



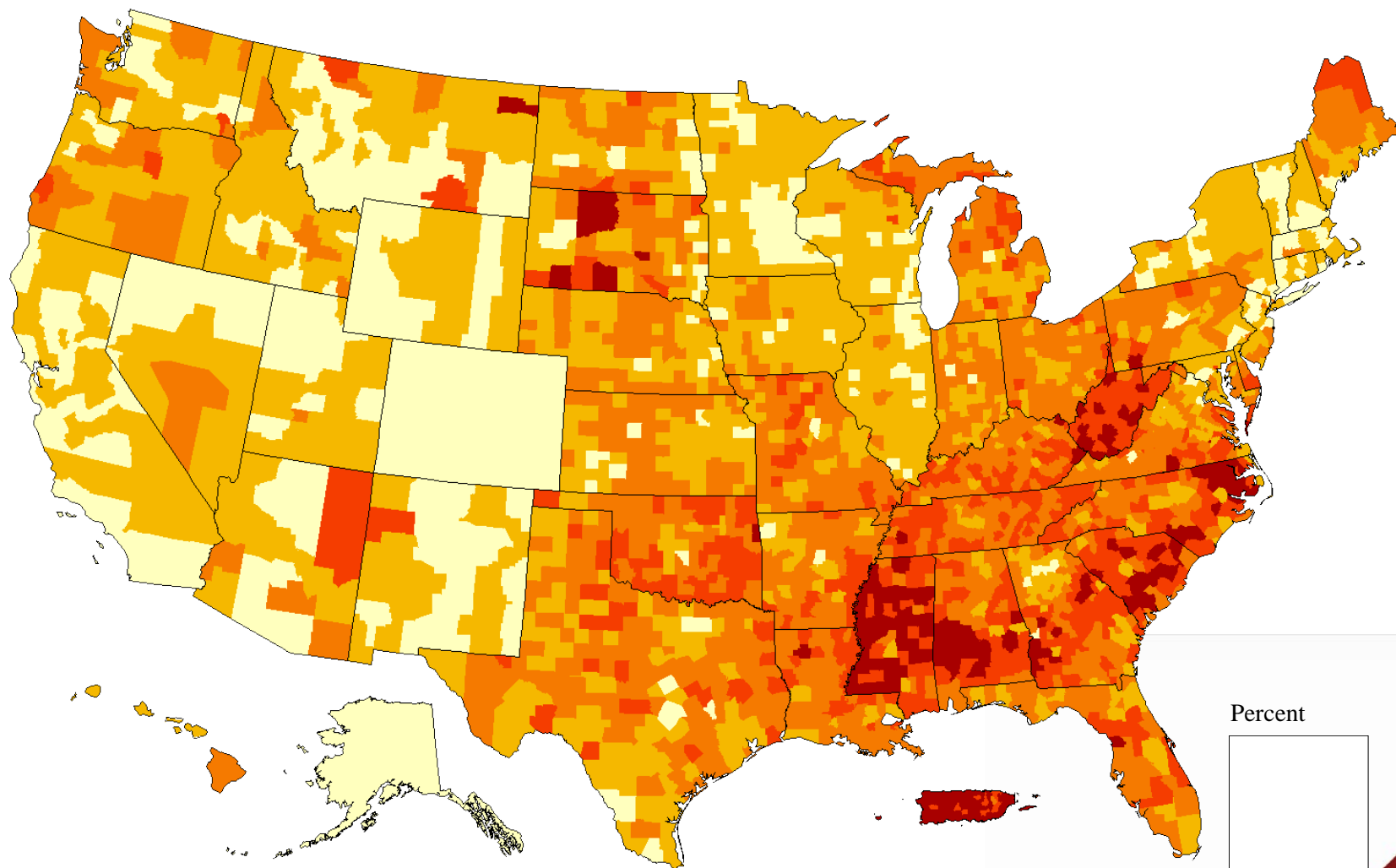
**CCDTR** CHICAGO CENTER FOR  
DIABETES TRANSLATION RESEARCH

# Overcoming Disparities in Diabetes Management: Real-World Strategies that Work

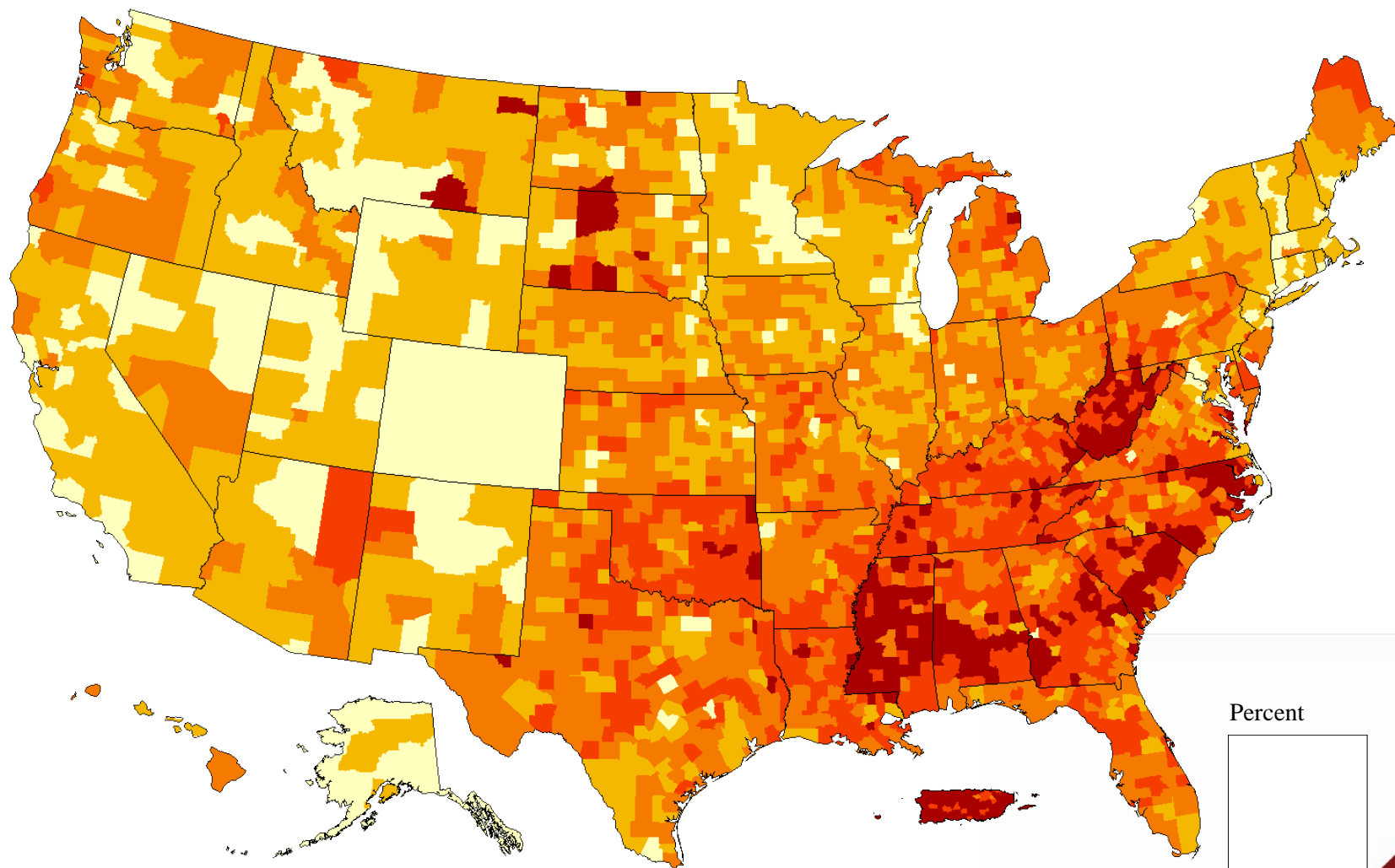
Monica E. Peek, MD, MPH  
University of Chicago

