Collaborating to Advance Health Equity for Diabetes and Chronic Kidney Disease (CKD)

Wednesday, February 10, 2021
10:00 am - 3:00 pm ET
Information

• Webex “panelists”: Please mute your microphone
• Webex “attendees”: Please ask questions via Q&A function in Webex
• This event will be recorded and posted (with slides, after the event) at: www.pharmacy.umaryland.edu/health-equity
• Biographies available at above website
• Questions: aanonsen@umd.edu
• Lunch break: 11:15-12:30 pm ET
• Break: 1:45-2:00 pm ET
Opening Remarks

10:00 – 10:15 a.m.
Opening Remarks
RADM Richardae Araojo, PharmD, MS
FDA Associate Commissioner for Minority Health and
Director of the Office of Minority Health and Health Equity
Keynote
Lashawn McIver MD, MPH
Director, CMS Office of Minority Health
SESSION 1: 10:15 - 11:30 a.m.

Using Patient Experience Data and Community/System Approach to Inform Care, Drug Development and the Overall Research Agenda
Moderator
Chanel F. Whittaker, PharmD, BCPS, CGP, FASCP
Associate Professor, University of Maryland School of Pharmacy
Richard Knight, MBA
President of the American Association of Kidney Patients (AAKP) Board of Directors
Rich Knight, MBA - President
The Largest Kidney Patient Organization

- Lecturer – Bowie State University College of Business
- **Personal Opportunities Afforded to Me to Impact Policy**
  - NIH/NIDDK Advisory Council Member
  - Co-Chair NIDDK Strategic Plan - Participant Engagement Subgroup
  - Co-Chair – CEC – Kidney Precision Medicine Project (NIH/NIDDK)
  - Member – HHS/Scientific Registry Transplant Recipients (SRTR) – Review Committee
  - Co-Chair – HHS/SRTR Patient & Family Sub-Committee
  - Founding Member – Making Dialysis Safe Coalition (CDC)
  - Kidney Health Initiative (ASN/FDA)
  - Clinical Trial Transformation Initiative (Duke/FDA)
  - Acute Kidney Injury Workgroup
  - Rare Disease Diversity Coalition
  - Diabetic Kidney Disease with Industry – Clinical Trials/Advisory Committees
AAKP Priorities

• **Respect** and **preserve** the relationship between kidney patients and the doctors they choose.

• **Protect** and **expand** kidney patient **consumer care choice** in all policies that impact access to patient care, treatment and health outcomes.

• **Accelerate** and **enhance innovation** in diagnostics, biologics and devices through substantive inclusion of patient insights across the product development lifecycle and payment decisions.
Patrick Gee, PhD
Kidney Health Initiative (KHI) Patient Family Partnership Council (PFPC) Members
Collaborating to Advance Health Equity for Diabetes and Chronic Kidney Disease (CKD)

Rana Malek
Associate Professor
Endocrinology and Diabetes Fellowship Program Director
University of Maryland School of Medicine
Disclosures

• Nothing to disclose
Age-adjusted Diabetes Mortality Rate, Maryland 2001-2010

Redlining as a Tool of Segregation

- 1933: U.S. housing shortage
- 1934: Federal Housing Administration established to provide housing to white, middle-class, lower-middle-class families
- FHA subsidized entire housing subdivisions for whites — with the requirement that none of the homes be sold to African-Americans
- FHA refused to insure mortgages in and near Black neighborhoods (red-lining)
- Resulted in generational wealth gap
“Health is the product of the interactions among biology, genetics, behavior, relationships, cultures, and environment”
What are the Social Determinants of Health?
The Socio-Biologic Cycle of Diabetes

Current interventions focus here

Social determinants of health

Material deprivation

Chronic stress

Social Consequences

DIABETES

Managed conditions

Lifestyle factors

Biological and Psychological responses

Hill et al. Perm J 2013 Spring; 17 (2):67-72
Health Equity is the only way to address this disparity
Ann Bullock, MD
Director, Division of Diabetes Treatment and Prevention, Indian Health Service
Diabetes and CKD in the Indian Health System

Ann Bullock, MD
Director
Division of Diabetes Treatment and Prevention
Indian Health Service
Indian Health Service (IHS)

- Agency within the Dept. of Health and Human Services
- Serves members of 574 federally-recognized Tribes in 37 states
  - 2.56 million American Indians and Alaska Natives (AI/AN)
- IHS/Tribal/Urban (I/T/U) Health System
  - **IHS** provides direct health care services at many sites
    - 26 Hospitals, 55 Health Centers, 21 Health Stations
  - **Tribes** have the right to assume control and management of programs—over 60% of the IHS appropriation is administered by Tribes
    - 19 Hospitals, 280 Health Centers, 62 Health Stations, and 134 Alaska Village Clinics
  - **Urban** Indian Organizations provide various levels of clinical and resource services
Diabetes in AI/AN People

• Prevalence of type 2 diabetes was rising in AI/ANs
• In response, IHS:
  • Established the National Diabetes Program: 1979
  • IHS Diabetes Standards of Care: 1986
  • Started the Diabetes Care and Outcomes Audit: 1986
  • Promoted comprehensive team-based approaches to diabetes care in primary care settings
• Special Diabetes Program for Indians (SDPI)
  • Established by Congress in 1997
  • Today provides funds to 301 I/T/U grant programs for diabetes prevention and treatment
• IHS Division of Diabetes provides national support
### Percent of SDPI Programs Reporting Diabetes Services

<table>
<thead>
<tr>
<th>Intervention</th>
<th>1997</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes clinical teams</td>
<td>30%</td>
<td>95%</td>
</tr>
<tr>
<td>Diabetes patient registries</td>
<td>34%</td>
<td>96%</td>
</tr>
<tr>
<td>Nutrition services for adults</td>
<td>39%</td>
<td>94%</td>
</tr>
<tr>
<td>Access to registered dietitians</td>
<td>37%</td>
<td>85%</td>
</tr>
<tr>
<td>Access to physical activity specialists</td>
<td>8%</td>
<td>84%</td>
</tr>
<tr>
<td>Access to culturally tailored diabetes education materials</td>
<td>36%</td>
<td>96%</td>
</tr>
<tr>
<td>Adult weight management programs</td>
<td>19%</td>
<td>76%</td>
</tr>
<tr>
<td>Nutrition services for children and youth</td>
<td>65%</td>
<td>90%</td>
</tr>
<tr>
<td>Community-based physical activity programs for children and youth</td>
<td>13%</td>
<td>85%</td>
</tr>
<tr>
<td>Physical activity programs for school-age youth</td>
<td>9%</td>
<td>83%</td>
</tr>
</tbody>
</table>

Source: Evaluation of the SDPI Community-Directed Diabetes Programs
Context of Diabetes

- Many life factors can make it difficult for patients to control diabetes and access healthcare
  - Poverty, food insecurity
  - Lack of transportation, child care, elder care, sick leave, housing
  - Chronic stress directly affects diabetes
- Diabetes care is a marathon, not a sprint
  - Preventing/delaying complications, (e.g., kidney failure) requires control of risk factors over many years
  - To reduce kidney failure rates, health care systems need to:
    - Take the long view on costs, outcomes
    - Work with all patients, including those who have challenges with clinic attendance, affording medicines, achieving targets
    - Actively engage communities as partners, value cultures as strengths
    - Go beyond medical care
      - Assess the communities where patients live, work with local governments and community organizations to make improvements
Diabetes-related mortality decreased by 37%.

New cases of kidney failure decreased by 54% in AI/AN adults.

Hospitalizations for uncontrolled diabetes decreased by 84%.
Andrea Furia-Helms, MPH
Director, Office of Patient Affairs, FDA
How FDA Involves Patients and Advocates

Andrea Furia-Helms, MPH
Office of Patient Affairs
Office of Clinical Policy and Programs
Office of the Commissioner

Collaborating to Advance Health Equity for Diabetes and Chronic Kidney Disease (CKD)
February 10, 2021
Overview

Understanding patient engagement at FDA
The Importance of the Patient Voice

- Insights on issues, needs and priorities that are important to patients and caregivers
- Diverse opinions and experiences
- Insights on risk tolerance and potential benefit
- Real world experience

Patients are at the heart of FDA’s work!
Patient Affairs

Who we are

• Small team in the Office of the Commissioner dedicated to providing an inviting, welcoming and meaningful experience for patient communities to engage with the FDA

What we do

• Lead patient engagement activities across the medical product Centers through:
  o Cross-cutting programs and activities
  o Public-private collaborations and partnerships
  o Enhance external communication platforms
Patient Affairs initiatives

Cross-center patient activities
What is an FDA Patient Listening Session?

