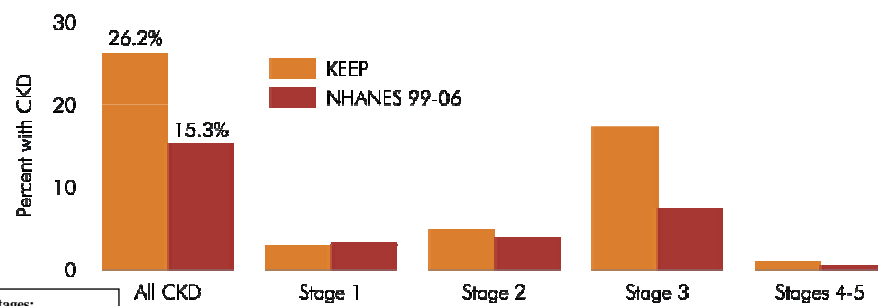
Vassalotti JA, et al. Seminars in Nephrology (in press)



BMI Distribution by Percent of KEEP & NHANES participants



Prevalence of CKD by stage in KEEP & NHANES participants




CKD Stages:
 Stage 1: eGFR ≥90 ml/min/1.73 m², and ACR ≥30 mg/g
 Stage 2: eGFR 60–89 ml/min/1.73 m², and ACR ≥30 mg/g
 Stage 3: eGFR 30–59 ml/min/1.73 m²
 Stage 4: eGFR 15–29 ml/min/1.73 m²
 Stage 5: eGFR <15 ml/min/1.73 m², or dialysis

KEEP: N=77,080
 NHANES: N= 19,551

CKD Definition: eGFR <60 mL/min/1.73 m² or eGFR ≥ 60 mL/min/1.73 m² and albumin-creatinine ratio (ACR) ≥30 mg/g. GFR estimated using the IDMS-traceable 4-variable Modification of Diet in Renal Disease (MDRD) Study equation for calibrated serum creatinine (Scr) values: $GFR = 175 \times \text{standardized Scr}^{-1.154} \times \text{age}^{-0.203} \times 1.212$ [African Americans] $\times 0.742$ [women].







Dear KEEP Participant (DOB: _____),


Thank you for participating in the National Kidney Foundation's health screening program (Kidney Early Evaluation Program - KEEP) that you attended on 5/16/2009.


Enclosed you will find information about your test results from the screening. All of your test results are listed below. If any of your results were outside of the normal range, an asterisk (*) has been placed next to them. We hope you will take the time to see your doctor if any of your health screening results were outside of the normal range.

1. Blood Pressure	217 / 103 mm Hg *
2. BMI	29.2 *
3. Waist Circumference	38 inches *
4. Blood Sugar	134 mg/dL *
5. Hemoglobin A1c	6.6 % of Total High
6. Albumin to Creatinine Ratio	76-300 mg/gm *
7. Estimated Glomerular Filtration Rate (eGFR)	88 mL/min (1.73 m ²)*
8. Hemoglobin	8.2 g/dL *
9. Total Cholesterol	187 mg/dL
10. LDL ("Bad") Cholesterol	73 mg/dL
11. HDL ("Good") Cholesterol	34 mg/dL
12. Triglycerides	108 mg/dL
13. PTH	79 pg/mL
14. Calcium	9.8 mg/dL
15. Phosphorus	3.4 mg/dL

Please refer to the attached report for more details on your test results. If you have any questions about your screening results or do not have access to healthcare, please contact me or Melissa Haney at the National Kidney Foundation at 1-800-622-9000.

Thank you again for your participation in the KEEP health screening program.

Sincerely,

 Melissa Haney
 Early Intervention Programs Director



30 East 34th Street • New York, New York 10016 • (212) 423-9600 • (212) 489-1200 • FAX (212) 776-8668

**47-year-old
African American
Woman
with
Diabetes and
Hypertension**

**Screening
Results Mailed
To Participant**

TEST RESULTS		
Here are your results. The tests are explained below.		
Test	Results	Recommendations
1. Blood Pressure	137/71 mmHg	Your blood pressure is high. Uncontrolled high blood pressure can damage your heart, kidneys, brain and eyes. See your doctor to determine what steps need to be taken to lower your blood pressure.
2. BMI	28.3 Overweight	Your BMI indicates your weight is too high. BMI is the ratio of your weight to height. People with a high BMI have a greater chance of developing type 2 diabetes, high cholesterol, high blood pressure and cardiovascular disease. Talk to your doctor to evaluate your BMI, waist circumference and other risk factors for chronic disease.
3. Waist Circumference	35 inches	Your waist circumference, or measurement of your waist size, is not within the desirable range. Larger waist circumference is associated with increased risk for type 2 diabetes, high cholesterol, high blood pressure and cardiovascular disease. Please speak to your doctor to discuss these results.
4. TESTS TO CHECK FOR DIABETES:		
a. Blood Sugar (Fasting)	134 mg/dL	Your fasting blood sugar level is high. You may have diabetes. High blood sugar can damage your heart, kidneys, brain and eyes. Review your hemoglobin A1c results to see how well your blood sugar has been controlled over the past 6-8 weeks. Please see your doctor as soon as possible to discuss these results and to determine if you have diabetes.
b. Hemoglobin A1c	6.1% of total Hgb	Your hemoglobin A1c shows your blood sugar levels have been within normal ranges over the past 6-8 weeks. You should have it rechecked at least once every year and see your physician if you have high, uncontrolled blood sugar or hemoglobin A1c.

Screening Date: 07/02/2018

**47-year-old
African American
Woman
with
Diabetes and
Hypertension**

**Screening
Results Mailed
To Participant**

- ER visit after event to address BP
- Third antihypertensive agent added to ARB and Diuretic.
- Primary care physician evaluated the patient subsequently.
- The patient lost 4 pounds.
- Successful tobacco cessation.
- Blood Pressure 120/80 mm Hg
- Next visit with primary care physician is scheduled in one month.

**47-year-old
African American
Woman
with
Diabetes and
Hypertension**

**Telephone
Follow up
8 weeks later**

KEEP FOLLOW-UP QUESTIONNAIRE

National Kidney Foundation
KEEP™ - Kidney Early Evaluation Program

If you have a doctor's appointment scheduled, please return this form **AFTER** your appointment.

NAME: _____ Participant ID Number _____ Date: _____

1. How helpful was the KEEP screening?
 Very helpful A little helpful Not helpful Do not recall

2. How satisfied were you with the KEEP health screening?
 Very satisfied A little satisfied Not satisfied Do not recall

3. Did the KEEP health screening change how you think about your health?
 Yes, a lot Yes, a little Not at all Do not recall

4. How much did you learn about your health from the screening?
 I learned a lot I learned a little I didn't learn much

5. What did you learn about your health from the KEEP screening?
 I learned that I have: [PLEASE CHECK ALL THAT APPLY]

High Blood Pressure (Hypertension)
 Diabetes (High sugar in the blood)
 High Cholesterol (High fats / Lipids in the blood)
 Anemia (low blood count) / Iron Deficiency
 A Calcium / Phosphorus Problem (Parathyroid problem)
 Kidney Problems [PLEASE CHECK WHICH KIDNEY PROBLEM]

Protein in my urine
 Chronic Kidney Disease
 No health problems
 No NEW health problems

Health Screening Follow-Up Form