# **NATIONAL TRENDS IN DIABETES PREVALENCE**

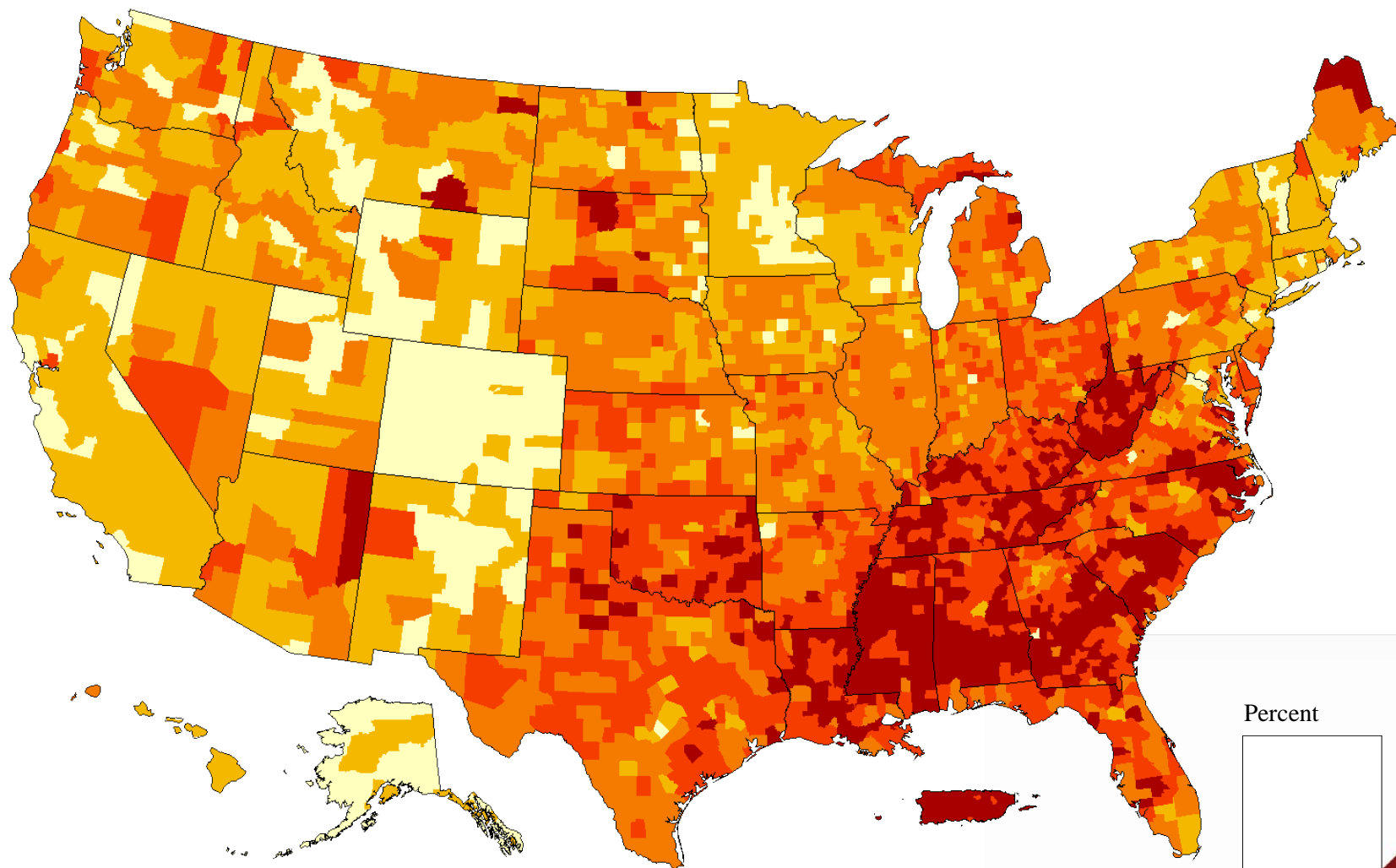
County-level Estimates of Diagnosed Diabetes among Adults aged  $\geq 20$  years:  
United States 2004



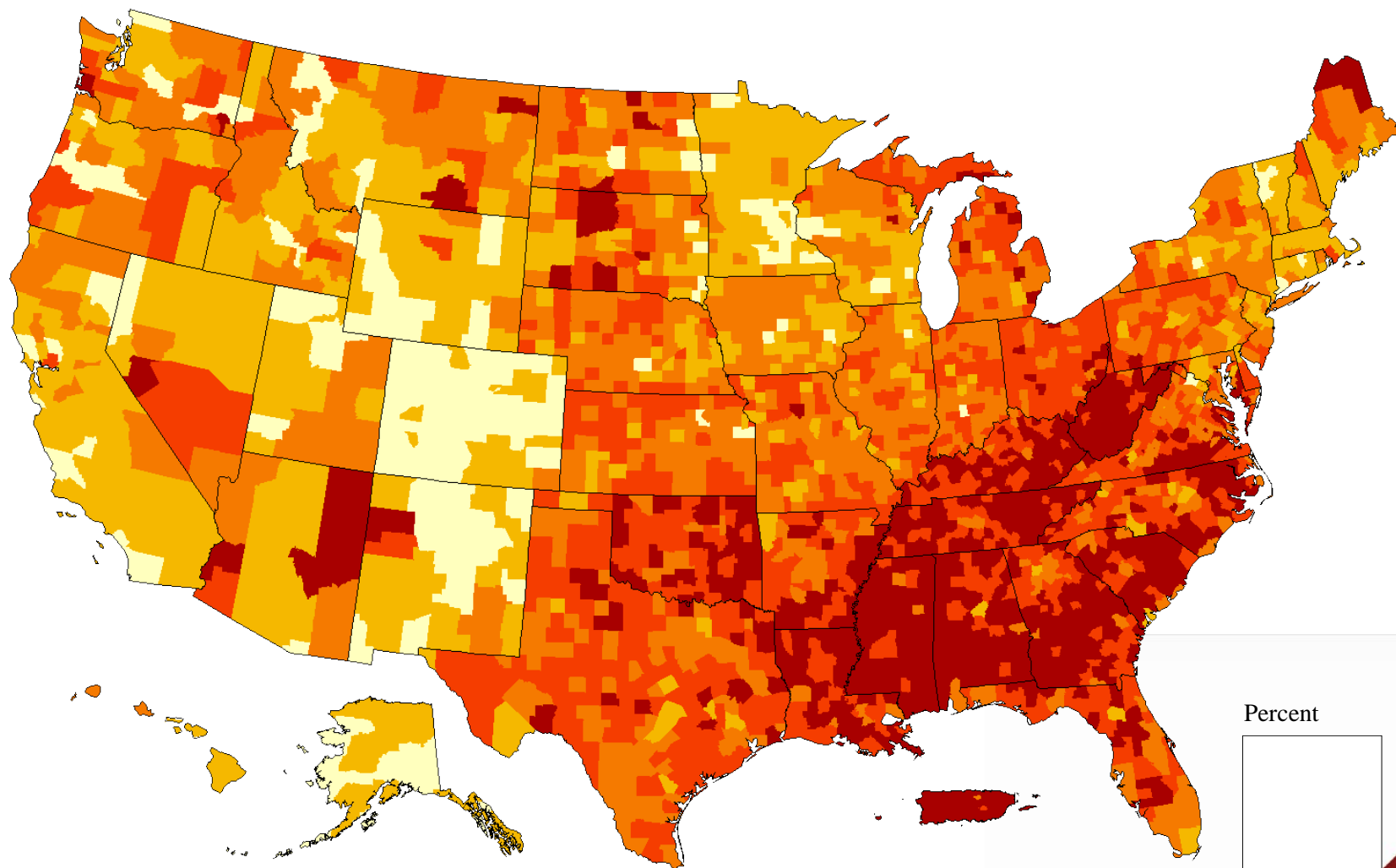
County-level Estimates of Diagnosed Diabetes among Adults aged  $\geq 20$  years:  
United States 2005