- One of the many ways that patients can share their experience living with and managing a disease or condition

- Patients & caregivers can talk directly with FDA scientific staff

- A resource for FDA’s medical product Centers to quickly engage with patients or their advocates
Patient Engagement Collaborative

- FDA & Clinical Trials Transformation Initiative (CTTI)
- EMA’s Patients’ and Consumers’ Working Party (PCWP) model
- Purpose: Discussions about engaging patients in medical product development and regulatory discussions
Resources
Tools and resources for engagement
Questions & Meeting Requests

www.fda.gov/PatientsAskFDA
Patient Engagement Across FDA

FDA Office of Patient Affairs:
PatientAffairs@fda.gov
https://www.fda.gov/patients/about-office-patient-affairs

FDA Patient Representative Program:
FDAPatientRepProgram@fda.hhs.gov
https://go.usa.gov/xfB4h

Patient Engagement Initiatives:
https://go.usa.gov/xfBdx
CDRH_PatientEngagement@fda.hhs.gov

Patient Engagement Meeting Requests:
CDRH_PatientMeetings@fda.hhs.gov

CDRH’s Division of Industry and Consumer Education:
DICE@fda.hhs.gov

CBER’s Patient Engagement Initiatives:
CBERPatientEngagement@fda.hhs.gov

Office of Communication, Outreach and Development:
OCOD@fda.hhs.gov

Professional Affairs and Stakeholder Engagement:
https://go.usa.gov/xfBpG
CDERPASE@fda.hhs.gov

CDER Division of Drug Information:
https://go.usa.gov/xfBpM
DrugInfo@fda.hhs.gov

Patient Focused Drug Development:
https://go.usa.gov/xfBph
patientfocused@fda.hhs.gov
Questions and Answers
Lunch Break

11:30 – 12:30 p.m.
SESSION 2: 12:30-1:45 p.m.

Diversity in Clinical Trials in Diabetes and Chronic Kidney Disease (CKD)
Moderator
Christine Lee, PharmD, PhD
Strategic Research Engagement Lead, FDA OMHHE
FDA Encourages Diversity

• Study and Evaluation of Gender Differences in the Clinical Evaluation of Drugs, 1993
• Studies in Support of Special Populations: Geriatrics, 1994
• Collection of Race and Ethnicity Data in Clinical Trials, 2016
• Evaluation and Reporting of Age-, Race-, and Ethnicity-Specific Data in Medical Device Clinical Studies, 2017
• Pediatric Information Incorporated Into Human Prescription Drug and Biologic Product Labeling, 2019
• Enhancing the Diversity of Clinical Trial Populations—Eligibility Criteria, Enrollment Practices, and Trial Designs, 2020
• Draft Guidance: Inclusion of Older Adults in Cancer Clinical Trials, 2020
• Development and Licensure of Vaccines to Prevent COVID-19, 2020
• On COVID-19: Developing Drugs and Biological Products for Treatment or Prevention, 2020
FDA Requires Reporting
Final Demographic Rule 1998

- IND: tabulate the trial population by age, gender, and race in annual reports per 21 CFR § 312.33(a)(2) - IND annual report regulations

- NDA: tabulate and analyze safety and efficacy by age, gender, and race per 21 CFR §314.50 (d)(5) - NDA content and format
Drug Trials Snapshots
Commitment to Transparency

• Transparency effort that provides the public with information about who participated in clinical trials that supported the FDA approval of new drugs
• Newly-approved drugs and biologics (NMEs and BLAs)*
• Published within 30 days of approval
• Highlight any differences in the benefits and side effects among sex, race, and age groups

*New Molecular Entities and original Biologic Licensing Applications
<table>
<thead>
<tr>
<th>Drug Trials Snapshot</th>
<th>Active Ingredient</th>
<th>Date of FDA Approval</th>
<th>What Is It Approved For</th>
<th>Prescribing Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACRIFLIXER</td>
<td>ferric maltol</td>
<td>July 25, 2019</td>
<td>Treatment of low iron stores</td>
<td>Acnifer</td>
</tr>
<tr>
<td>ADAKYCO</td>
<td>citrullinocitrat-1</td>
<td>November 15, 2019</td>
<td>Treatment of vasculopathic crises in patients with sickle cell disease.</td>
<td>Adakveo</td>
</tr>
<tr>
<td>ADDENI</td>
<td>rilfenosin</td>
<td>August 18, 2013</td>
<td>Treatment of acquired, generalized hypoactive sexual desire disorder (HSDD) in premenopausal women</td>
<td>Addyi</td>
</tr>
<tr>
<td>ADILYNIN</td>
<td>lienanate</td>
<td>July 27, 2016</td>
<td>Improvement of blood sugar control in adults with diabetes mellitus (DM) type 2 when used in addition to diet and exercise</td>
<td>Adlynin</td>
</tr>
<tr>
<td>AEMCLOCO</td>
<td>rifamylcina</td>
<td>November 16, 2018</td>
<td>Treatment of traveler’s diarrhea in adults</td>
<td>AemcoLO</td>
</tr>
<tr>
<td>AIMOVIG</td>
<td>aminosul-fumar</td>
<td>May 17, 2018</td>
<td>Preventive treatment of migraine in adults</td>
<td>Aimovig</td>
</tr>
<tr>
<td>AJOVY</td>
<td>fremanezumab-farr</td>
<td>September 14, 2018</td>
<td>Preventive treatment of migraine in adults</td>
<td>Ajovy</td>
</tr>
<tr>
<td>AKLIFEN</td>
<td>trifluridine</td>
<td>October 4, 2019</td>
<td>For the topical treatment of acne vulgaris in patients 9 years of age and older</td>
<td>Aklif</td>
</tr>
<tr>
<td>AKNYZEO</td>
<td>fosunepitab and palonosetn</td>
<td>April 10, 2018</td>
<td>Prevention of the nausea and vomiting that happens right away or later in adults receiving certain anticancer medicines (chemotherapy)</td>
<td>Aksynze</td>
</tr>
<tr>
<td>ALECEMSA</td>
<td>alemtuzumab</td>
<td>December 11, 2015</td>
<td>Treatment of metastatic non-small cell lung cancer</td>
<td>Alecensa</td>
</tr>
</tbody>
</table>
2015-2019
DRUG TRIALS SNAPSHOTS
SUMMARY REPORT
Five-Year Summary and Analysis of Clinical Trial Participation and Demographics
US Participation by Race
Ethnicity Distribution

Global
Total Participants = 292,537
(Country data missing for 229 participants)

United States
Total Participants = 102,595

Rest of the World
Total Participants = 189,942
US Participation by Ethnicity

2018 Hispanic or Latino Ancestry
Population
- 0 to 69
- 70 to 149
- 150 to 449
- 450 to 1,249
- 1,250 to 5,000

Ethnicity of Participants
- Hispanic or Latino

2015-2019 Drug Trials Snapshots Summary Report
Race Breakdown Across Therapeutic Areas
Ethnicity Breakdown Across Therapeutic Areas
Race Distribution in DM Trials

United States:
- White: 80%
- Asian: 14%
- Black or African American: 2%
- Other: 3%
- American Indian or Alaska Native: 1%

Rest of the World:
- White: 67%
- Asian: 27%
- Black or African American: 4%
- Other: 2%
Ethnicity Distribution in DM Trials

**United States**
Total Participants = 7,350

- 23% Unknown
- 77% Non-Hispanic or Latino

**Rest of the World**
Total Participants = 24,211

- 17% Unknown
- 81% Non-Hispanic or Latino
- 2% Hispanic or Latino

Legend:
- Red: Missing
- Blue: Not Hispanic or Latino
- Orange: Hispanic or Latino
Diversity in Kidney Disease Trials

Rekha Kambhampati, MD, MHS
FDA, CDER, Office of New Drugs
Division of Cardiology and Nephrology
Outline

• Why is Diversity in Clinical Trials Important?
• African Americans and CKD
• Global Nature of Drug Development
• African American Enrollment in U.S. Trials
• Barriers to Enrollment in Kidney Clinical Trials
• Regulatory Initiatives to Address Diversity
• Enrichment in Clinical Trials
Why is diversity in clinical trials important?

