



CARDI·OH

Ohio Cardiovascular and Diabetes Health Collaborative



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Cardi-OH ECHO

Health Equity and Cardiovascular Risk

March 7, 2024

About Cardi-OH

Founded in 2017, the mission of Cardi-OH is to improve cardiovascular and diabetes health outcomes and eliminate disparities in Ohio's Medicaid population.

WHO WE ARE: An initiative of health care professionals across Ohio's seven medical schools.

WHAT WE DO: Identify, produce, and disseminate evidence-based cardiovascular and diabetes best practices to primary care teams.

HOW WE DO IT: Best practices resources are available via an online library at Cardi-OH.org, including monthly newsletters, podcasts, webinars, and virtual clinics using the Project ECHO® virtual training model.

[Learn more at Cardi-OH.org](http://Cardi-OH.org)



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Cardi-OH ECHO Team

FACILITATOR

Goutham Rao, MD, FAHA
Case Western Reserve University

CONTENT EXPERTS

Karen Bailey, MS, RDN, LD, CDCES
Ohio University

Kristen Berg, PhD
Case Western Reserve University

Elizabeth Beverly, PhD
Ohio University

Danette Conklin, PhD
Case Western Reserve University

Kathleen Dungan, MD, MPH
The Ohio State University

Adam Perzynski, PhD
Case Western Reserve University

Marilee Clemons, PharmD
University of Toledo

Chris Taylor, PhD
The Ohio State University

Kelsey Ufholz, PhD
Case Western Reserve University

James Werner, PhD, MSSA
Case Western Reserve University

Jackson Wright, MD, PhD
Case Western Reserve University

Disclosure Statements



- The following speakers and subject matter experts have a relevant financial interest or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of their presentation*:
 - Danette Conklin, PhD; Kathleen Dungan, MD, MPH; Adam T. Perzynski, PhD; Christopher A. Taylor, PhD, RDN, LD, FAND; Jackson Wright, MD, PhD
- The remaining speakers and subject matter experts have no financial relationships with any commercial interest related to the content of this activity:
 - Karen Bailey, MS, RDN, LD, CDCES; Kristen Berg, PhD; Elizabeth Beverly, PhD; Merilee Clemons, PharmD; Revital Gordodeski Baskin, MD; Allyson Hughes, PhD; George Matar, MD; Kelsey Ufholz, PhD; Goutham Rao, MD; James Werner, PhD, MSSA
- The following members of the planning committee DO NOT have any disclosures/financial relationships from any ineligible companies:
 - Shari Bolen, MD; Anderson Christopher; Richard Cornachione; Carolyn Henceroth; Gillian Irwin; Michael Konstan, MD; Elizabeth Littman; Devin O'Neill; Steven Ostrolencki; Ann Nevar; Claire Rollins; Catherine Sullivan

* These financial relationships are outside the presented work.

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Telemedicine and Health Equity

Elizabeth A. Beverly, PhD

Professor

Co-Director of the Diabetes Institute

Osteopathic Heritage Foundation Ralph S. Licklider, D.O.