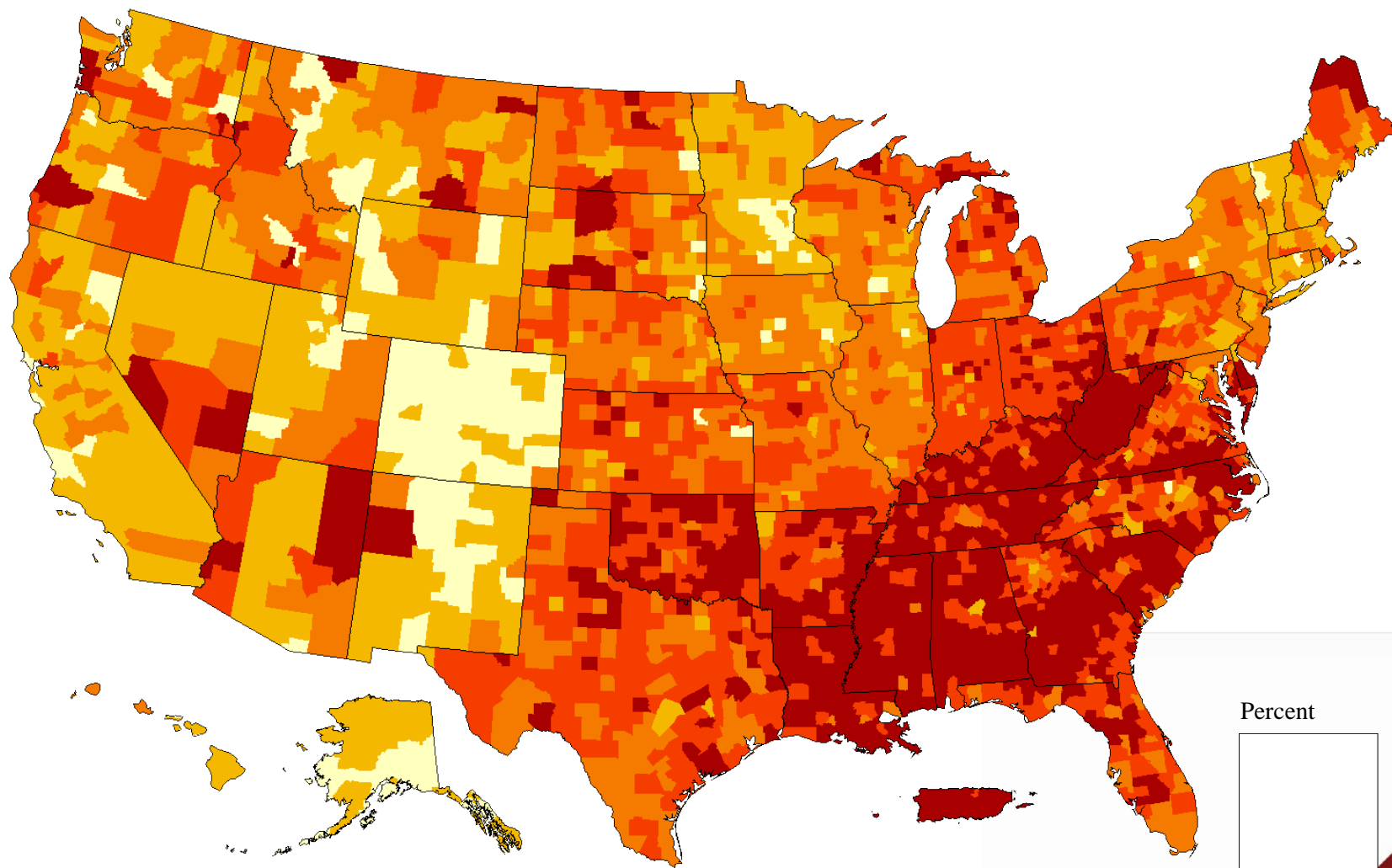
County-level Estimates of Diagnosed Diabetes among Adults aged  $\geq 20$  years:  
United States 2006



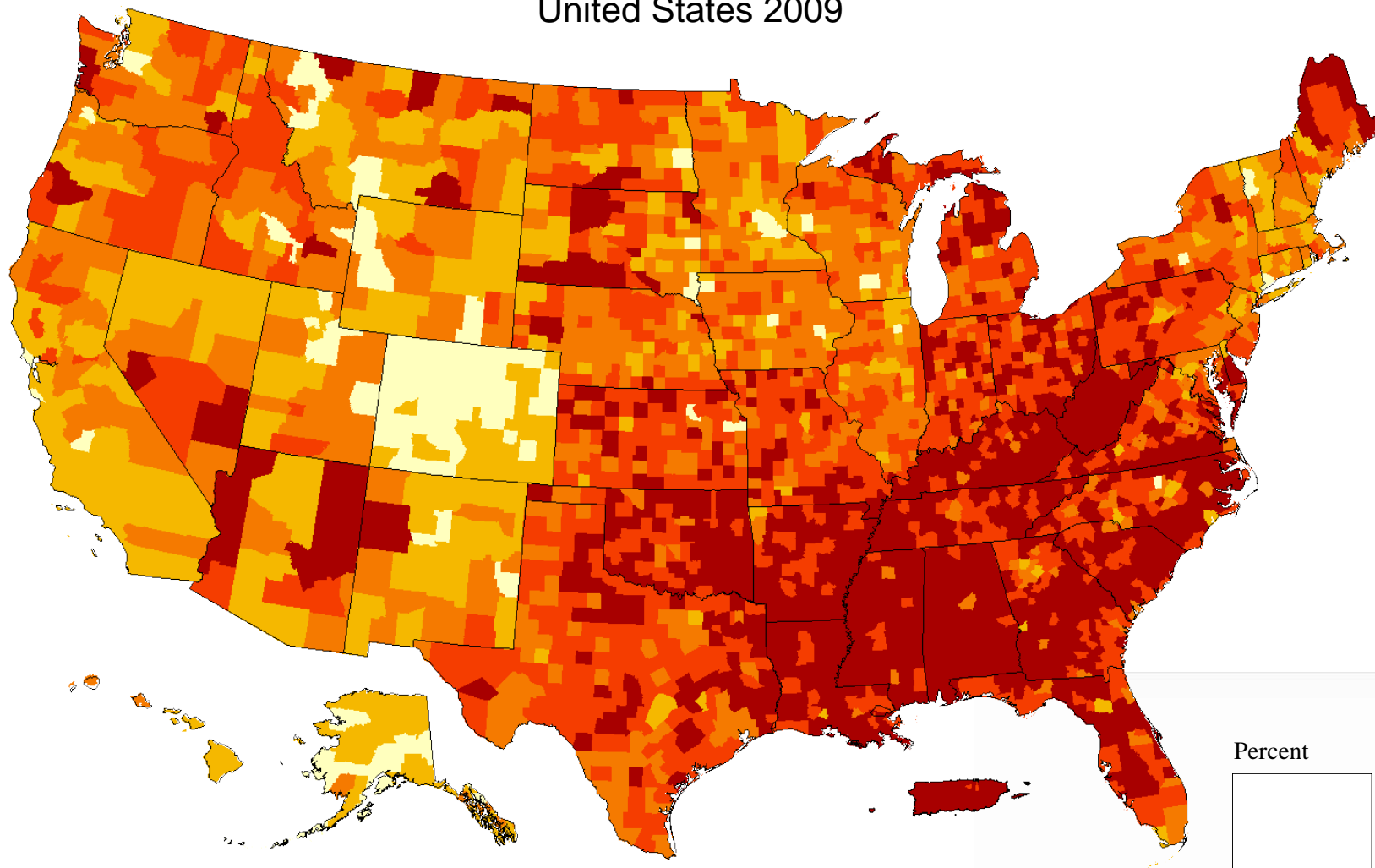
County-level Estimates of Diagnosed Diabetes among Adults aged  $\geq 20$  years:  
United States 2007



