CARDI·OH

Ohio Cardiovascular and Diabetes Health Collaborative

SCHOOL OF MEDICINE
CASE WESTERN RESERVE UNIVERSITY

In partnership with:

THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER

COLLEGE OF MEDICINE AND LIFE SCIENCES THE UNIVERSITY OF TOLEDO

OHIO UNIVERSITY Heritage College of Osteopathic Medicine

Northeast Ohio MEDICAL UNIVERSITY

University of CINCINNATI FAMILY AND COMMUNITY MEDICINE

Boonshoft School of Medicine WRIGHT STATE UNIVERSITY

MedTAPP

OHIO COLLEGES OF MEDICINE GOVERNMENT RESOURCE CENTER

Ohio Department of Medicaid

Project ECHO®

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Ohio Cardiovascular & Diabetes Health Collaborative

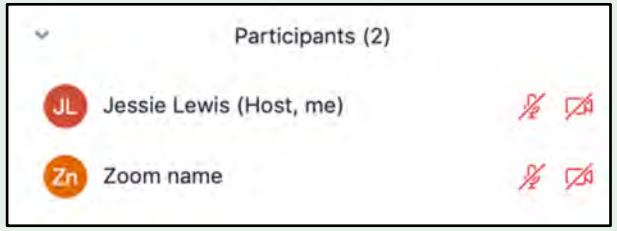
Cardi-OH ECHO Tackling Type 2 Diabetes

Thursday, January 21, 2021

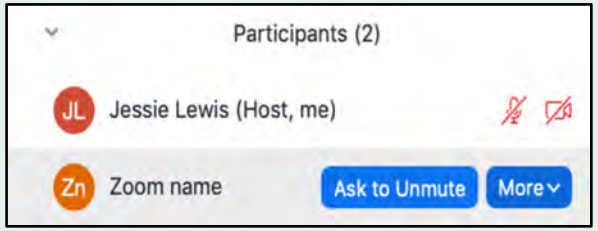
Reminders

- Enter your name and practice name into the Chat to record your attendance
- Rename yourself in the Participant List with your full name and practice name

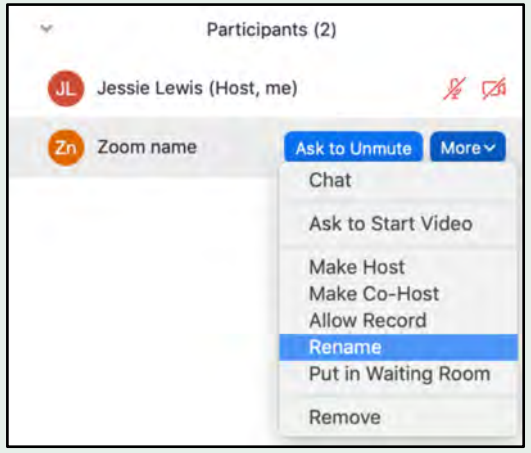
1. Hover over your name



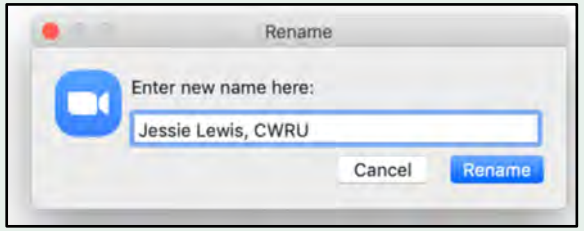
2. Select More



3. Select Rename



4. Type name and practice



- Mute your microphone unless speaking
- Comment or ask questions in the Chat at any time
- Please email jessie.lewis@case.edu if you need REDCap survey links re-sent
- Case study presentation dates were emailed to individuals – please confirm

Cardi-OH ECHO Hub Team

LEAD

Goutham Rao, MD
Case Western Reserve University

FACILITATOR

Kathleen Dungan, MD, MPH
The Ohio State University

DIDACTIC PRESENTERS

Liz Beverly, PhD
Ohio University

Goutham Rao, MD
Case Western Reserve University

CASE PRESENTER

Shari Bolen, MD, MPH
MetroHealth Bedford

Structure of ECHO Clinics

Duration	Item
5 minutes	Announcements and introductions
25 minutes	Didactic presentation, followed by Q&A
25 minutes	Case study presentation and discussion
5 minutes	Wrap-up/Post-Clinic Survey completion