Endowed Professor in Behavioral Diabetes

Department of Primary Care

Ohio University of Heritage College of Osteopathic
Medicine

Kelsey Ufholz, PhD

Research Scientist

Department of Family Medicine and Community Health

Case Western Reserve University

Learning Objectives



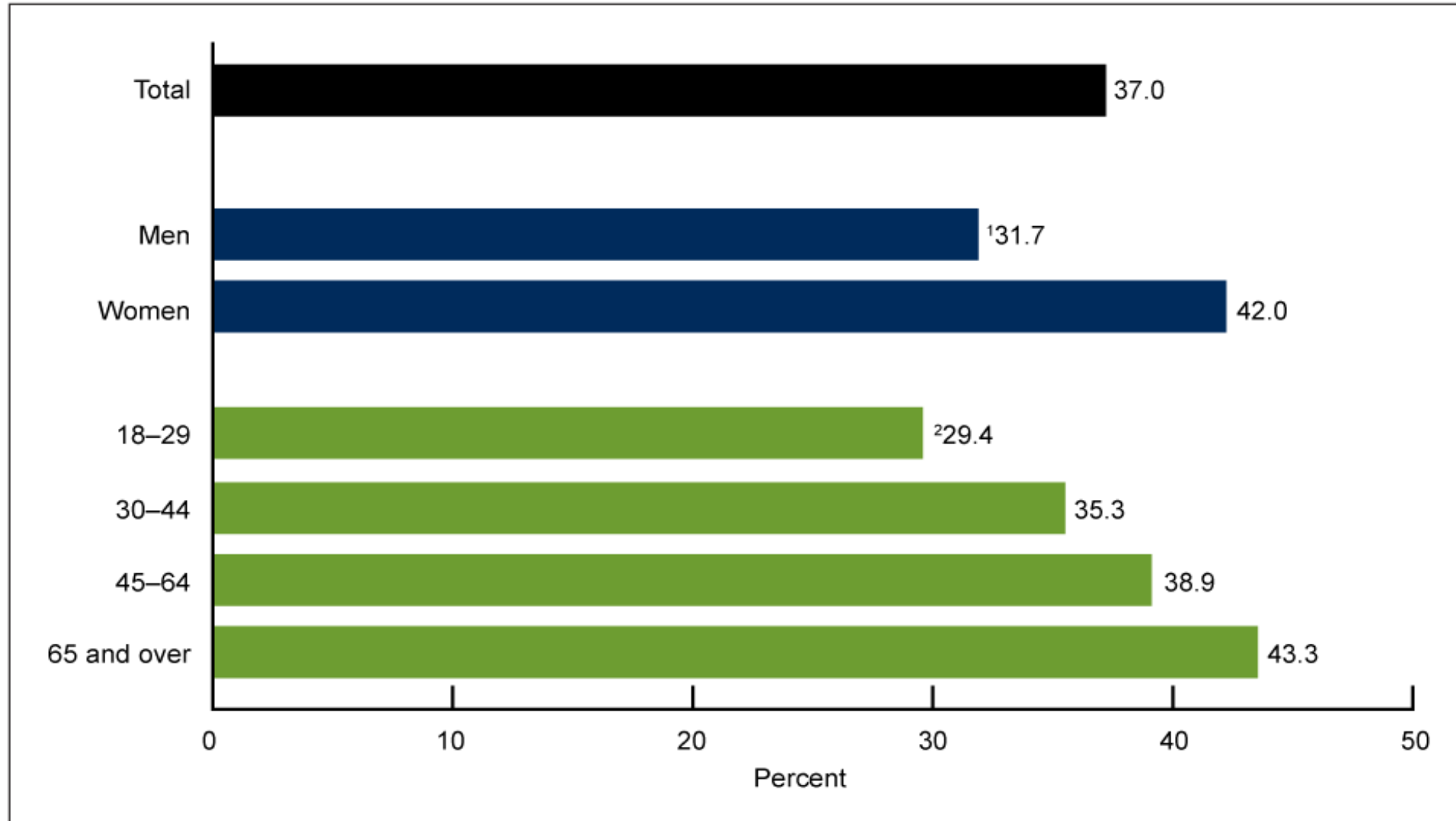
1. Describe disparities in use of technology for health purposes.
2. Describe strategies to prepare patients to participate in telemedicine.
3. Describe a minimum of two initiatives to mitigate cardiovascular risk among rural residents.

Telehealth Has Grown Rapidly



- Telemedicine estimated to grow 80% from baseline in 2020 alone
- Telemedicine, telehealth, m-health, e-health etc.
- Patients like to avoid COVID & traffic

Figure 1. Percentage of adults aged 18 and over who used telemedicine in the past 12 months, by sex and age: United States, 2021



¹Significantly different from women ($p < 0.05$).

²Significant linear trend by age ($p < 0.05$).

NOTES: Telemedicine use is defined as an appointment with a doctor, nurse, or other health professional by video or phone. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population. Access data table for Figure 1 at: <https://www.cdc.gov/nchs/data/databriefs/db445-tables.pdf#1>.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021.

Telemedicine Works!