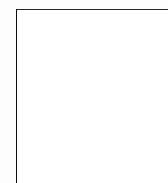
County-level Estimates of Diagnosed Diabetes among Adults aged  $\geq 20$  years:  
United States 2008



County-level Estimates of Diagnosed Diabetes among Adults aged  $\geq 20$  years:  
United States 2009



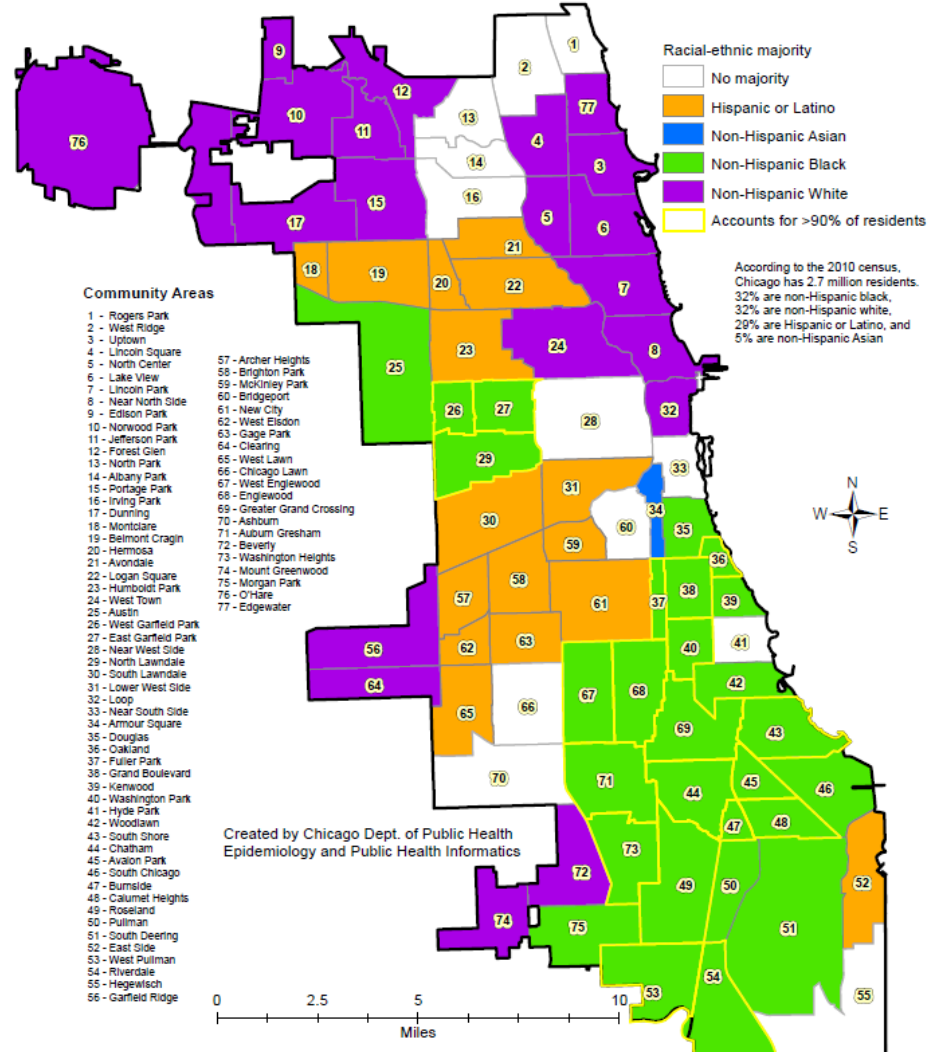
Percent



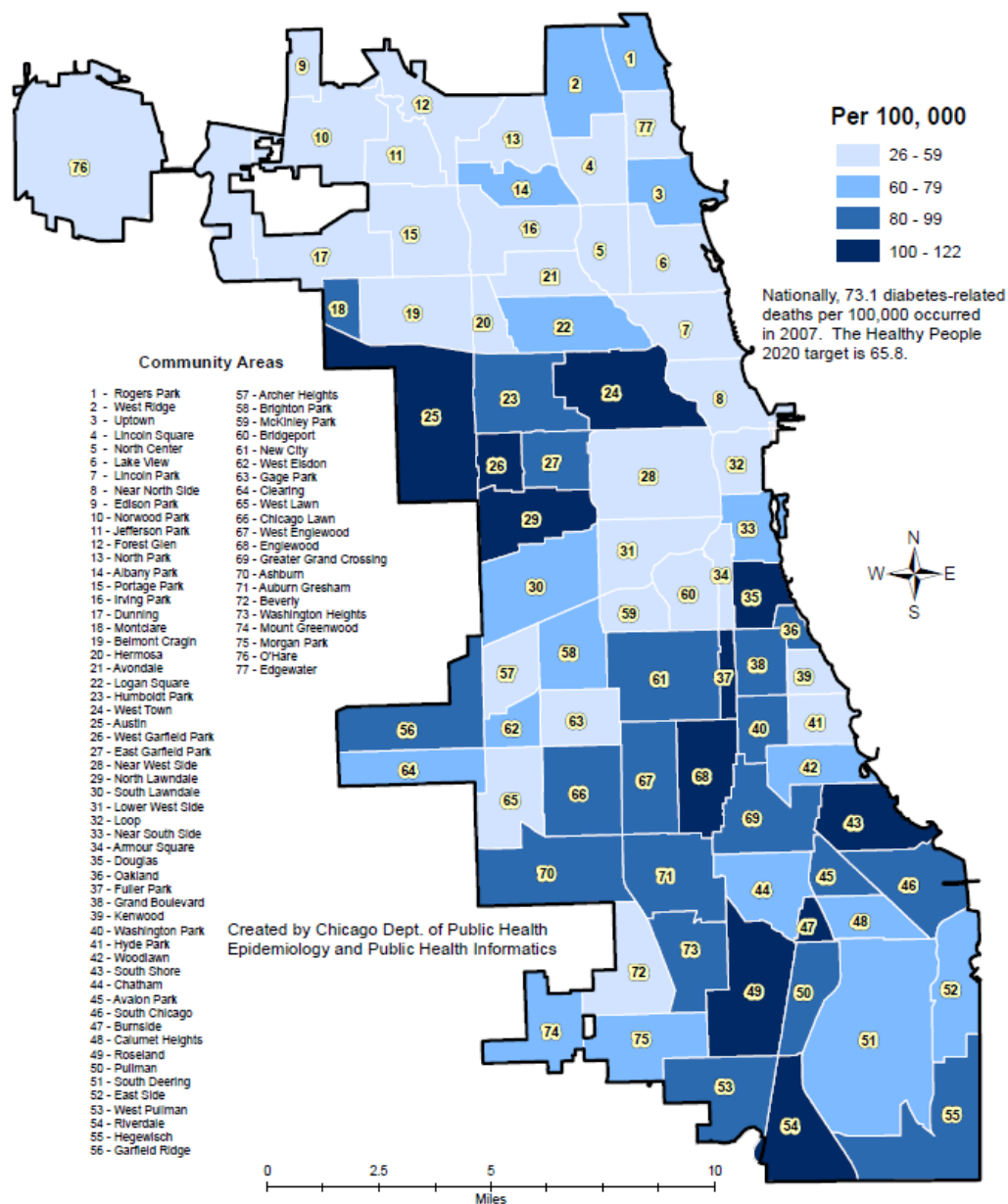


# **DIABETES DISPARITIES: CHICAGO**

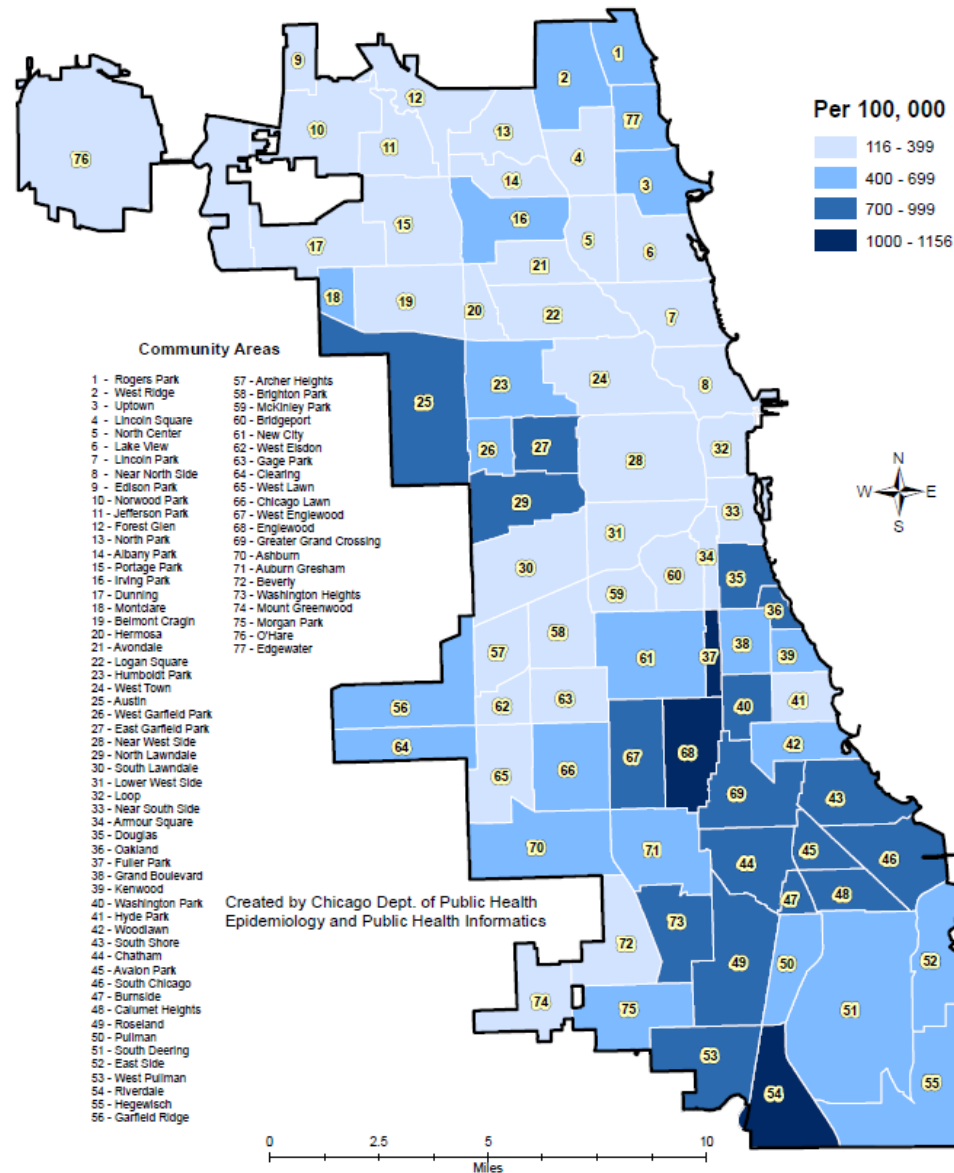
# Chicago community areas by the racial-ethnic group that accounts for a majority of residents, by 2010 U.S. Census counts



# Average annual adjusted diabetes-related mortality rate by Chicago community area, 2004 - 2008



# Average annual years of potential life lost (YPLL) rate for diabetes by Chicago community area, 2004 - 2008



# Diabetes Health Disparities

- 2 types of disparities:
  - Health care
  - ↓
  - Health status

# Diabetes Health Disparities

- 2 types of disparities:
  - Health care → Health systems change
  - ↓