Disclosure Statements

- The following planners, speakers, moderators, and/or panelists of the CME activity have financial relationships with commercial interests to disclose:
  - Kathleen Dungan, MD, MPH receives consulting fees from Eli Lilly and Tolerion, institutional research fees from Eli Lilly, Novo Nordisk, and Sanofi Aventis, and presentation honoraria from Nova Biomedical, Integritas, and Uptodate.
  - Adam T. Perzynski, PhD reports being co-owner of Global Health Metrics LLC, a Cleveland-based software company and royalty agreements for book authorship with Springer Nature publishing and Taylor Francis publishing.
  - Christopher A. Taylor, PhD, RDN, LD, FAND reports grant funding for his role as a researcher and presenter for Abbott Nutrition and grant funding for research studies with both the National Cattleman's Beef Association and the American Dairy Association.
  - Jackson T. Wright, Jr., MD, PhD reports research support from the NIH and Ohio Department of Medicaid and consulting with NIH, AHA, and ACC.
  - These financial relationships are outside the presented work.
- All other planners, speakers, moderators, and/or panelists of the CME activity have no financial relationships with commercial interests to disclose.

Health Literacy and Numeracy and Its Impact on Type 2 Diabetes

Elizabeth Beverly, PhD

Associate Professor

Heritage Faculty Endowed Fellowship in Behavioral Diabetes

OHF Ralph S. Licklider, DO, Research Endowment

Department of Primary Care

Ohio University Heritage College of Osteopathic Medicine

Goutham Rao, MD, FAHA

Chief Clinician Experience and Well-Being Officer, University Hospitals Health System

Jack H. Medalie Endowed Professor and Chairman

Department of Family Medicine and Community Health

Division Chief, Family Medicine, Rainbow Babies and Children's Hospital

Case Western Reserve University School of Medicine & University Hospitals Cleveland Medical Center

Objectives

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1. Describe the scope and impact of poor health literacy upon self-management of type 2 diabetes.
2. Define patient numeracy.
3. Describe the impact of poor patient numeracy in the self-management of type 2 diabetes.

Health Literacy

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- The degree to which people have the capacity to obtain, process, and understand basic health information and services to make appropriate health decisions.

HealthyPeople.gov; Health Literacy: A Prescription to End Confusion, 2004, National Academies Press.

Prevalence Low Health Literacy

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- Low health literacy in adults with type 2 diabetes:
  - Global prevalence: 34.3%
  - US prevalence: 28.9%
    - Education mediates the relationship between health literacy and health outcomes.

Abdullah A et al., PLoS ONE. 2019, 14(5): e0216402; Zimmerman EB et al., 2015, Popul Health Behav Soc Sci Insights; Van Der Heide I et al., 2013, J Health Commun.

Impact on Type 2 Diabetes

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- Lower health literacy associated with:
  - Less diabetes knowledge
  - Higher A1C levels
  - Decreased exercise and foot care*
  - Difficulty communicating and understanding medical terms
  - Less desire to participate in shared decision-making

*Significant in studies using self-report measures

Marciano L, et al. JGIM, 2019, 34(6): 1007-17.; DeWalt DA et al., Am J Health Behav, 2007; Castro CM et al., Am J Health Behav. 2007; Schillinger D et al., Patient Educ Couns. 2004.

Impact on Type 2 Diabetes

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- Gaps in knowledge:
  - Relationship between health literacy and self-care
  - Relationship between health literacy and self-efficacy
  - Gender differences
  - Effectiveness of interventions with experimental design
  - Cost-effectiveness of interventions
  - Influence of environment

Caruso R et al., 2018, Acta Diabetol..