“Clinical trials, and the people who volunteer to participate in them, are essential to help the development of ways to fight illnesses. To make sure that the FDA has a full picture of the risk or benefit of a medical product, patients enrolled in a trial should be representative of the types of patients who are likely to use the medical product if it is approved or cleared by the FDA...

...experience has shown that there can be important differences in how people of diverse groups respond to medical products. Information on those differences can then be included in the product labeling to help doctors and patients make treatment decisions.

Source: https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm535306.htm
African Americans and CKD

- There is a disproportionate burden of kidney disease in African Americans
- In the U.S., the risk for kidney failure is 3-fold higher in African Americans compared to the general population
  - African Americans account for about 35% of U.S. dialysis patients
- The difference in risk may be due in part to genetic contributions to disease progression
Apolipoprotein L1

• Apolipoprotein L1 (APOL1) gene risk variants have been reported in African-derived chromosomes

• APOL1 may play a role in kidney disease
  – E.g., increased severity of kidney disease compared to the general population
Global Nature of Drug Development

• Data supporting the efficacy and safety of drugs is often provided by international trials
• In European and Asian countries, blacks constitute a lower proportion of the population, compared to the U.S.
• This global race distribution is often reflected in clinical trials with a majority of international sites
Race Distribution for all New Molecular Entities Approved by CDER from 2015-2019

Global
- Total Participants: 292,537

United States
- Total Participants: 102,596

Rest of the World
- Total Participants: 189,941

Source: Drug Trial Snapshots
Snapshot of Recent Trials for Diabetic Kidney Disease

**Invokana**
- White: 67%
- Black or African American: 20%
- Asian: 8%
- Other: 5%

Total Participants: 4401
5% Black or African American
16% enrollment from United States

**Finerenone**
- White: 63%
- Black or African American: 25%
- Asian: 7%
- Other: 5%

Total Participants: 5658
5% Black or African American
15% enrollment from United States
A Tale of Two Different Trials for Hyperkalemia

Veltassa

- Total Participants: 715
- <1% Black or African American
- 9% enrollment from United States

Lokelma

- Total Participants: 1011
- 12% Black or African American
- 90% enrollment from United States

Source: Drug Trial Snapshots
African American Enrollment in U.S. Trials

• A goal of development programs is to have the study population inform the patient population likely to use the drug in clinical practice

• African Americans constitute about 13% of the total US population

• However, African Americans constitute a higher proportion of total patients with CKD in the United States
  – Most kidney clinical trials do not reflect this distribution
Barriers to Enrollment of African Americans in Clinical Trials

• Participants not asked/unaware of trials
• Mistrust in clinical trials
• Logistical barriers (e.g., transportation)
• Challenge for CKD trials:
  – Lack of awareness of kidney disease
    • Motivation to participate in clinical trials can be low
Regulatory Initiatives to Address Diversity

• Requirement that sponsors analyze clinical trial data by race
• Guidance for Industry*
• Post-marketing requirements

*Enhancing the Diversity of Clinical Trial Populations, www.fda.gov
Post-Marketing Requirement Example: Entresto

• Combination neprilysin inhibitor and angiotensin II receptor blocker approved to reduce the risk of cardiovascular death and hospitalization for heart failure in patients with chronic heart failure with a reduced ejection fraction

• Warning and Precaution indicates that the drug is associated with a higher rate of angioedema in Black than in non-Black patients

• Post-marketing requirement for “an epidemiologic study...to evaluate the incidence of angioedema in Black patients treated with Entresto compared to a control drug”
Closing Point: Enrichment

• There can be important differences in how people of diverse groups respond to medical products
• When a difference in treatment response is an a priori concern, the trial should ensure adequate enrollment of this group so that treatment differences can be detected if they exist
Summary

• There is a significant unmet need for safe and effective therapies for kidney disease
• African Americans have a high burden of kidney disease
• International clinical trials often reflect the global race distribution
• Enrichment of trials should be considered when there is an a priori concern that response to treatment may differ for different groups
Andreea Lungu, MD
Medical Officer, FDA

Diversity in Diabetes
Clinical Trials

Andreea Lungu, M.D.
Division of Diabetes, Lipids and Obesity
Office of New Drugs
Center for Drug Evaluation and Research
Disclaimers and Disclosures

• The views expressed in this talk represent my opinions and may not represent the views of the FDA

• I have no financial relationships to disclose
Overview

• Diabetes statistics

• Drug development in diabetes

• Demographic information in recent FDA approved drugs

• Potential barriers to enrollment of minorities in diabetes clinical trials
Diabetes statistics

National Diabetes Statistics Report 2020 (CDC)
- 34.1 million adults have diabetes (13% of US adult population)

- 7.3 million adults who met the laboratory criteria for diabetes did not report having diabetes (21.4% of all adults with diabetes)

- Prevalence of diagnosed diabetes was highest among American Indians/Alaska Natives (14.7%), people of Hispanic origin (12.5%), and non-Hispanic blacks (11.7%), followed by non-Hispanic Asians (9.2%) and non-Hispanic whites (7.5%)

- Prevalence varied significantly by education level, which is an indicator of socioeconomic status - 13.3% of adults with less than a high school education had diagnosed diabetes versus 9.7% of those with a high school education and 7.5% of those with more than a high school education

Drug Development in Diabetes

FDA data 1998-2001

New diabetes diagnosed 2005

Drug Development in Diabetes

- FDA has promoted enrollment practices that would lead to clinical trials that better reflect the population most likely to use the drug if the drug is approved

  - Enhancing the Diversity of Clinical Trial Populations — Eligibility Criteria, Enrollment Practices, and Trial Designs 2020

  - Type 2 Diabetes Mellitus: Evaluating the Safety of new Drugs for Improving Glycemic Control 2020

  - Collection of Race and Ethnicity Data in Clinical Trials 2016

- CFR 314.50 The effectiveness and safety data must be presented by gender, age, and racial subgroups.
Drug Development in Diabetes

• Diabetes clinical trials

  – Large, multicenter, multinational trials

  – Usually less than half of patients are from the US

  – Majority of patients are white

  – Cardiovascular outcomes trials tend to enroll older patients, with more comorbidities compared to glycemic efficacy trials
## Diabetes Drug Approvals 2010-2020

<table>
<thead>
<tr>
<th>DPP4-Inhibitors</th>
<th>SGLT2i</th>
<th>GLP1-RA</th>
<th>Insulins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linagliptin 2011</td>
<td>Canagliflozin 2013</td>
<td>Liraglutide 2010</td>
<td>Insulin degludec 2015</td>
</tr>
<tr>
<td></td>
<td>Empagliflozin 2014</td>
<td>Semaglutide sc 2017</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ertugliflozin 2017</td>
<td>Semaglutide oral 2019</td>
<td></td>
</tr>
</tbody>
</table>

- **T2DM**
- **T1 and T2DM**

Cardiovascular outcomes trials for most of these drugs were completed and reviewed.
Demographic Information - Glycemic Control Trials

Lixisenatide
- 4508 subjects
- 14.9% US
- 19.3% Hispanic

Semaglutide
- 4087 subjects
- 27% US
- 19% Hispanic

Source: FDA Drug Snapshots, drugs@FDA
Demographic Information - Cardiovascular Outcomes Trials

Lixisenatide
- 6068 subjects
- 13.3% North America
- 29% Hispanic

Semaglutide
- 3297 subjects
- 34.5% US
- 15.5% Hispanic

Source: FDA Drug Snapshots, drugs@FDA
Demographic Information - Insulin Degludec

1577 subjects
62% US
4% Hispanic

4048 subjects
32% US
12% Hispanic

Source: FDA Drug Snapshots, drugs@FDA
Demographic Information in Prescribing Information