  - Health status → Systems change *outside* HS

# Diabetes Health Disparities

- 2 types of disparities:
  - Health care → Health systems change
    - PROCESS measures
  - ↓
  - Health status → Systems change *outside* HS
    - OUTCOME measures

# Diabetes Disparities: Health Systems Contributors

- Differential Access
- Differential Treatment



# Diabetes Disparities: Health Systems Contributors

- Differential Access
  - Insured vs. Uninsured
  - Tiers of Insured
- Differential Treatment
  - Quality Improvement
  - Provider bias/cultural competency

# Diabetes Disparities: Non-Health Systems Factors

- Patients
- Families/Social support
- Communities/Social determinants

# Diabetes Disparities: Non-Health Systems Factors

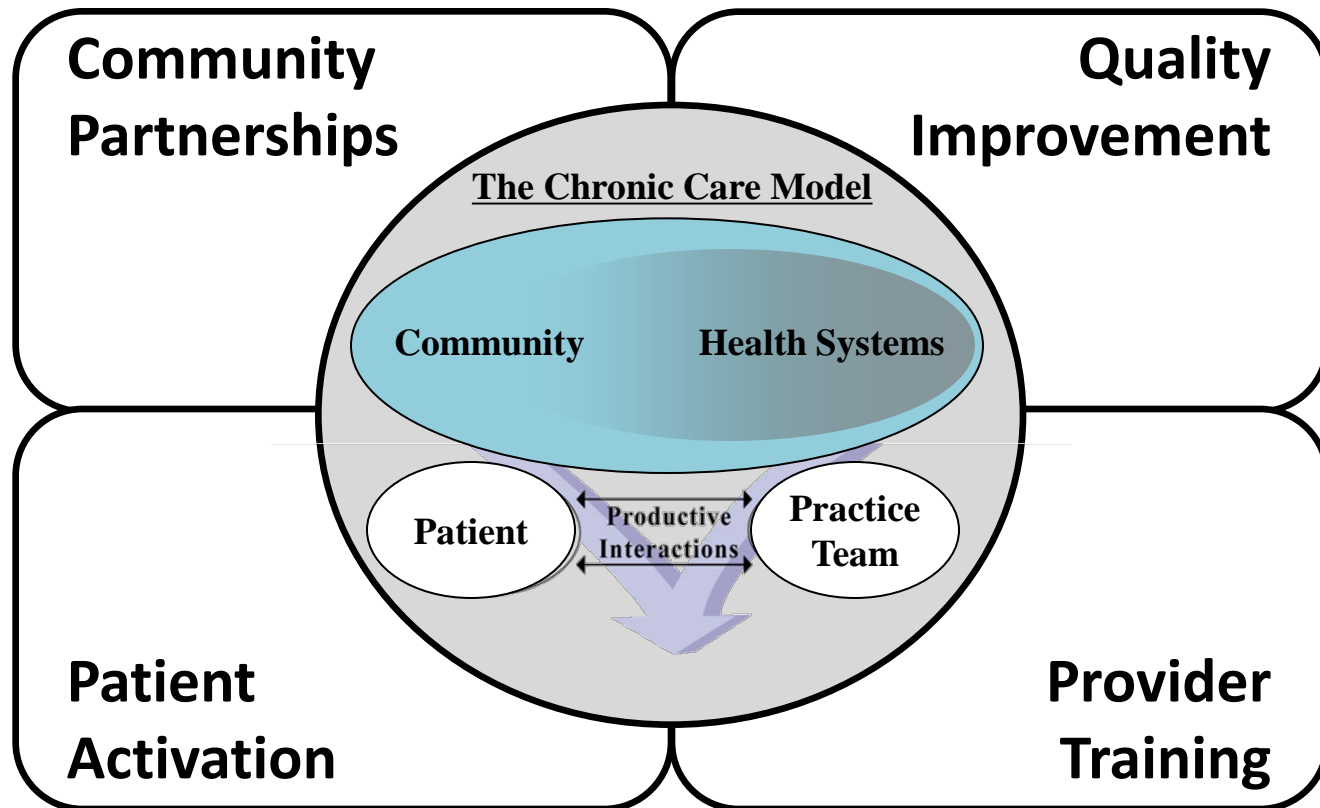
- Patients
  - Knowledge, attitudes, beliefs and behaviors
- Families/Social networks
  - Social norms, social support
- Communities/Social determinants
  - Built environment, food deserts, resources