Types of Health Literacy

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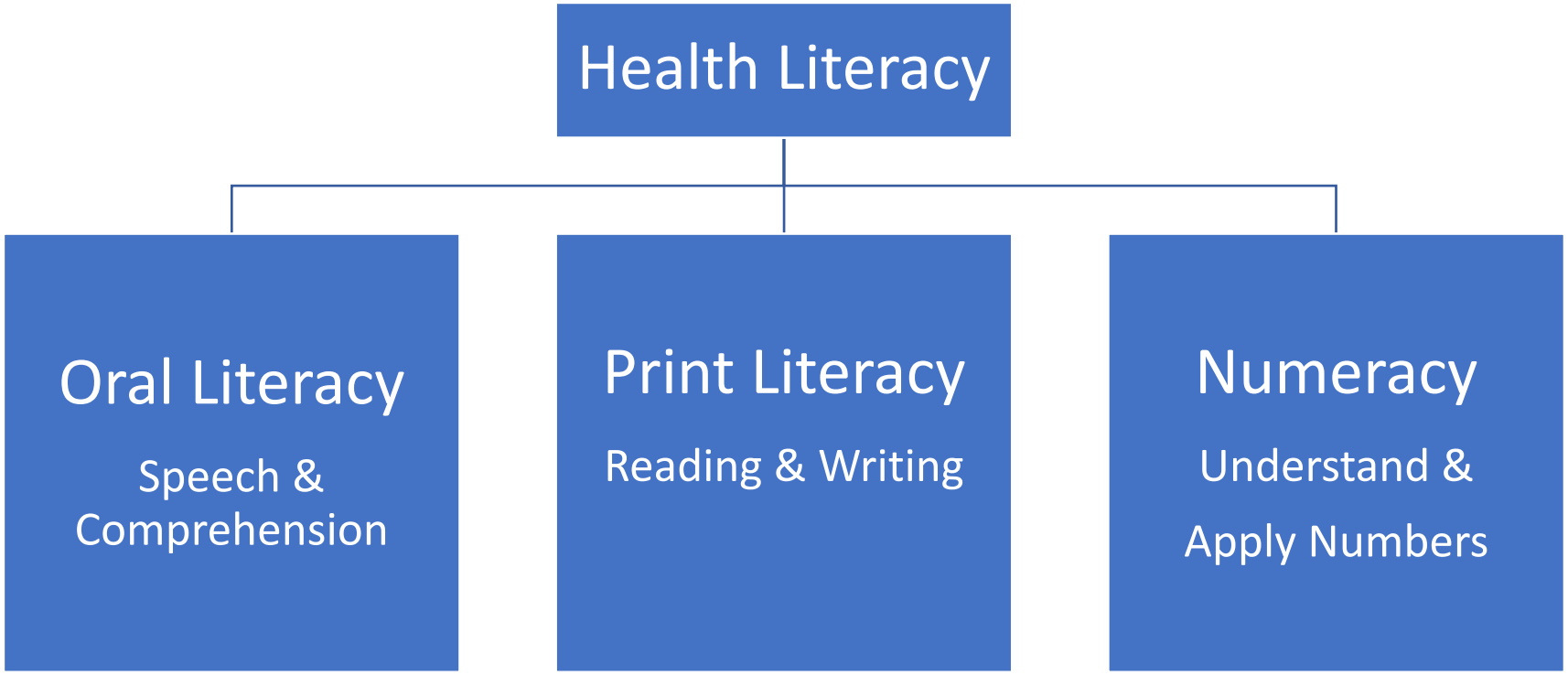

Institute of Medicine Committee on Health Literacy. Health Literacy: A Prescription to End Confusion. Washington, DC: the National Acadmies Press, 2004.

Numeracy in its Various Forms

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- Broadly:
  - the ability to understand and work with numbers

- Health numeracy:
  - Health numeracy is the degree to which individuals have the capacity to access, process, interpret, communicate, and act on numerical, quantitative, graphical, biostatistical, and probabilistic health information needed to make effective health decisions.

Physician/Health Professional Numeracy

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› Acad Med. 2010 Nov;85(11):1794-9. doi: 10.1097/ACM.0b013e3181e7218c.

Physician numeracy as the basis for an evidence-based medicine curriculum

Goutham Rao [1], Steven L Kanter

Affiliations + expand

PMID: 20671540 DOI: 10.1097/ACM.0b013e3181e7218c

Common Numeracy Skills

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- Skills:
  - Numeration/counting/hierarchy
  - Calculation (addition, subtraction, multiplication, division)
  - Understanding time/dates
  - Reading graphs/tables/figures/measurement
  - Using fractions/decimals/percentages/proportions
  - Understanding probability
  - Higher order mathematics (algebra, geometry, calculus, etc.)

- Applied (Contextual) Skills
  - Performing multi-step math problems
  - Estimation
  - Applying logic
  - Ability to interpret/infer mathematics from problem/situation, problem solving

Scope of the Problem

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- Given a bus schedule, 32% of adults cannot figure out the duration of a ride. (110 million Americans)
- Low numeracy strongly associated with poor diabetes control

New Report Documents Low Level of Numeracy in Adult Black Population

Filed in Research & Studies on September 7, 2020

The Program for the International Assessment of Adult Competencies is a large-scale study of working-age adults – ages 16 to 65 – conducted by the U.S. Department of Education that assesses adult skills in three domains: literacy, numeracy, and digital problem solving. The assessment defines numeracy as "the ability to access, use, interpret and communicate mathematical information and ideas in order to engage in and manage the mathematical demands of a range of situations in adult life."

So What Should We Do?

- Awareness
- Assessment

Question 1

You are told to follow the sliding scale shown here. The sliding scale indicates the amount of insulin you take based upon your blood sugar levels.