• **Section 12.3 Pharmacokinetics**
  
  – The impact of age, sex, race, ethnicity and other intrinsic factors as applicable on the pharmacokinetics of the drug

• **Section 14 Clinical Trials**
  
  – Statement regarding whether efficacy was impacted by age, gender, race, ethnicity, other variables
  
  – Study description includes demographic information
  
  – Efficacy data by subgroups is not usually presented as it is an exploratory analysis
Potential Barriers to Enrollment of Minorities in Diabetes Trials

- Cultural (lack of trust) and socioeconomic differences
- Access to information/language barrier
- Location of clinical trial sites
- Lack of awareness that they have diabetes
Summary

• Diabetes in the US occurs in a higher proportion of minority populations compared to non-Hispanic whites

• Clinical trials in diabetes are multinational, more patients are enrolled outside of US vs US, and a high proportion of participants are white, with no major differences between recent drug programs

• The impact of race/ethnicity on safety and efficacy is evaluated in the FDA review of new drugs, and no issues have been identified to impact indication or safety in specific subpopulations, although the size of certain subgroups limits our conclusions
Andreea.Lungu@fda.hhs.gov
The FDA Office of Minority Health and Health Equity: Clinical Trial Diversity Campaign

Dr. Jovonni Spinner, MPH, CHES
February 10, 2021
Disclaimer

• This presentation represents the personal opinions of the speaker and does not necessarily represent the views or policies of FDA

• No conflicts of interest to declare
FDA Office of Minority Health and Health Equity (OMHHE)

**Mission**
To promote and protect the health of diverse populations through research and communication that addresses health disparities.

**Vision**
To create a world where health equity is a reality for all.
2012 FDA Safety and Innovation Act (FDASIA) Section 907
Action Plan Priorities & Strategies

**PRIORITY 01**
(QUALITY)

Improve the completeness and quality of demographic subgroup data collection, reporting and analysis

**FDA Guidance Documents**

**PRIORITY 02**
(PARTICIPATION)

Identify barriers to subgroup enrollment in clinical trials and employ strategies to encourage greater participation

**Public Meetings**
Tools to support diverse clinical trial participation

**PRIORITY 03**
(TRANSPARENCY)

Make demographic subgroup data more available and transparent

**Drug Trials Snapshots**
(Center for Drug Evaluation and Research)
Clinical Trial Diversity: Why it matters?

• Racial and ethnic minorities have been historically under-represented in clinical trials

• Need representation to study the effects of medical products in the people who will ultimately use them

• Persons of different ages, races, and ethnicities could react differently to certain medical products

• To understand health disparities - diseases that occur more frequently or appear differently in diverse populations
Diversity in Clinical Trials Initiative

Developed an ongoing multi-media public education and outreach campaign to raise awareness around the importance of diverse participation in clinical trials.
Motivators for Campaign

• Add positive reinforcement as to why minority health issues matter
• Educate consumers about key issues
• Help stimulate dialogue among peers and patient-provider
Diversity in Clinical Trials Campaign

BE A #CLINICALTRIALSCHAMPION

- Videos
- Newsletters & E-alerts
- Webpage
- Stakeholder Collaboration
- Podcasts
- Social Media
- Communications Toolkit
- Culturally & Linguistically Tailored
Diverse Participation in Clinical Trials
Videos and Podcast
Shirley’s Story: Diversity is Critical to Making Better Medical Products
Veterans in Clinical Trials
Diversity in Medical Device Clinical Trials Video
Clinical Trial Diversity Resources

Clinical Trial Diversity

4 Things you should know about clinical trials:
1. Clinical trials are research studies conducted with people. They are designed to determine if medical treatments work and whether they are safe and effective for certain diseases or groups of people.
2. Participation in clinical trials can lead to new treatment options.
3. Clinical trial participation offers the opportunity to help advance medical science.
4. FDA, Research, and Clinical Trials (Fact Sheet) - CLINICAL TRIAL FACTSHEET INDEX

The importance of diverse participation in clinical trials:
- Diversity in clinical trials is crucial for ensuring that medical treatments are effective and safe for all patients. Clinical trials that only include people from a single racial or ethnic group may not accurately represent the diverse population for which the treatments are intended.

Research Needs You

Racial and Ethnic Minorities in Clinical Trials

Clinical trials are research studies that determine whether medical products like medications, vaccines, or devices are safe and effective for people. Participants in clinical trials should represent the patients who will be using the medical products, though this is often not the case. Racial and ethnic minorities are underrepresented in clinical trials. This is a concern because people of different ages, races, and ethnicities may react differently to medical products. If you think a clinical trial may be right for you, talk to your doctor.

You can also search for clinical trials on ClinicalTrials.gov, an online database of clinical trials sponsored by FDA and the National Institutes of Health (NIH).

Watch this webinar for help navigating ClinicalTrials.gov.

Search ClinicalTrials.gov! Enter a word or phrase, such as the name of a medical condition or intervention. Example: Cancer AND Los Angeles

Clinical Trial Resources
- About Research Participation
- Fact Sheet: Minority in Clinical Trials (Spanish)
- Institutions: Become a Research Volunteer! (Spanish)
- Website: Get to know Clinical Trials.gov (English)
- Clinical Trial Diversity Toolkit
- Collection of Race and Ethnicity Data in Clinical Trials - Guidelines for Industry and
Social Media Outreach

We all benefit from diversity in research.

Clinical trials include diverse participants like you to ensure medical products are safe and effective for everyone.

Learn about clinical trial participation.

We all benefit from diversity in research.
Examples of Stakeholder Engagement Activities

• The Alliance of Multicultural Physicians and FDA OMHHE Memorandum of Understanding
  • Collective of the Association of American Indian Physicians (AAIP), Association of Black Cardiologists (ABC), National Council of Asian Pacific Islander Physicians (NCAPIP), National Hispanic Medical Association (NHMA), and National Medical Association (NMA). Opportunities to collaborate on developing educational, outreach, and training initiatives for physicians and the patients they serve to advance health equity.

• Yale and FDA OMHHE Memorandum of Understanding
  • To advance the Yale Cultural Ambassadors Program, an engagement of community partners to increase diverse participation in clinical research
Thank You!

Follow us at: @FDAAHealthEquity

Email us at: HealthEquity@fda.hhs.gov

Visit us at: FDA.gov/HealthEquity

Join webinars and stakeholder calls
Explore barriers to diversity in clinical trials for CKD and diabetes and describe strategies to improve clinical trial diversity

The Yale Model: Community and Participant Engagement

Tesheia Harris, MBA, MHS (formerly Johnson)

Chief Operating Officer and Deputy Director, Yale Center for Clinical Investigations
Director of Clinical Research, Yale University School of Medicine
Integrated Approaches to Recruitment: “Help us discover” clinical research awareness campaign

- “Help us discover” volunteers profiles
- Cultural Ambassadors
- Advertising and media
- Clinical research recruitment call center
- Integrate community practices
- Epic telehealth engagement
Cultural ambassador

Ambassador program role include:

✓ Bidirectional collaboration
✓ Express community needs, ideas, and interest
✓ Recruitment campaign development advice
✓ Recruitment plan development
✓ Recruitment support for special populations
✓ Study design support
✓ Translations of study material and informed consent
✓ Community Grand Rounds held monthly
- 8% of new patients come to Yale initially for RESEARCH
- 950% Increasing in industry research
- In FY20, more than 30% of all accrual across Yale studies was historically underrepresented populations
1. Collaborations to cultivate and advance **the Yale Cultural Ambassadors Program** and the engagement of community partners to increase participation of diverse and historically under represented or underserved populations in clinical research.
The community 2018-2019 priority list

1. Access to health care
2. Addressing health disparities
3. Substance abuse prevention and interventions
4. Violence and crime prevention
5. Cancer care
6. Asthma prevention and treatment
7. Obesity and related chronic medical conditions
8. Diabetes
9. Violence and crime prevention
10. Health promotion/activity/exercise
11. Infant mortality and health disparities
12. Mental health issues
13. HIV/aids prevention and treatment
14. Teen pregnancy and STI prevention
15. Community involvement in research and dissemination of results

Reprioritized the work FY21

- COVID19 / Vaccine uptake
- FDA partnership
- Health access
- Other health issues
  - Depression
  - Substance abuse
  - Cancer
  - Heart disease
Important lessons: Community partners input

Big wins for the community and research:

✓ Expressed community needs, ideas, and interest
✓ Better studies with better participation.
  ✓ Think about the participant: appropriate messaging, access issues (hours, research stipend, # of study visits, transportation), recruitment strategies.