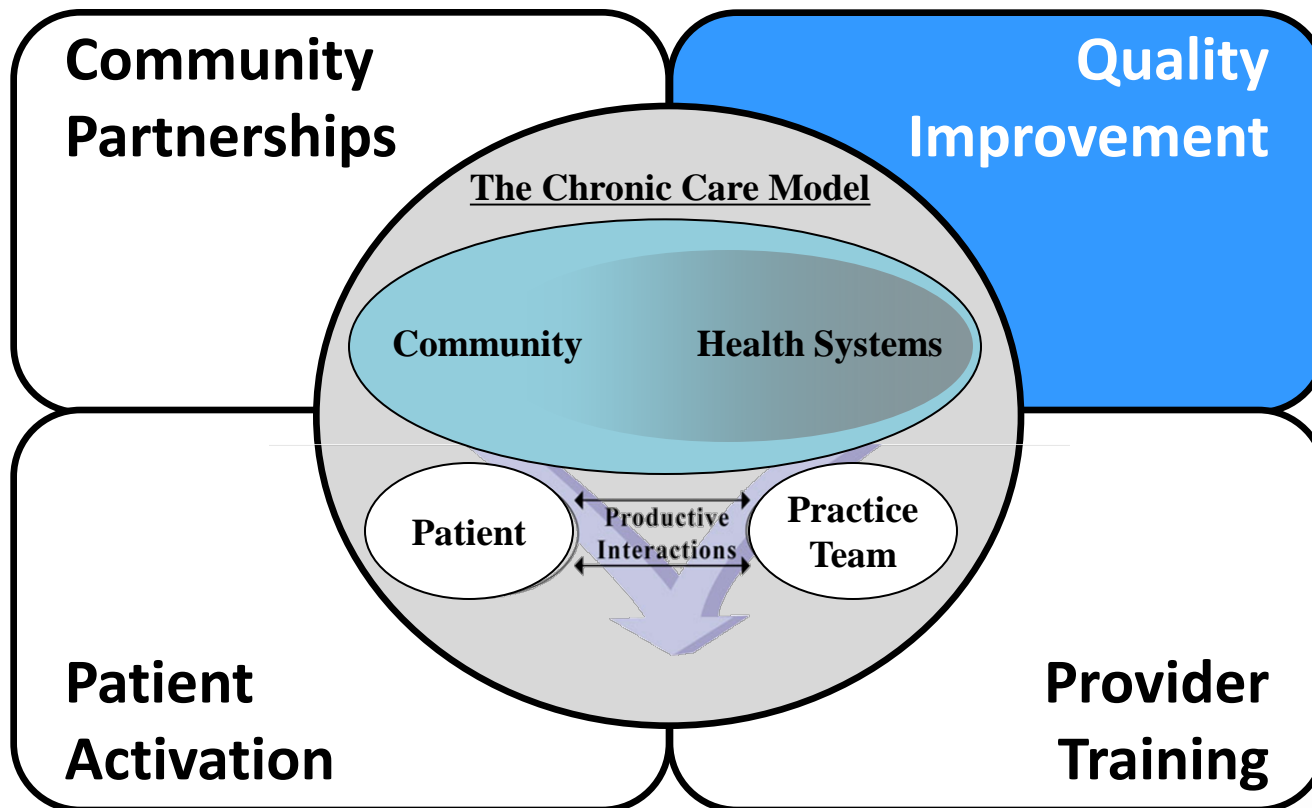
# Improving Diabetes Care and Outcomes on Chicago's South Side



- QI + Disparities
- Geographic areas
- Community + Healthcare systems
- Chronic care model

# Conceptual Model

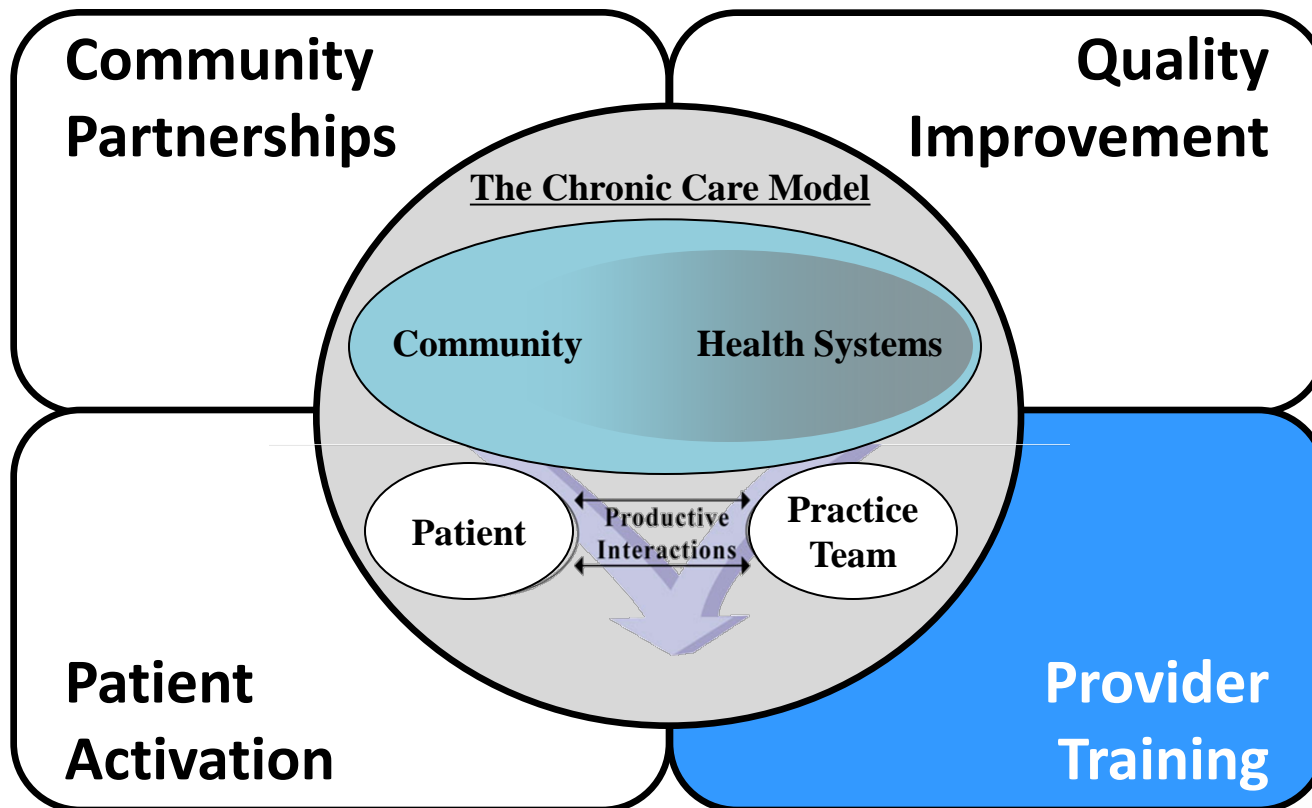




# Quality Improvement

- Nurse care management
- Diabetes group visits
- Care coordination
- Population Management
- TEAM-BASED CARE