- Primary care patients who received 12 weeks of diabetes self-management counseling by telemedicine showed improvements in HbA1C, blood pressure, body weight, and diabetes care self-efficacy compared to control
- Meta-analysis of 42 RCTs (telemed vs. usual care) for diabetes showed significantly:
 - **Greater** HbA1C reductions (mean difference for telemedicine vs usual care = -0.37; 95% CI -0.43, -0.31) ($p < 0.001$).
 - Especially for older patients (age > 50) (mean difference = -1.05; 95% CI -1.50, -0.60), ($p > 0.01$)

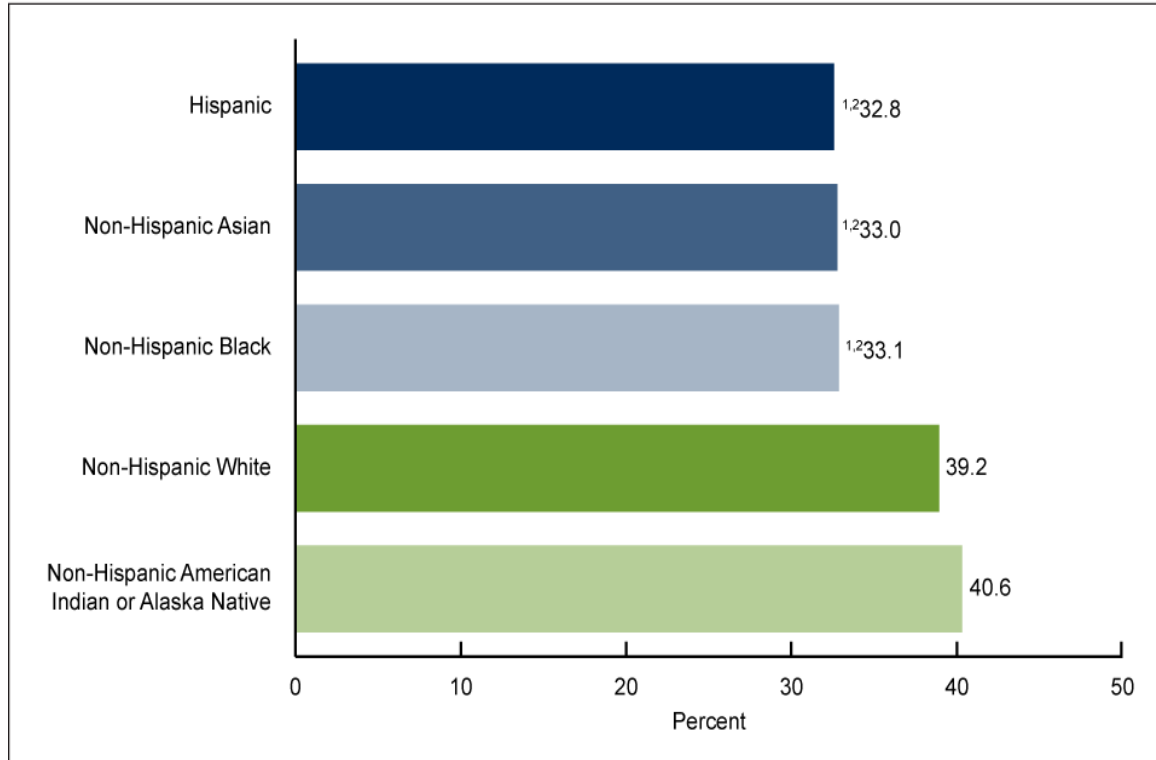
Telemedicine & CVD risk factors

- 28 RCTs from 2017-2022, focused on general population
 - A1C% (10 studies): significant, small mean effect size of $g = -0.432$ (95% CI: -0.522 — -0.341 ; $p < 0.001$)
 - Systolic & diastolic BP (6 studies): moderate and significant mean effect size of $g = -0.775$ (95% CI: -0.887 — -0.663 ; $p < 0.001$) for systolic BP & a small, significant mean effect size of $g = -0.447$ (95% CI: -0.572 — -0.321 ; $p < 0.001$) for diastolic BP.
 - Weight (7 studies): moderate, significant mean effect size, $g = -0.628$ (95% CI: -0.739 — -0.517 ; $p < 0.001$)
 - Minutes of PA (2 studies): no significant effects
- Overall: small but clinically meaningful