You should expect the following with engagement:

✓ Hard questions will be asked: This might be interesting science, but should we do this study in the community?
✓ Is this additional survey really necessary?
✓ Recruitment approaches – How does the ad look to the community?
  ✓ Examples: HIV, single parent, words “trial vs research” and “drug vs potential medicine”
Community Engagement during pandemic

https://medicine.yale.edu/ycci/researchspectrum/cer/research/ambassadors/tfrs/
Questions and Answers
Break

1:45-2:00 p.m.
SESSION 3: 2:00 - 3:00 p.m.

RWD Research in Diabetes and Chronic Kidney Disease (CKD)
Moderator
Charmaine Rochester -Eyeguokan, PharmD, CDCES (CDE), BCACP
Professor, University of Maryland School of Pharmacy
Clydette Powell MD, MPH, FAAP
Designated Federal Officer, National Clinical Care Commission, Medical Officer
Office of the Assistant Secretary for Health, US Department of Health and Human Services
Welcome

Clydette Powell, MD, MPH, FAAP
Designated Federal Officer, NCCC
Office of the Assistant Secretary for Health
U.S. Department of Health and Human Services
Establishing the NCCC

- Mandated by Congress in November 2017
- ASH assigned management and support of the NCCC to ODPHP in 2018
- Secretary Azar signed the Charter - April 3, 2018
The Commission’s Charge

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Federal programs of DHHS that focus on preventing and reducing the incidence of diabetes and its complications</td>
</tr>
<tr>
<td>2</td>
<td>Current activities and gaps in Federal efforts to support clinicians in providing integrated, high-quality care</td>
</tr>
<tr>
<td>3</td>
<td>The improvement in, and improved coordination of, Federal education and awareness activities</td>
</tr>
<tr>
<td>4</td>
<td>Methods for outreach and dissemination of education and awareness materials that (1) address the diseases and complications; (2) are funded by the Federal Government; and (3) are intended for health care professionals and the public</td>
</tr>
<tr>
<td>5</td>
<td>Opportunities for consolidation of overlapping or duplicative Federal programs related to diabetes and its complications</td>
</tr>
</tbody>
</table>
Membership

Non-Federal

• Endocrinologists
• Primary care physicians
• Non-physician health care professionals
• Patient advocates
• National experts
• Health care providers with patients without health insurance coverage

Federal
Timeline

Nov 2017
PL 115-80

April-June 2018
Member search and selection

Oct 2018
Inaugural Meeting, commissioning ceremony and subcommittee formation

Oct 2018
4 Public Meetings

Jan 2019
3 year operating plan to Secretary and Congress

2019
4 Public Meetings

2020
4 Public Meetings

2021
4 Public Meetings

Oct 2021
Final report is signed by ASH/SoH, and sent to Congress
Prevention – General Population Recommendation Focus Areas

- Food supply, healthy food access, and nutrition assistance programs
- Sugar-sweetened beverage tax; sales in government offices, workplaces, healthcare facilities, and public spaces
- Trans-agency diabetes efforts
- Federal housing assistance and secondhand smoke exposure
Prevention – Targeted Population Recommendation Focus Areas

Screening & Diagnosis for prediabetes/diabetes

Improve access to and utilization of effective type 2 diabetes prevention intervention

Sustainability of type 2 diabetes prevention over time

Develop new & more effective prevention strategies for type 2 diabetes
Consider “health equity as a component of any new or revised federal policy related to diabetes”

Expand and improve federal diabetes education and support

Improve access to innovative diabetes technologies

Implement team-based care

Increase program integrity and utilization of virtual care
https://health.gov/our-work/health-care-quality
Public Comments

01 Draft FRN

02 Federal Register

03 FDMS

04 Regulations.gov

OWH drafts FRN
- Notification of public meetings
- Request for comments

Agencies use the Federal Docket Management System to post the FRN to regulations.gov and manage comments

Comments are reviewed by OWH then posted to Regulations.gov

Public can see the FRN, read comments and submit documents
Register now!

10th Meeting of the National Clinical Care Commission

February 17, 2021 | 1:00-5:30 pm EST (virtual)

Join us for the next round of NEW recommendations, discussion on access to care and making medications more affordable, and public comments.

Register at: https://adobe.ly/39JtSfj

Email OHQ@hhs.gov to submit comments and join the listserv!
Leonard Pogach, MD, MBA, FACP
National Program Director Diabetes and Endocrinology,
Specialty Care Services, Veterans Health Administration

VHA Data Driven Approach to Improve DM/CKD Care Organizational, Clinician Focused and Point of Care Strategies
Disclosure

- This presentation represents the perspective of the author and not that of the Veterans Health Administration. Dr. Pogach has no conflicts of interest to disclose.
Specific VA Objectives to address DM-CKD

- **Key evidence-based strategies** to address DM-CKD management include: (1) **individualized goals** that target glycemic management, blood pressure control (2) **use of medications** angiotensin-converting-enzyme inhibitors (ACEi) or angiotensin receptor blockers (ARB) for patients with albuminuria and hypertension; and SGLT-2i for CKD

- **Utilization of National Reports** to evaluate disparities (age, race, mental health, co-morbid conditions) using current and longitudinal data.

- **Use of Organizational Structure to Implement Quality Improvement:** [Network level (Integrated Clinical Communities)]; Academic Detailing [Pharmacy Benefits Management Program]; National Initiatives [Choosing Wisely Hypoglycemic Safety Initiative]
### Hypoglycemic Safety
- Provide patients with information on symptoms, management and ways to lower their risk

### Shared Decision Making (SDM)
- Give both patients and providers the skills needed for SDM, including health literacy & numeracy

### A1c Goals
- Disseminate information about A1c accuracy and individualizing target ranges

### Food Insufficiency
- Educate both providers and patients about potential barriers and solutions to food insufficiency

### Medication Safety
- Ensure providers and patients have an understanding of potential risks of medications
Ask About AND Document Hypoglycemia

Screening for hypoglycemia should be performed in patients at risk for hypoglycemia. Studies show an increased risk for hypoglycemia in patients on insulin and/or a sulfonylurea with a recent A1C less than 7 and who:
- Are over the age of 74 or
- Have a diagnosis of cognitive impairment or dementia or
- Have a recent serum creatinine value greater than 1.7

Screening for hypoglycemia is indicated at least every 6 months for patients at risk.

[INSERT HEMOGLOBIN A1C OBJECT HERE]

1. Perform Hypoglycemia Screening
   - In the past few months, how often did the patient/caregiver report that the patient had a low blood sugar?
     - None reported
     - Once
     - In the past few months, how often did the patient/caregiver report that the patient had a low blood sugar serious enough that the patient felt they might pass out?
       - None reported
       - Once
       - 2-3 times per month
     - Did the patient/caregiver report that the patient passed out or fell because of a low blood sugar?
       - No
       - Yes, Comment:
       - Once a week
       - Daily
   - Did the patient/caregiver report that the patient required a visit to a clinic/Emergency Dept/hospital because of a low blood sugar?
     - No
     - Yes, Comment:
     - 2-3 times per month
     - Once a week
     - Daily
   - Shared Patient-Centered Plan
     - No change in glycemic management at this time.
     - Relax glycemic treatment? Comment:

Hypoglycemia Screen:
- The next few months, how often did the patient/caregiver report that...
  - Faintness (2-3 per month)
  - Hypoglycemia (Once)
  - Hypoglycemic Management-Relax Hypoglycemic Related Visit (Yes); Pass It/Fall NO

Visit Info | Finish | Cancel
Tom’s Story: Be Aware
Ask About Low Blood Sugar

CW-HSI Findings (National; as of Oct 2020)

Evaluation
Over 67,400 patients have been evaluated using the EHR template
Annual evaluation rate* nationally for high-risk patients assigned to primary care is 24%

Occurrence
Hypoglycemia has been reported by 23% of those evaluated

Action
Of all patients evaluated, 84% have documented shared decision making
Of those reporting hypoglycemia, 48% have made a shared decision with their provider to relax treatment

*The CW-HSI is a voluntary initiative and, as such, participation is not mandated. Measuring evaluation rates is dependent upon use of the Hypoglycemia Screening CPRS Tool, which is not a mandatory tool.