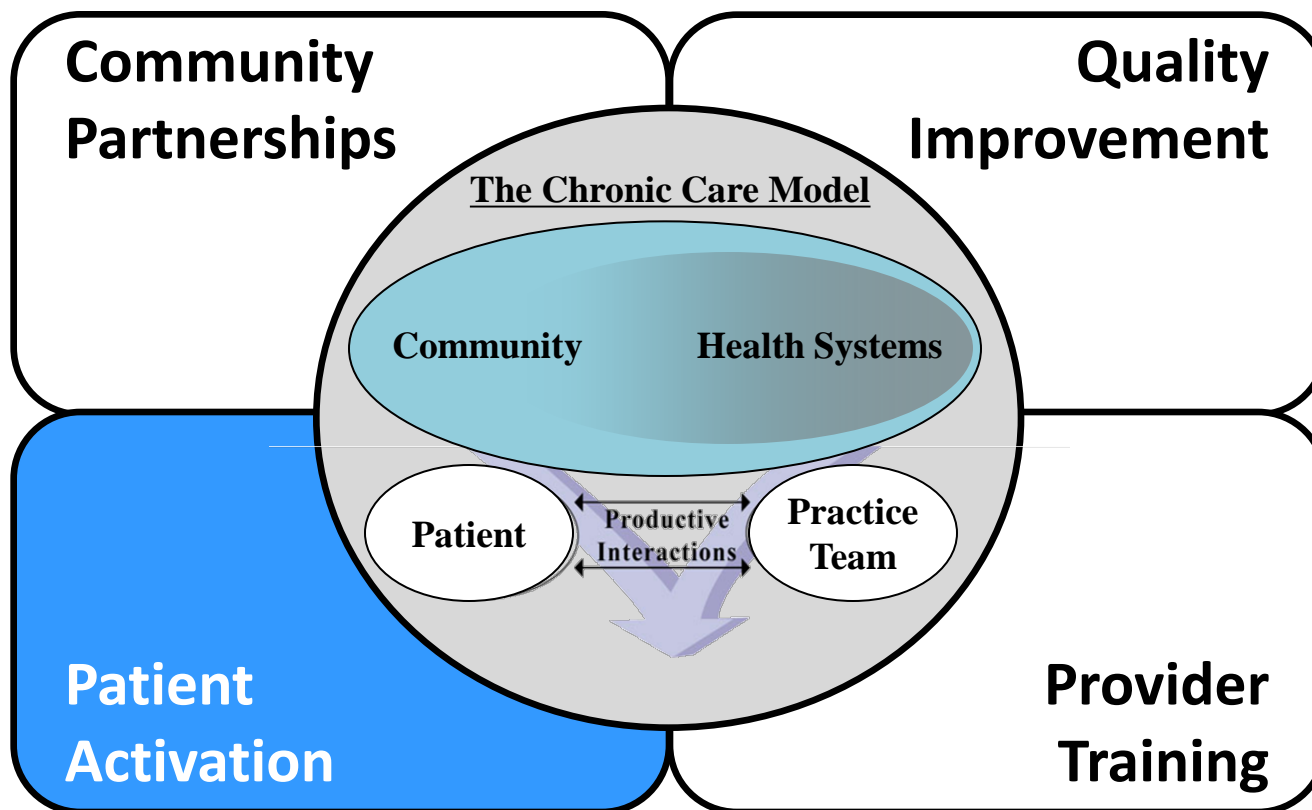




# Provider Intervention

- Provider communication training
  - Cultural competency
  - Behavioral change
  - Motivational Interviewing
  - Patient/provider communication and Shared Decision-Making
- Continuing medical education (CME)
  - Updates on management of diabetes hypertension, hyperlipidemia, etc.





# Patient Activation


- Patient communication training
  - Culturally tailored diabetes education
  - Shared decision-making
  - 2-3 hr classes x 10 weeks
- Community linkages
- Results:
  - 86% attended  $\geq$  70% classes
  - Improved self-efficacy, self-mgmt
  - Mean HbA1c: 8.3  $\rightarrow$  7.2
- Transition to support groups:
  - Mental health practitioners
  - Group-led focus
- Peer health educators



# Culturally Tailoring the Patient Empowerment Classes

## DEBATE

BASICS   DISCUSS   **DEBATE**   DECIDE



**Question 1:**

The doctor says he plans to increase your oral medication intake. You, the patient, do not like taking pills, you should :

### Option :

- a. Say you will take the pills and don't. You don't want to rock the boat these days
- b. Say you agree, but do what has been working for you, and keep taking the same amount
- c. Discuss other options with your doctor

### We recommend :

- c. Discuss other options with your doctor.



Can you also find this in the video ?

Designed by DD+D

# Leveraging Technology to Enhance Patient Self-Care and Health Care

- Interactive text message reminders w/ nurse care managers
- Improvements in:
  - Diabetes self-efficacy
  - Diabetes self-care
  - Quality of life
  - Diabetes control
  - Health care costs



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Volume 5, Issue 5, September 2011  
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DIABETES INFORMATION  
TECHNOLOGY

## Feasibility and Usability of a Text Message-Based Program for Diabetes Self-Management in an Urban African-American Population

Jonathan J. Dick, M.D.,<sup>1</sup> Shantanu Nundy, M.D.,<sup>1</sup> Marla C. Solomon, R.D., C.D.E.,<sup>1</sup>  
Keisha N. Bishop, B.S.H.A.,<sup>1</sup> Marshall H. Chin, M.D., M.P.H.,<sup>1,2,3</sup>  
and Monica E. Peek, M.D., M.P.H.<sup>1,2,3,4</sup>

### Abstract

#### Purpose:

We pilot-tested a text message-based diabetes care program in an urban African-American population in which automated text messages were sent to participants with personalized medication, foot care, and appointment reminders and text messages were received from participants on adherence.

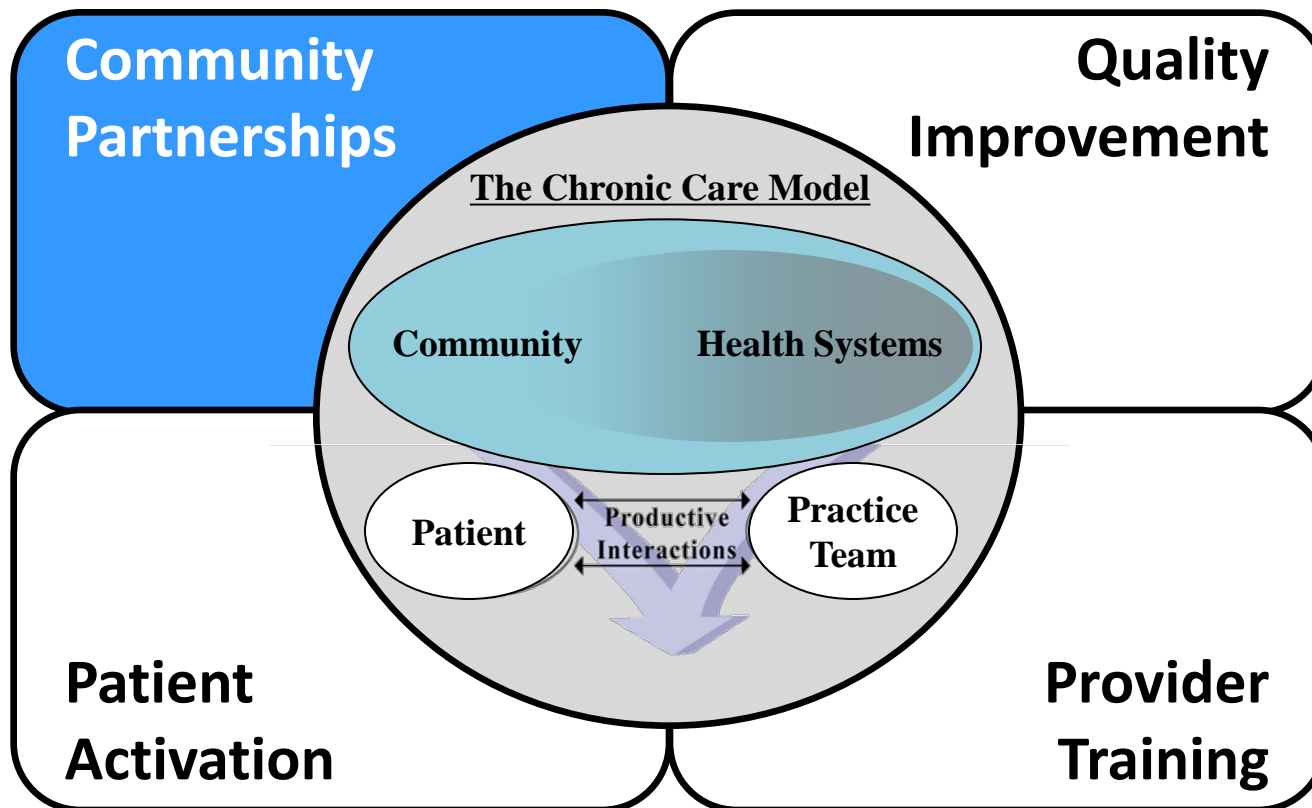
#### Methods:

