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5-2022

## **Leveraging a Digital Platform to Address Health Literacy and Equity Needs of a Vulnerable Population: The Justice-Involved**

Gail M. Kouame

*University of South Alabama*, [gmkouame@southalabama.edu](mailto:gmkouame@southalabama.edu)

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### **Recommended Citation**

Kouame, G. (2022, April 4-6). Leveraging a digital platform to address health literacy and equity needs of a vulnerable population: The justice-involved [Conference session]. Wisconsin Health Literacy Summit, Madison, WI, United States.

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# Leveraging A Digital Platform to Address Health Literacy and Equity Needs of a Vulnerable Population: The Justice-Involved

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*Gail Kouame, MLIS*

*Director, Charles M. Baugh Biomedical Library*

*University of South Alabama*

# Some Definitions

**Jail** - Short-term facilities usually administered by local law enforcement agencies. Jail inmates usually have a sentence of less than a year or are being held pending a trial, awaiting sentencing, or awaiting transfer to another facility.

**Prison** - Longer-term facilities owned by a state or by the federal government. Prisons typically hold felons with sentences of more than a year.

# Some Definitions

**Inmate** – an individual in custody in a public institution who is held involuntarily through operation of law enforcement authorities.

**Incarcerated** – serving a term in prison or jail.

**Justice-involved** – anyone who is currently, or has been involved, with the criminal justice system – jail, prison, pre-release, community supervision – pretrial, probation or parole.