% of patients with HbA1c <7% (53mmol/mol) decreased in all racial/ethnic groups (not shown):
- 44.2% to 32.9% (Blacks),
- 51.0% 32.6% (Whites),
- 41.3% to 28.4% (Hispanics).

The Black-White absolute rate differences among insulin users were 32.6 (63.4 vs. 30.8) in 2004 and 13.1 (33.9 vs. 20.8) in 2015;
- among non-insulin users, the differences were 25.7 (39.3 vs. 18.1) in 2004 and 10.1 (20.7 vs. 9.3) in 2015.

Study Design: Serial cross-sectional study using VHA and Medicare data.
Study population: Ambulatory VA patients who received secretagogues (Sec) and/or insulin (Ins) within 120 days of calendar yrs 2004-2015 and who were Medicare enrolled for one yr prior to and during the study yr.
Hba1c values (from VA source only): Baseline HbA1c within 120 days of each study yr; updated last value before the first event or end of study yr.
Diabetes Quality Measures and for DM and CKD

- Current NCQA reported diabetes measures as apply to all patients (18-75) with a diagnosis of diabetes.

Measure: Effective FY21, will be e-measures

<table>
<thead>
<tr>
<th>Quality</th>
<th>Endocrinology/Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes - CV Risk Management</td>
<td></td>
</tr>
<tr>
<td>DM: HbA1c poor control A1c&gt;9%</td>
<td></td>
</tr>
<tr>
<td>DM: BP LT &lt;140/90</td>
<td></td>
</tr>
<tr>
<td>Metric</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>CKD Care</strong></td>
<td></td>
</tr>
<tr>
<td>Awareness</td>
<td>% Pts with CKD Stages 3-5 w CKD ICD 10 code/eGFR</td>
</tr>
<tr>
<td>Screening</td>
<td>% Pts w DM w annual eGFR&lt;br&gt;% Pts w DM w annual UACR</td>
</tr>
<tr>
<td>Treatment</td>
<td>% Pts w CKD w BP &lt; 140/90 mm Hg;&lt;br&gt;% Pts w CKD prescribed a statin&lt;br&gt;% Pts w DM &amp; HTN prescribed RAASi&lt;br&gt;% Pts w T2DM &amp; CKD stages 1-3 prescribed SGLT2i</td>
</tr>
<tr>
<td>Safety</td>
<td>% Pts w DM &amp; CKD Stages 3-5 on insulin w A1c &lt; 7%</td>
</tr>
<tr>
<td><strong>ESRD Care</strong></td>
<td></td>
</tr>
<tr>
<td>Prevention</td>
<td>Hemodialysis unit BSI rate</td>
</tr>
<tr>
<td><strong>RRT Preparation</strong></td>
<td>% ESRD pts on hemodialysis w permanent catheter</td>
</tr>
</tbody>
</table>
Data to Refine Population and Stratification

Stratification within Disease Cohort: Targeted Quality Improvement

- Age, Sex, Race, BMI
- Uses CPT, ICD, and stop codes for the last 24 months
- Key Laboratory Results (including A1c, BP, Cholesterol, eGFR)
- Diabetes Complications and common co-morbid conditions:
  - Amputation, cognitive impairment, chronic kidney disease, ESRD, Fistula, Glaucoma, Heart Failure (HF), Ischemic Heart Disease (IHD), Macular Degeneration, Nicotine, PTSD, Obesity/Morbid Obesity, Peripheral Vascular Disease (PVD), Retinopathy Serious Mental Illness, Stroke, Substance Abuse, Ulcer, and Vision Impairment
- Medications related to glycemic management, hypertension management, cardiovascular disease
- Longitudinal time views at 12 or 24 months to identify trends
## Diabetes Prevalence

<table>
<thead>
<tr>
<th>DM Definition</th>
<th>#</th>
<th>%</th>
<th>Black</th>
<th>%</th>
<th>White</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite Diabetes</td>
<td>1,619,857</td>
<td>26%</td>
<td>322,738</td>
<td>30%</td>
<td>1,141,801</td>
<td>27%</td>
</tr>
<tr>
<td>Possible Unrecognized Diabetes</td>
<td>176,976</td>
<td>3%</td>
<td>36,308</td>
<td>3%</td>
<td>119,761</td>
<td>3%</td>
</tr>
<tr>
<td>Possible Pre-diabetes</td>
<td>2,290,310</td>
<td>37%</td>
<td>395,178</td>
<td>37%</td>
<td>1,658,566</td>
<td>39%</td>
</tr>
<tr>
<td>No Diabetes</td>
<td>2,116,359</td>
<td>34%</td>
<td>305,640</td>
<td>29%</td>
<td>1,359,572</td>
<td>32%</td>
</tr>
<tr>
<td>Total</td>
<td>6,203,502</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Diabetes and Co-Morbid Conditions

<table>
<thead>
<tr>
<th>Disease Cohorts</th>
<th>Total</th>
<th>%</th>
<th>Black</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>462,476</td>
<td>29%</td>
<td>85,513</td>
<td>326,591</td>
</tr>
<tr>
<td>Amputation</td>
<td>50,175</td>
<td>3%</td>
<td>10,888</td>
<td>35,220</td>
</tr>
<tr>
<td>Cognitive Impairment</td>
<td>19,863</td>
<td>1%</td>
<td>3,544</td>
<td>14,623</td>
</tr>
<tr>
<td>Dementia</td>
<td>65,888</td>
<td>4%</td>
<td>13,030</td>
<td>47,045</td>
</tr>
<tr>
<td>ESRD/CKD</td>
<td><strong>308,099</strong></td>
<td><strong>19%</strong></td>
<td><strong>67,933</strong></td>
<td><strong>21%</strong></td>
</tr>
<tr>
<td>HF</td>
<td>192,092</td>
<td>12%</td>
<td>37,780</td>
<td>139,005</td>
</tr>
<tr>
<td>IHD</td>
<td>451,370</td>
<td>28%</td>
<td>57,655</td>
<td>356,055</td>
</tr>
<tr>
<td>Macular Degeneraration</td>
<td>57,669</td>
<td>4%</td>
<td>7,861</td>
<td>45,053</td>
</tr>
<tr>
<td>PTSD</td>
<td>274,717</td>
<td>17%</td>
<td>70,324</td>
<td>176,456</td>
</tr>
<tr>
<td>PVD</td>
<td>159,833</td>
<td>10%</td>
<td>29,191</td>
<td>118,602</td>
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<tr>
<td>SMI</td>
<td>78,462</td>
<td>5%</td>
<td>21,863</td>
<td>49,952</td>
</tr>
<tr>
<td>Stroke</td>
<td>128,068</td>
<td>8%</td>
<td>26,318</td>
<td>91,408</td>
</tr>
<tr>
<td>Subabuse</td>
<td>141,908</td>
<td>9%</td>
<td>44,552</td>
<td>85,256</td>
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<tr>
<td>Ulcer</td>
<td>82,231</td>
<td>5%</td>
<td>14,498</td>
<td>61,435</td>
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<tr>
<td>Vision Impairment</td>
<td>34,571</td>
<td>2%</td>
<td>8,152</td>
<td>23,323</td>
</tr>
<tr>
<td>BMI</td>
<td>Total</td>
<td>Black</td>
<td>White</td>
<td></td>
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<tr>
<td>--------------</td>
<td>--------</td>
<td>-------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>47,987</td>
<td>16%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>25-29.9</td>
<td>94,429</td>
<td>31%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>30-39.9</td>
<td>130,130</td>
<td>42%</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>&gt;=40</td>
<td>27,463</td>
<td>9%</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Not Done in Last 24 Mos</td>
<td>8,090</td>
<td>3%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>308,099</td>
<td>100%</td>
<td>213,015</td>
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</table>
# DM-CKD A1c Results