Eighteen patients participated in a 4-week pilot study. Baseline surveys collected data about demographics, historical cell phone usage, and adherence to core diabetes care measures. Exit interview surveys (using close-ended and open-ended questions) were administered to patients at the end of the program. A 1-month follow-up interview was conducted surveying patients on perceived self-efficacy. Wilcoxon signed-rank tests were used to compare baseline survey responses about self-management activities to those at the pilot's end and at 1-month follow-up.

#### Results:

Eighteen urban African-American participants completed the pilot study. The average age was 55 and the average number of years with diabetes was 8. Half the participants were initially uncomfortable with text messaging. Example messages include: "Did you take your diabetes medications today?" and "How many times did you check your feet for wounds this week?" Participants averaged 220 text messages with the system, responded to messages 80% of the time, and on average responded within 6 minutes. Participants strongly agreed that text messaging was easy to perform and helped with diabetes self-care. Missed medication doses decreased from 1.6 per week to 0.6 ( $p = .003$ ). Patient confidence in diabetes self-management was significantly increased during and 1 month after the pilot ( $p = .002$ ,  $p = .008$ ).





# Community Outreach and Education

- Regular Source of Care
  - Urban Health Initiative
  - Over 4,000 pts connected to primary care providers
- Public Education
  - Television, Radio, Print
  - Community health venues
  - Center for Community Health & Vitality



# Community Partnerships

- KLEO Community Family Life Center
- Chicago Food Depository
- Save-A-Lot Grocery Store
- Walgreens
- Chicago Park District
- Farmer's Markets





# Prescriptions for Food and Exercise

- Chicago Park District
- Walgreens
- Farmer's Market
- Food Depository

Guidelines for Food for Health

THE UNIVERSITY OF CHICAGO MEDICINE

IMPROVING DIABETES CARE AND OUTCOMES ON THE SOUTH SIDE OF CHICAGO

www.SouthSideDiabetes.org (703) 702-2939

Provider \_\_\_\_\_ Patient \_\_\_\_\_

I recommend the following nutrition for this patient:

☐ Low Carb ☐ Low Fiber

☐ Low Fat ☐ Low Sodium

See the attached information sheet for food choices that will help you meet these guidelines.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

 Get \$5 off your healthy food purchase. See back for more information.


Present this Coupon to your pharmacist to receive

**\$5 OFF** your purchase of \$20 or more of healthy food

**Participating Chicago Locations**

<input type="checkbox"/> 1213 W. 79 <sup>th</sup> St. (79 <sup>th</sup> St. & Racine Ave.) (773) 651-2118	<input type="checkbox"/> 5036 S. Cottage Grove Ave. (Cottage Grove Ave. & 51 <sup>st</sup> St.) (773) 373-6266
<input type="checkbox"/> 8636 S. Ashland Ave. (Ashland Ave. & 87 <sup>th</sup> St.) (773) 238-1268	<input type="checkbox"/> 650 W. 63 <sup>rd</sup> St. (63 <sup>rd</sup> St. & Halsted Pkwy.) (773) 994-4467
<input type="checkbox"/> 2015 E. 79 <sup>th</sup> St. (79 <sup>th</sup> St. & Jeffrey Blvd.) (773) 734-2492	<input type="checkbox"/> 2924 E. 92 <sup>nd</sup> St. (92 <sup>nd</sup> St. & Commercial Ave.) (773) 721-6603
	<input type="checkbox"/> 1533 E. 67 <sup>th</sup> Place (67 <sup>th</sup> Pl. & Stony Island Ave.) (773) 493-0733

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## Save-A-Lot Grocery Store partnership







## The KLEO partnership







## The KLEO partnership



# COMMUNITY CASE STUDIES

By Monica E. Peek, Abigail E. Wilkes, Tonya S. Roberson, Anna P. Goddu, Robert S. Nocon, Hui Tang, Michael T. Quinn, Kristine K. Bordenave, Elbert S. Huang, and Marshall H. Chin

## Early Lessons From An Initiative On Chicago's South Side To Reduce Disparities In Diabetes Care And Outcomes

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HEALTH AFFAIRS 31,  
NO. 1 (2012): 177-186  
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The People-to-People Health  
Foundation, Inc.



**ABSTRACT** Interventions to improve health outcomes among patients with diabetes, especially racial or ethnic minorities, must address the multiple factors that make this disease so pernicious. We describe an intervention on the South Side of Chicago—a largely low-income, African American community—that integrates the strengths of health systems, patients, and communities to reduce disparities in diabetes care and outcomes. We report preliminary findings, such as improved diabetes care and diabetes control, and we discuss lessons learned to date. Our initiative neatly aligns with, and can inform the implementation of, the accountable care organization—a delivery system reform in which groups of providers take responsibility for improving the health of a defined population.

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**Tonya S. Roberson** is a project manager in the Section of General Internal Medicine, University of Chicago.

**Anna P. Goddu** is a project manager in the Section of General Internal Medicine, University of Chicago.

**Robert S. Nocon** is a health services researcher in the Section of General Internal Medicine, University of Chicago.

**Hui Tang** is a consultant at the Nielsen Company, in Chicago.

**Michael T. Quinn** is a senior research scientist in the

Racial and ethnic disparities in diabetes care and outcomes arise from multiple causes. These include differential access to high-quality health care, healthy food, and opportunities for safe recreation; cultural traditions regarding cooking; beliefs about disease and self-management; distrust of medical care providers; and socioeconomic status. Consequently, the solution must be multifactorial. Improving patients' knowledge and increasing their motivation to make healthy lifestyle changes will have minimal impact if their limited

and practice are encouraging greater interaction and collaboration among health care providers and communities. One driver of this collaboration is the creation of accountable care organizations, as authorized under the Affordable Care Act of 2010.<sup>4</sup> Accountable care organizations are likely to have financial incentives to take responsibility for broad health care outcomes and costs for a defined population. Thus, accountable care organizations are potentially motivated to prioritize evidence-based prevention strategies that build on community resources and create a continuum of care from community settings to

# Thank you!



- Merck Company Foundation
- NIDDK R18 DK083946
- NIDDK P30 DK092949
- NIDDK K23 DK075006
- NIDDK K24 DK071933
- University of Chicago CTSA Pilot and Collaborative Translational and Clinical Studies Award

[www.southsidediabetes.org](http://www.southsidediabetes.org)