Telehealth is a Health Equity Issue



Figure 2. Percentage of adults aged 18 and over who used telemedicine in the past 12 months, by race and Hispanic origin: United States, 2021



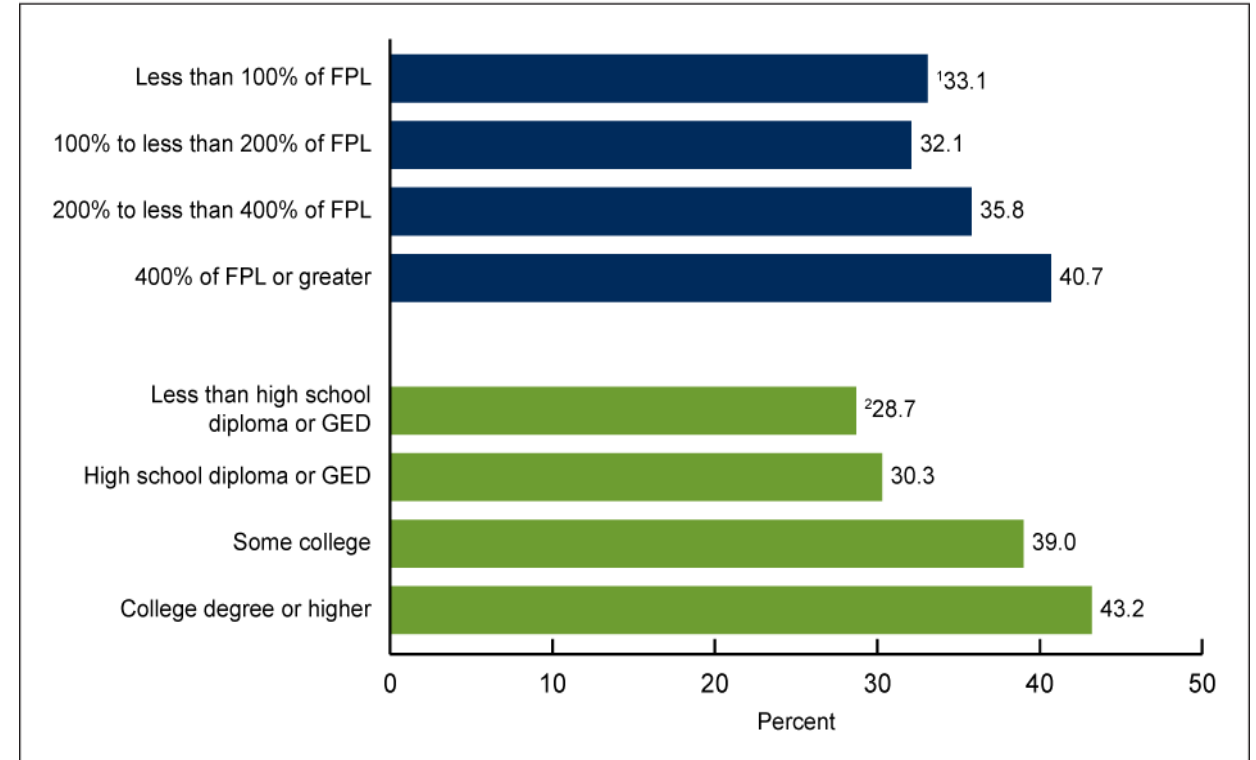
¹Significantly different from non-Hispanic White adults ($p < 0.05$).

²Significantly different from non-Hispanic American Indian or Alaska Native adults ($p < 0.05$).

NOTES: Telemedicine use is defined as an appointment with a doctor, nurse, or other health professional by video or phone. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population. Access data table for Figure 2 at: <https://www.cdc.gov/nchs/data/databriefs/db445-tables.pdf#2>.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021.

Figure 3. Percentage of adults aged 18 and over who used telemedicine in the past 12 months, by family income and education level: United States, 2021



¹Significant quadratic trend by family income as a percentage of FPL ($p < 0.05$).