<table>
<thead>
<tr>
<th>A1C</th>
<th>Total</th>
<th>Black</th>
<th>White</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6.5</td>
<td>81,535</td>
<td>20,172</td>
<td>54,370</td>
<td>26%</td>
</tr>
<tr>
<td>6.5-6.9</td>
<td>41,306</td>
<td>8,522</td>
<td>29,356</td>
<td>14%</td>
</tr>
<tr>
<td>7.0-7.9</td>
<td>64,360</td>
<td>11,950</td>
<td>47,099</td>
<td>22%</td>
</tr>
<tr>
<td>8.0-8.9</td>
<td>33,394</td>
<td>6,586</td>
<td>24,261</td>
<td>11%</td>
</tr>
<tr>
<td>&gt;=9.0</td>
<td>28,673</td>
<td>7,225</td>
<td>18,794</td>
<td>9%</td>
</tr>
<tr>
<td>Not recorded last 12 months</td>
<td>58,231</td>
<td>13,478</td>
<td>39,135</td>
<td>18%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>307,499</td>
<td>67,933</td>
<td>213,015</td>
</tr>
</tbody>
</table>
## DM-CKD Receiving Insulin A1c

<table>
<thead>
<tr>
<th>A1C</th>
<th>Total</th>
<th>%</th>
<th>Black</th>
<th>%</th>
<th>White</th>
<th>%</th>
<th>&lt;25</th>
<th>25-29.9</th>
<th>30-39.9</th>
<th>40-49.9</th>
<th>50-59.9</th>
<th>60-69.9</th>
<th>70+</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6.5</td>
<td>15,886</td>
<td>5%</td>
<td>3,878</td>
<td>6%</td>
<td>10,767</td>
<td>5%</td>
<td>2,111</td>
<td>4,640</td>
<td>7,173</td>
<td>1,756</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5-6.9</td>
<td>14,818</td>
<td>5%</td>
<td>2,851</td>
<td>4%</td>
<td>10,790</td>
<td>5%</td>
<td>1,471</td>
<td>4,122</td>
<td>7,235</td>
<td>1,833</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.0-7.9</td>
<td>35,423</td>
<td>11%</td>
<td>6,476</td>
<td>10%</td>
<td>26,029</td>
<td>12%</td>
<td>3,358</td>
<td>9,634</td>
<td>17,700</td>
<td>4,375</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0-8.9</td>
<td>23,381</td>
<td>8%</td>
<td>4,681</td>
<td>7%</td>
<td>16,835</td>
<td>8%</td>
<td>2,255</td>
<td>6,091</td>
<td>11,804</td>
<td>3,010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;=9.0</td>
<td>22,388</td>
<td>7%</td>
<td>5,755</td>
<td>8%</td>
<td>14,665</td>
<td>7%</td>
<td>2,618</td>
<td>5,876</td>
<td>10,832</td>
<td>2,843</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not recorded last 12 months</td>
<td>13,712</td>
<td>4%</td>
<td>2,810</td>
<td>4%</td>
<td>9,658</td>
<td>5%</td>
<td>1,795</td>
<td>3,818</td>
<td>5,896</td>
<td>1,415</td>
<td></td>
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</tr>
</tbody>
</table>
ACADEMIC DETAILING IN VHA

- Academic Detailing is an evidence-based intervention used to impact practice change for clinicians
  - In VHA, Academic Detailing leverages a multifaceted intervention which includes one-on-one educational outreach, audit and feedback, barrier resolution, and practice facilitation to support clinicians to make change effectively for improving Veterans health outcomes

- >10-year history in VHA
  - >100,000 educational outreach visits with >35,000 VA staff by predominantly clinical pharmacists (~70 FTEE in FY20)

- Demonstrated to improve AUD pharmacotherapy\(^1\), increase naloxone prescribing\(^2\), reduce BZD prescribing\(^3,4\), and more!

- Resources are developed nationally by the VACO PBM Academic Detailing Service including training, educational materials, and daily updated data tools
  - Educational materials are designed to focus on clinical “key messages” rather than provide comprehensive disease state management
  - Dashboards & reports are designed to align with educational materials to identify specific actionable patients, their providers', and quarterly trends
TYPES OF DATA RESOURCES

Dashboard/Scorecard
- High level, aggregate of data
- Often in a scorecard/metric format
- Audience: Admin/leadership

Priority Panel Report
- Pivoted dashboard by clinician panels
- Audience: Detailers

Patient Report
- Actionable, patient-centered data relevant to report’s clinical focus; can be a simple summary or provide detailed information
- Audience: Clinicians/Detailers

Trend Reports
- Trends of metric progression over time
- Often can be viewed at National, VISN, Facility, and Provider levels
- Audience: Admin/Detailers
Specific Actionable Patient Cohorts

<table>
<thead>
<tr>
<th>Est. T2DM Duration Yr</th>
<th>Potential Intervention(s)</th>
<th>BMI</th>
<th>Cohort(s) of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7</td>
<td>Check Labs:</td>
<td>37.9</td>
<td>(Select All)</td>
</tr>
<tr>
<td></td>
<td>• A1c</td>
<td></td>
<td>All T2DM Patients</td>
</tr>
<tr>
<td></td>
<td>• Urine Protein</td>
<td></td>
<td>□ Consider Metformin</td>
</tr>
<tr>
<td></td>
<td>Review DM Regimen:</td>
<td></td>
<td>□ Consider Basal Insulin: A1c &gt;= 10</td>
</tr>
<tr>
<td></td>
<td>• Add Metformin (eGFR &gt;45 &amp; A1c &gt;=7)</td>
<td></td>
<td>□ Consider D/C SU: On prandial insulin</td>
</tr>
<tr>
<td></td>
<td>• Add Insulin: A1c &gt;= 10</td>
<td></td>
<td>□ Consider Switching to Empagliflozin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Check renal DM meds</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Consider SGLT2 then GLP1 for ASCVD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Consider SGLT2 for HF (no CKD/ASCVD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Consider SGLT2 then GLP1 for HF w/QOL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Consider Evaluating w/Hypoglycemia S</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Hypoglycemia/Fall &lt; 1 Yr</td>
</tr>
<tr>
<td>6.4</td>
<td>Check Labs:</td>
<td>29.1</td>
<td>□ On US00 Insulin: Monitor</td>
</tr>
<tr>
<td></td>
<td>• A1c</td>
<td></td>
<td>□ On GLP1: No Prior SGLT2</td>
</tr>
<tr>
<td></td>
<td>• Urine Protein</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Scr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A1c &gt;= 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not seen within past 90 days &amp; no scheduled appt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.8</td>
<td>Check Labs:</td>
<td>23.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Urine Protein</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Scr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review DM Regimen:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Add Insulin: A1c &gt;= 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consider statin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Academic Detailers utilize this to identify patients to discuss with providers.

Providers may use it to manage their patient panel.

Administration may use it to identify other medication safety concerns.
Questions?