**Returning citizens** – removing the stigma of labels like ex-con, ex-offender, criminal, thug.

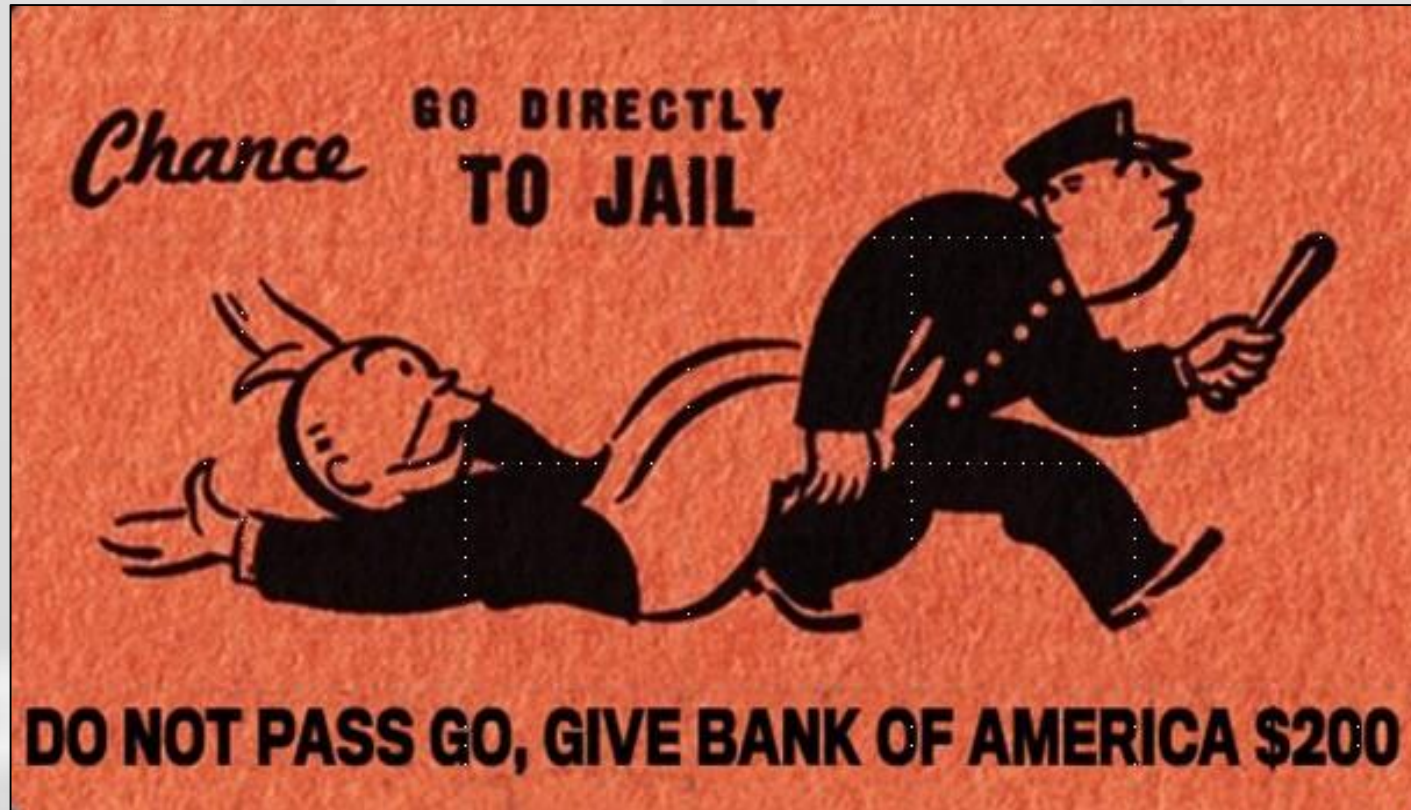
# American Criminal Justice System\*

## **Holds 2 million people in:**

- 1,719 state prisons
- 109 federal prisons
- 1,772 juvenile correctional facilities
- 3,163 local jails
- 80 Indian Country jails

\* Does not include military prisons or immigration detention facilities

# 9 Million Cycle Through Local Jails Per Year



# There's Probably Someone You Know...

- 1 in 40 US adults (or 2.5% of US adult population) are under some form of correctional supervision
- 95% of state prisoners will be released from prison at some point
- In a 2018 study, 68% of released state prisoners were arrested within 3 years; 79% within 6 years; 83% within 9 years

# Health Disparities Among Incarcerated Populations

A population is a health disparity population if there is a significant disparity in the overall rate of:

- Disease incidence
- Prevalence
- Morbidity
- Mortality
- Survival rates

...in the population as compared to the health status of the general population.



# Health Disparities Among Incarcerated Populations

Parameter	Justice-Involved Population	General Population
Chronic Health Conditions	80-90%	50%
Substance Use Disorder (SUD)	65-85%	9%
Mental Illness	63-76%	18%
Co-occurring Mental Illness & SUD	45%	4%
History of Past Trauma (ACEs)	70-95%	12%
Educational Attainment (HSD/GED)	40%	84%
Health Insurance Coverage	10-20%	80-90%
Risk of Death from Suicide/DO	10-40xs GP	

# Health Disparities Among Incarcerated Populations

Higher rates of HIV, Hepatitis C, Tuberculosis, diabetes, asthma and high blood pressure than general population<sup>1</sup>

Once released, justice-involved die at 12 times the rate of the general population<sup>2</sup>

Higher rates of mental health and substance use disorders than other vulnerable high risk populations<sup>3</sup>

Attributable to limited health literacy, lack of access to health care services, and inability to navigate a complex healthcare system<sup>4</sup>

<sup>1</sup>Bai et al. 2015. *J Health Care*

<sup>2</sup>Binswanger et al. 2007. *NEJM*

<sup>3</sup>Hassan et al. 2014. *NIHR Journals Library*

<sup>4</sup>Easley, CE (2011). *Public Health*

# So, What Can Be Done?



# The Inspiration

## Express Outreach Awards\*

**Part I** – *Improving Health Literacy and Personal Health Management of Inmates*

October 1, 2011 – August 31, 2012

**Part II** – *Promoting Health Insurance and Enrollment Literacy with Inmates*

October 1, 2013 – August 30, 2014

\*National Network of Libraries of Medicine (NNLM) Pacific Northwest Region (PNR), University of WA, Seattle, WA

# Collaborators/Partners

- Gallatin County Detention Center
- Montana State University (Extension, College of Nursing, Department of Sociology & Anthropology, & Library)
- Gallatin City-County Health Department
- Community Health Partners
- Gallatin Mental Health Center
- Bozeman Public Library
- Gallatin County Reentry Task Force

# The Grant

**National Library of Medicine (NLM) | National Institutes of Health (NIH) –  
Information Resource Grant to Reduce Health Disparities**

“...projects that will bring useful, **usable health information to health disparity populations** and the health care providers who care for those populations...