²Significant linear trend by education level ($p < 0.05$).

NOTES: Telemedicine use is defined as an appointment with a doctor, nurse, or other health professional by video or phone. FPL is federal poverty level. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population. Access data table for Figure 3 at: <https://www.cdc.gov/nchs/data/databriefs/db445-tables.pdf#3>.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021.

Patient Readiness at Bolwell Clinic



- Survey of 30 primary care patients (age +65) with a chronic health condition
- Urban clinic, primarily low-income patients
- Feb - June 2021
- 10 question survey written for this study

Patient Readiness at Bolwell Clinic

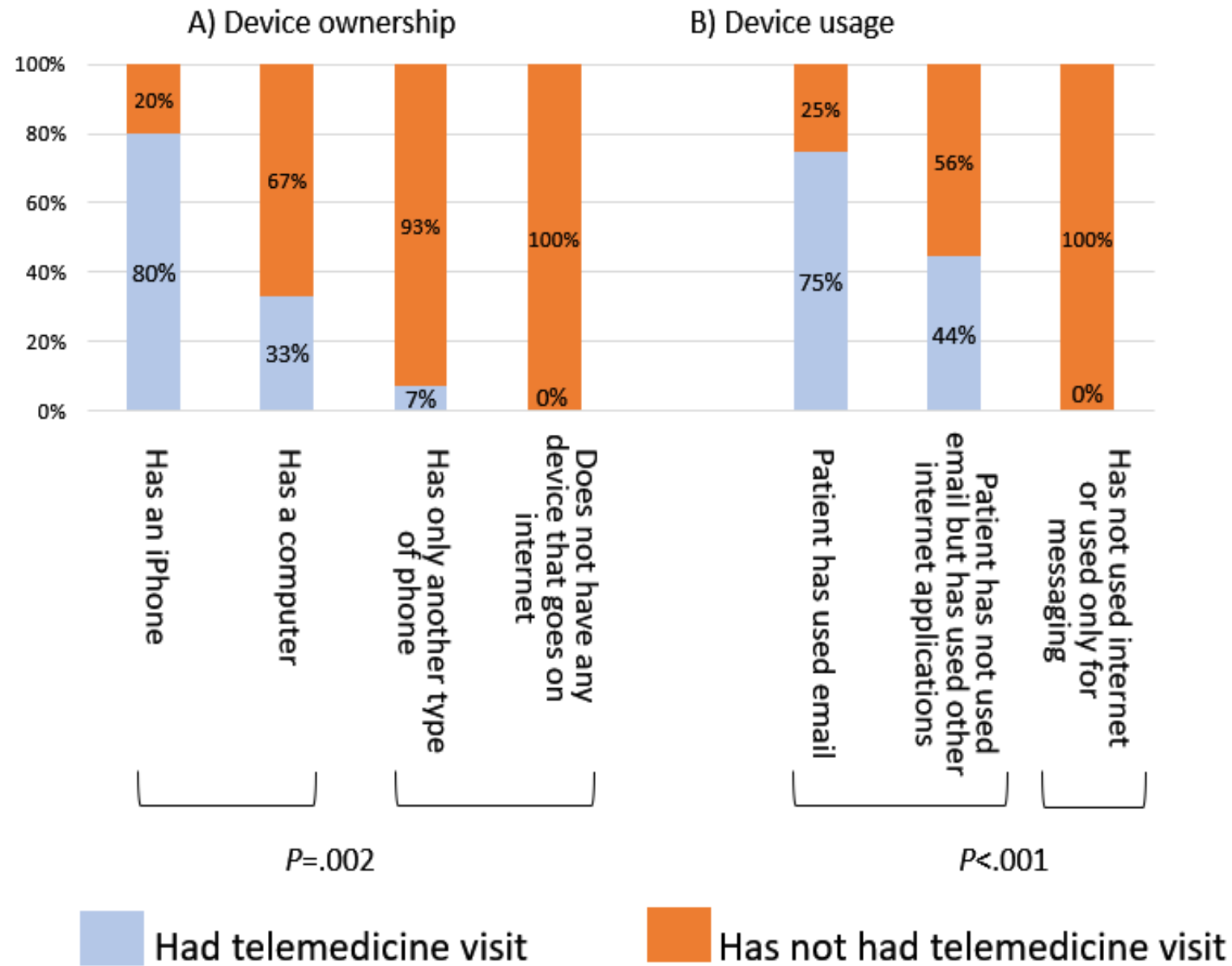


- Out of 30 respondents:
 - 25 respondents (83%) had telemedicine-capable devices & used the internet.
 - 7 respondents (23%) had attended telemedicine visits.
 - Few had devices like iPhones (5), desktops, laptops, or tablets (6) that are best suited to telemedicine.
 - 14 respondents (47%) had only a single device that was not an iOS-based mobile device.

Patient Readiness at Bolwell Clinic



- All participants with devices said they used them for “messaging on the internet”
 - Only function used by 12 of 30 respondents (40%)
- No one (0%) used the internet for banking or shopping
- Few used internet functions commonly needed for telemedicine
 - Email: 7 respondents (23%)
 - Video calling: 9 respondents (30%)
- Participants with a computer or iPhone were more likely to have had a telemedicine visit than others ($\chi^2=9.5$; $P=.002$)
- Participants used the internet for email or functions other than messaging ($\chi^2=11.9$; $P < .001$) more likely to have had a telemedicine visit



Rural Regions



- People in rural areas have limited access to health care, travel long distances for care, and/or delay care until there is an emergency.
- Limited access to care can result in negative health outcomes and increased expenditures for patients and the health care system.
 - Costs include travel to medical care, lost work hours, caregiver and/or childcare costs, etc.
- Telehealth provides an opportunity to reduce these barriers to care in rural areas.