Contact Information:
Leonard.Pogach@va.gov
The Use of Real-World Data/Evidence to Improve Minority Health
Disclosure

• Conflict of Interest: I have no competing interests for this work
• The views expressed are those of the author and do not reflect official policy of the FDA
Key Clinical Pharmacology Issue: Finding the Right Drug at the Right Dose at the Right time for Each Patient

- Differences in response to medical products have been observed in racially and ethnically distinct subgroups of the US population.
Can RWD/E Augment Trial Data to Evaluate the Impact of Intrinsic and Extrinsic Factors on the Drug Response?
Challenges with the Use of Real-World Data

- Data quality and completeness
  - Many RWD sources were not built for research purpose
  - Various information for a patient may exist in different electronic systems that lack cross-communication
- Unstructured data
- Potential confounding and bias
  - Lack of randomization
- Need for common data platforms and data standards
- The research using RWD can be challenging
- Regulatory research is needed for us to learn where RWD can be helpful and to develop best practice
Clinical Pharmacology RWE Demonstration Projects

- **Case 1:** Renal/Hepatic Dysfunction and Clinical Outcomes in Cancer Patients Treated with Immune Checkpoint Inhibitors

- **Case 2:** Pneumonitis Incidence in Patients with Non-Small Cell Lung Cancer Treated with Immunotherapy or Chemotherapy in Clinical Trials and RWD

Common characteristics of the 2 cases:

- Collaboration projects
- Both clinical trial data and RWD were analyzed
- Analyses protocol discussed and developed upfront
- Generally consistent results from RWD and clinical trial data

OCP Collaborates with OMHHE for Minority Health and Health Equity

• Common goal: optimizing the therapeutic outcome for minority populations

• Common interest: using **quality data from various sources** and **novel data analytics** to better characterize and predict treatment outcome for diverse population

• Current collaboration projects:
  – Diabetes
  – Cardiovascular disease
  – COVID19
Ongoing Project: Assessing Disparities in Occurrence and Outcomes of Type 2 Diabetes Adverse Drug Events in Minority Populations Using RWD

• An ongoing CERSI project: FDA in collaboration with Johns Hopkins University – Bloomberg School of Public Health (Drs. Hadi Kharrazi & Jonathan Weiner)
• African Americans and Hispanics are 70% more likely to be diagnosed with diabetes compared to non-Hispanic whites
• The National Action Plan for Adverse Drug Event Prevention (NAPADEP) identified 3 key drug classes as initial targets:
  – Anticoagulants (primary ADE of concern: bleeding)
  – **Diabetes agents** (primary ADE of concern: hypoglycemia)
    – Opioids (primary ADE of concern: accidental overdoses, oversedation, respiratory depression)
• Several patient populations may be especially vulnerable to ADEs, including
  – Pediatric patients
  – Older adults
  – individuals with low socioeconomic status or low health literacy,
  – those with limited access to health care services,
  – **certain minority races or ethnic groups**

Ongoing Project: Assessing Disparities in Occurrence and Outcomes of Type 2 Diabetes Adverse Drug Events in Minority Populations Using RWD

- **Aim 1**: Improve the identification of severe hypoglycemia (SHG) events in ambulatory EHRs and claims.
- **Aim 2**: Compare SHG events across races/ethnicities and various social determinants of health (SDH) factors (e.g., housing instability, food insecurity, transportation challenges).
- **Aim 3**: Identify key disparity factors associated with increased likelihood of SHG among African American patients (after adjusting for clinical comorbidities).
- **Aim 4**: Discover contextual patterns (using EHR’s free-text) associate with higher rates of SHG among different minority and special-need populations.
- **Aim 5**: Explore applicability of methods to other areas.

Project is ongoing, report is expected in 2022.
Summary

• RWD/E can be used to augment clinical trial data in the evaluation of the impact of various intrinsic and extrinsic patient factors on treatment outcome.

• FDA is committed to using quality data from various sources and novel data analytics to better characterize and predict treatment outcome for minority population, and to improve health equity.
Acknowledgement

- Shiew-Mei Huang
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- Jamie Heyward

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- Jonathan Weiner
- Lauren Tansky
- Caleb Alexander
- Hsien-Yen Chang
- Thomas M Richards
- Elham Hatef
- Elyse Lasser
- Rachel Jones
The e-Care Plan for People with Multiple Chronic Conditions Project: Opportunities to Advance Health Equity

Jenna Norton, MPH
National Institute of Diabetes and Digestive and Kidney Diseases
jenna.norton@nih.gov
Agenda

- Race, place & health equity
- Overcoming challenges to health data infrastructure
- Multiple Chronic Conditions e-Care Plan Project
  - Applications for health equity
Race & ethnicity: poor proxies for genetics

- Americans who identify as Black:
  - ~25% of ancestry informative markers reflect non-African origin
- Americans who identify as Hispanic/Latino:
  - ~65% European ancestry, ~18% Native American ancestry, ~6% African ancestry
- Diverse admixture reflects:
  - European colonization
  - Enslavement of Black Americans
  - Race classification structures perpetuated by the “one-drop rule”

Racial/ethnic segregation perpetuates differential access to social determinants of health

- U.S. neighborhoods remain substantially segregated by race and ethnicity.
- Racial segregation and poverty often overlap
- **WHY are our communities segregated?**
Place Matters: Legacy of Racial Segregation

Government Policy and Segregation

- “Redlining” - federal policy that supported systematically denying mortgage loans to African Americans and excluding them from neighborhoods during a critical period of suburbanization

- Perpetuated residential segregation and poverty, inequitable access to opportunity and resources, and health inequities
Babies born to mothers in Maryland’s Montgomery County and Virginia’s Arlington and Fairfax Counties can expect to live 6-7 years longer than babies born to mothers in Washington, D.C. – just a few subway stops away.
OVERCOMING CHALLENGES TO HEALTH DATA INFRASTRUCTURE
Lack of infrastructure to share patient data across settings impedes clinical care
Lack of infrastructure to share patient data across settings impedes clinical care and research.
Lack of infrastructure to share patient data across settings impedes clinical care and research.

Status Quo

Challenges may be exacerbated in underserved communities due to:

- Reduced access to primary care
- Inconsistent health coverage
- Housing insecurity & transiency
- Higher prevalence of multiple chronic conditions
The e-care plan uses data standards to enable access to/sharing of comprehensive, person-centered information.
The e-care plan uses data standards to enable access to/sharing of comprehensive, person-centered information.
THE E-CARE PLAN FOR MCC PROJECT
Build capacity for pragmatic, patient-centered outcomes research by developing an interoperable electronic care plan to facilitate aggregation and sharing of critical patient-centered data across home-, community-, clinic- and research- based settings for people with multiple chronic conditions (MCC)
NIDDK/AHRQ Project Deliverables

1. Standardized data elements for diabetes, chronic kidney disease, cardiovascular disease & chronic pain

2. Clinical information models/FHIR profiles to specify data structure & semantics for storing all data elements in health IT systems

3. HL7 FHIR implementation guide to support MCC e-Care Plan development & implementation activities -- balloted as a standard for trial use

4. Pilot tested patient- & clinician-facing e-care plan applications that integrates with the EHR to pull, share, display and collect key patient data

* All deliverables will be open-source & freely available
Applications for health equity

- MCC disproportionately impact poor/underserved communities
- Heightened care coordination needs due to transitions in care providers
  - MCC requires multiple providers across multiple settings
  - Reduced access to primary care
  - Inconsistent health coverage
  - Housing insecurity & transiency
- Inclusion of social determinants of health data
  - Enable social risk informed and social need targeted care
- Limited application for populations without access to care
It takes a village!!

- **Contract Team**: Cognitive Medical Systems, EMI Advisors, RTI International, Oregon Health Services University
- **Technical Expert Panel**: Patients, caregivers, internal med/primary care, nephrology, cardiology, pain medicine, addiction medicine, geriatrics, psychology, nursing, social work, pharmacy, public health/health policy, clinical/health informatics, developers/vendors
- **Federal partners**: Agency for Community Living, Centers for Medicare & Medicaid Services, Health Services & Research Administration, Indian Health Service, National Cancer Institute (PROMIS), National Heart Lung and Blood Institute, National Institute on Aging, National Library of Medicine, Office of the National Coordinator for Health IT, Patient-Centered Outcomes Research Institute, Veteran’s Health Administration
- **Monitoring Board**: patients, clinicians, researchers, payers, informatics, policy, developers, vendors, health systems
- **HL7**: Patient Care Work Group (sponsor), Clinical Decision Support & Learning Health System (co-sponsors)
- **Complementary efforts**: Gravity, eLTSS, PACIO, MedMorph, Care Plan DAM, and many more!
- **You?** [https://ecareplan.ahrq.gov/collaborate/](https://ecareplan.ahrq.gov/collaborate/)
Questions and Answers
Closing remarks
3:00 - 3:05 p.m.