If Blood sugar is:	Units of Insulin
130-180	0
181-230	1
231-280	2
281-330	3
331-380	4

How much insulin would you take for a blood sugar of 295?

ANSWER ____ units

Correct answer: 3 units

Percent answered correctly 85%

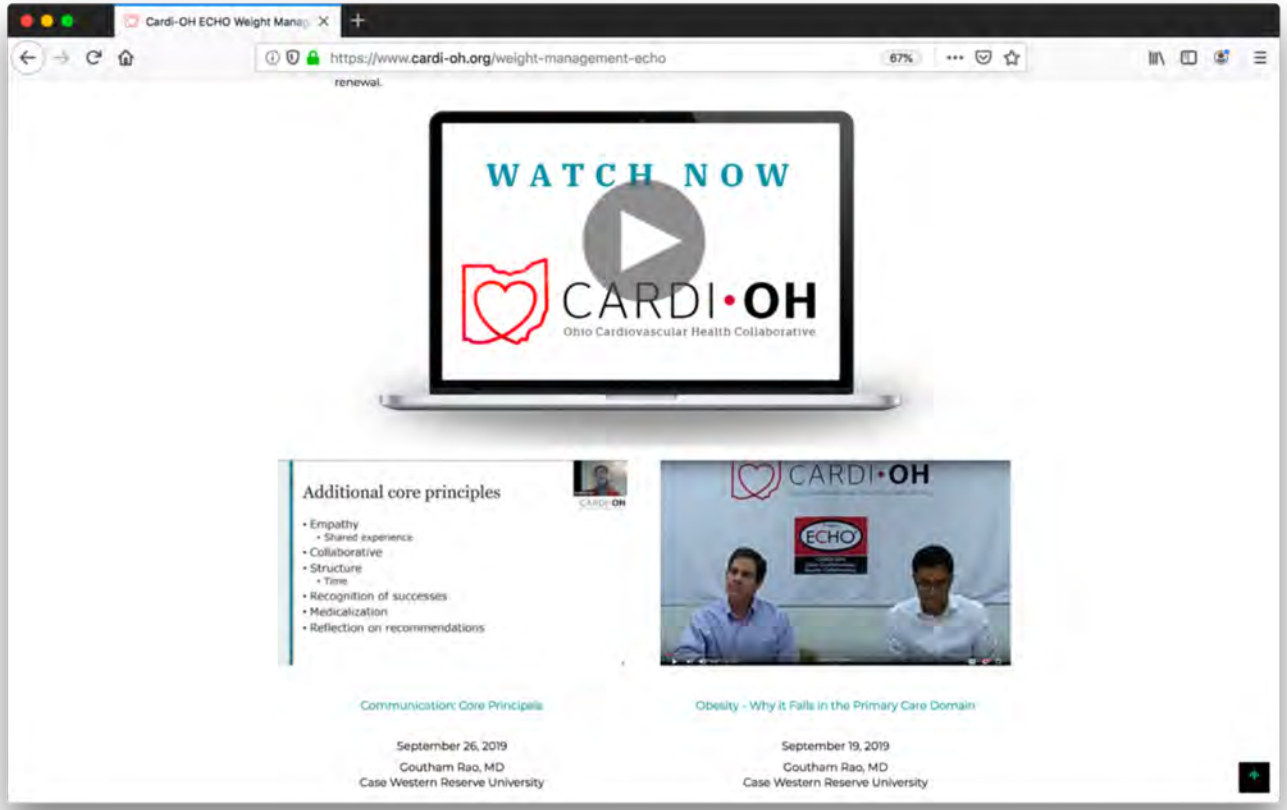
Thank you!

Questions/Discussion

Watch Previous Cardi-OH TeleECHO Clinics

Register on Cardi-OH.org to watch all Tackling Type 2 Diabetes TeleECHO Clinics:

https://www.cardi-oh.org/user/register
https://www.cardi-oh.org/echo/diabetes-spring-2021



Reminders

- A Post-Clinic Survey has been emailed to you.
  Please complete this survey **by Friday at 5:00 PM**.
- *The MetroHealth System is accredited by the Ohio State Medical Association to provide continuing medical education for physicians.*
- *The MetroHealth System designates this educational activity for a maximum of 1 AMA PRA Category 1 Credit(s)TM. Physicians should only claim credit commensurate with the extent of their participation in the activity.*

February 2021 Webinar

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Registration Now Open!

Integrating Behavioral Health and Primary Care Services: Lessons Learned From Three Ohio Practices

Wednesday, February 10, 2021
12:00 – 1:00 PM EST
No cost to attend
Free CME credits available

Register online:
https://www.cardi-oh.org/