Rural Regions: Telestroke Services

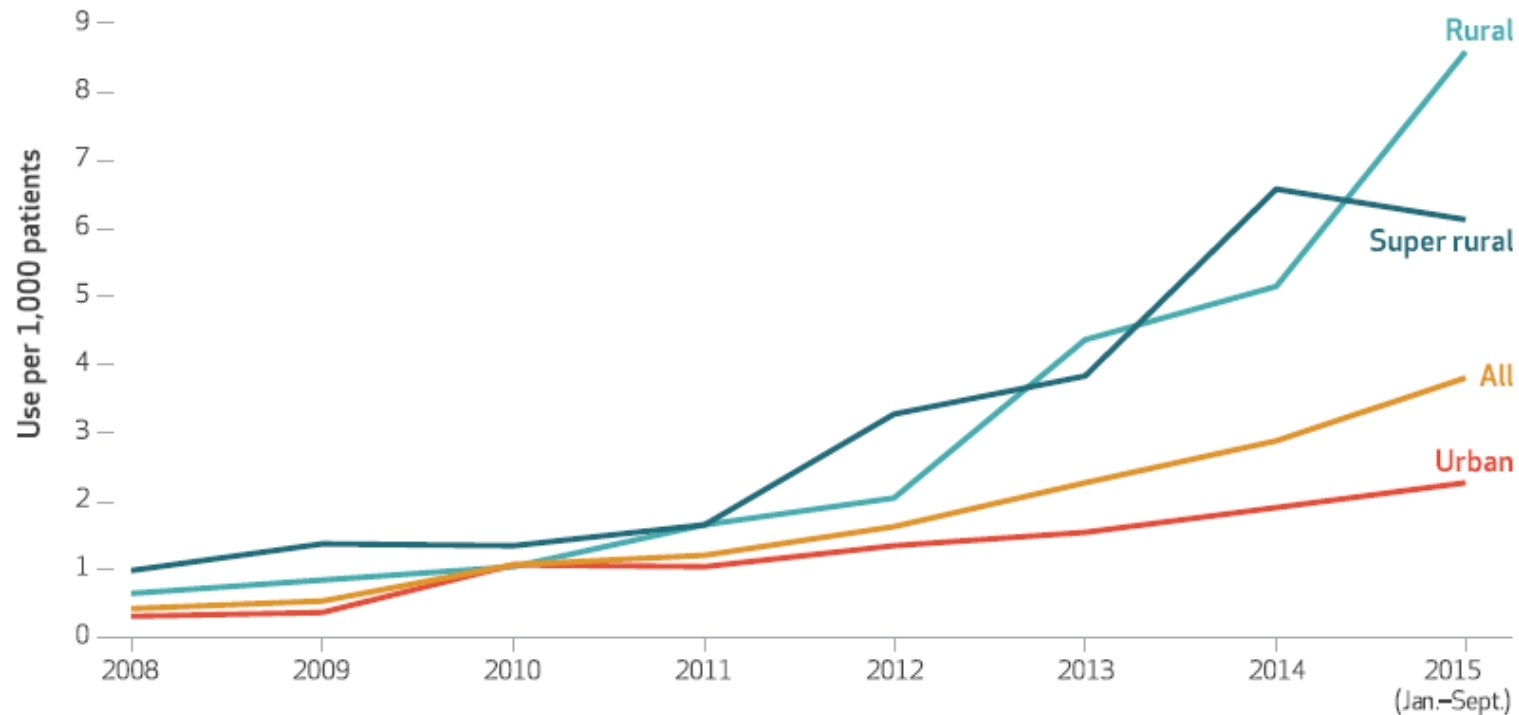


- AHA telestroke networks offer low-cost, effective tools to improve access to critical stroke care in rural areas.
- Assessed claims data from CMS from 1/1/2008 to 9/30/2015 (CMS began reimbursing telestroke services in 2007).
- The proportion of ischemic stroke cases where telestroke services were provided increased from 0.4 to 3.8 per 1,000.
 - Proportions were highest among younger, male, non-Hispanic white, and rural or super rural patients.

Rural Regions

EXHIBIT 2

Use of telestroke care per 1,000 fee-for-service Medicare patients with acute ischemic stroke, by rurality of residence, January 2008–September 2015



SOURCE Authors' analysis of fee-for-service Medicare claims data for the period January 1, 2008–September 30, 2015. **NOTE** Urban, rural, and super rural areas are explained in the notes to exhibit 1.

Rural Regions: DSMES



- 62% of rural communities have limited access to DSMES.
- 12-month trial in FQHC with telemedicine from CDCES providing DSMES via videoconferencing.
- 64% (n=27/42) achieved self-management goals.
 - Mean HbA1C decrease of 0.21% (95% CI: -0.279, -0.1336).
 - ↓ regimen-related diabetes distress (p=.0019; 95% CI: -0.1171, -0.0273)
 - ↑ dietary intake (p < .05; 95% CI: 0.0006, 0.1563)

Referral to Telemedicine Training for Older Adults with Type 2 Diabetes



- **Specific Aim # 1: Increase the telemedicine readiness of older African American patients with type 2 diabetes.**
- **Specific Aim # 2: Evaluate the experience of those who complete telemedicine appointments in terms of overall satisfaction.**

Study Procedures

- Patients (aged 50-70) with T2D & a telemedicine-ready device
- Have not already had a successful telemedicine appointment
- Screened for telemedicine readiness
- Call digital navigator's hotline
- Referred to community partners
 - Digital skills training & telemedicine readiness
- Telemedicine diabetes management appointment scheduled for 6 months later
- Primary outcome: did they have a telemedicine appointment?

Participants who completed a telemedicine appointment:

- How was your overall telemedicine experience?
- How did your telemedicine appointment compare to an in-person appointment?
- Did you find the telemedicine training helpful? Why or why not?
- What would have made your telemedicine appointment better?
- Were you able to address all your questions about managing your diabetes in the telemedicine visit?
- Would you want to schedule another telemedicine visit (either to replace or add to an in-person visit) in the future? Why or why not?

Patients who did NOT complete a telemedicine appointment:

- What barriers did you face in making and attending a telemedicine appointment?
- Are you still interested in having a telemedicine appointment?
- Did the telemedicine training program meet your needs? If not, what could have been better?
- Do you have any other barriers to using telemedicine that you could tell us about?



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Thank you!

Questions/Discussion