Proposed projects should **exploit the capabilities of computer and information technology and health sciences libraries** to bring health-related information to consumers and their health care providers.”

# Aims Of The Study

## *Specific Aims:*

**Aim 1:** Conduct a health needs assessment to determine the special health information needs and the health coverage eligibility status of justice-involved individuals preparing for reentry into the community;

**Aim 2:** Deliver comprehensive health information curricula and training modules to justice-involved individuals currently incarcerated at Edovo partner sites;

# Aims Of The Study

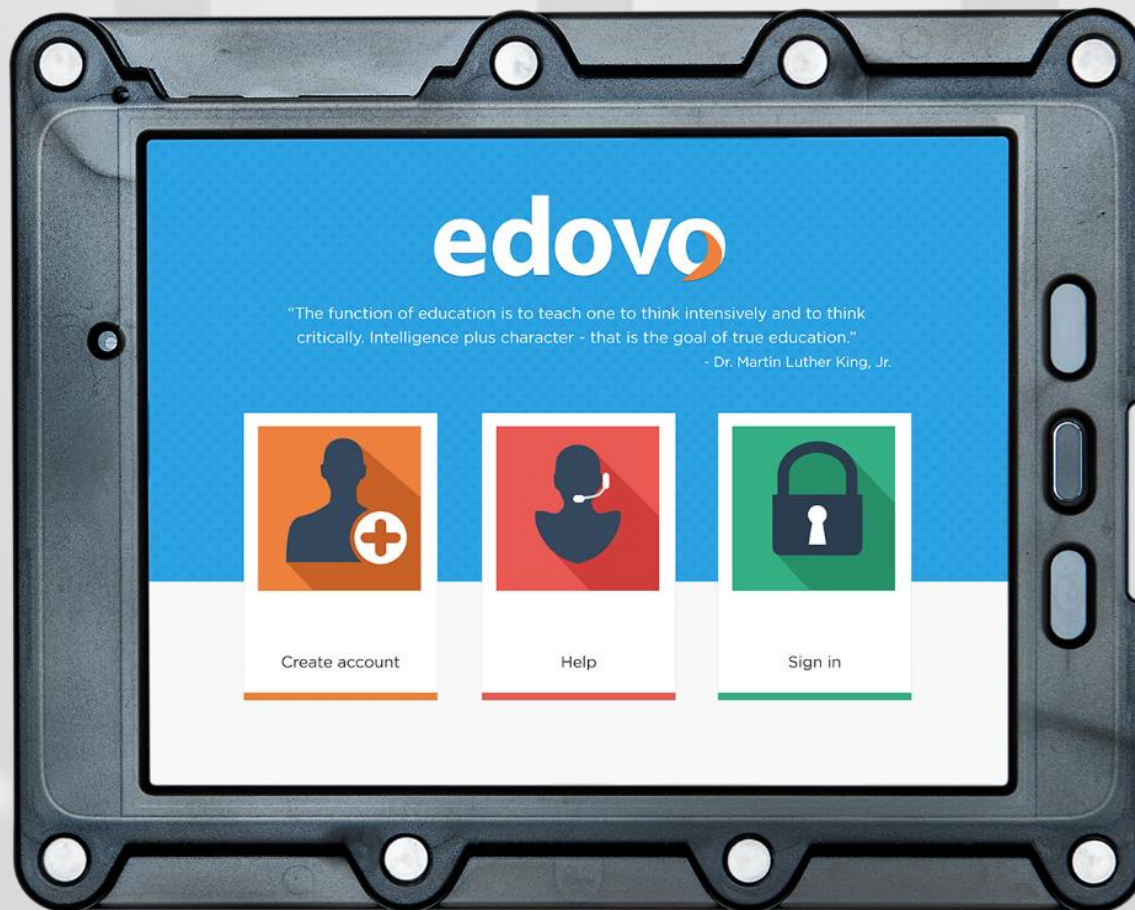
## *Specific Aims (cont'd)*

**Aim 3:** Measure the impact that health information training has on the level of health literacy, the confidence to improve self-care management skills, and the interactions with health care providers;

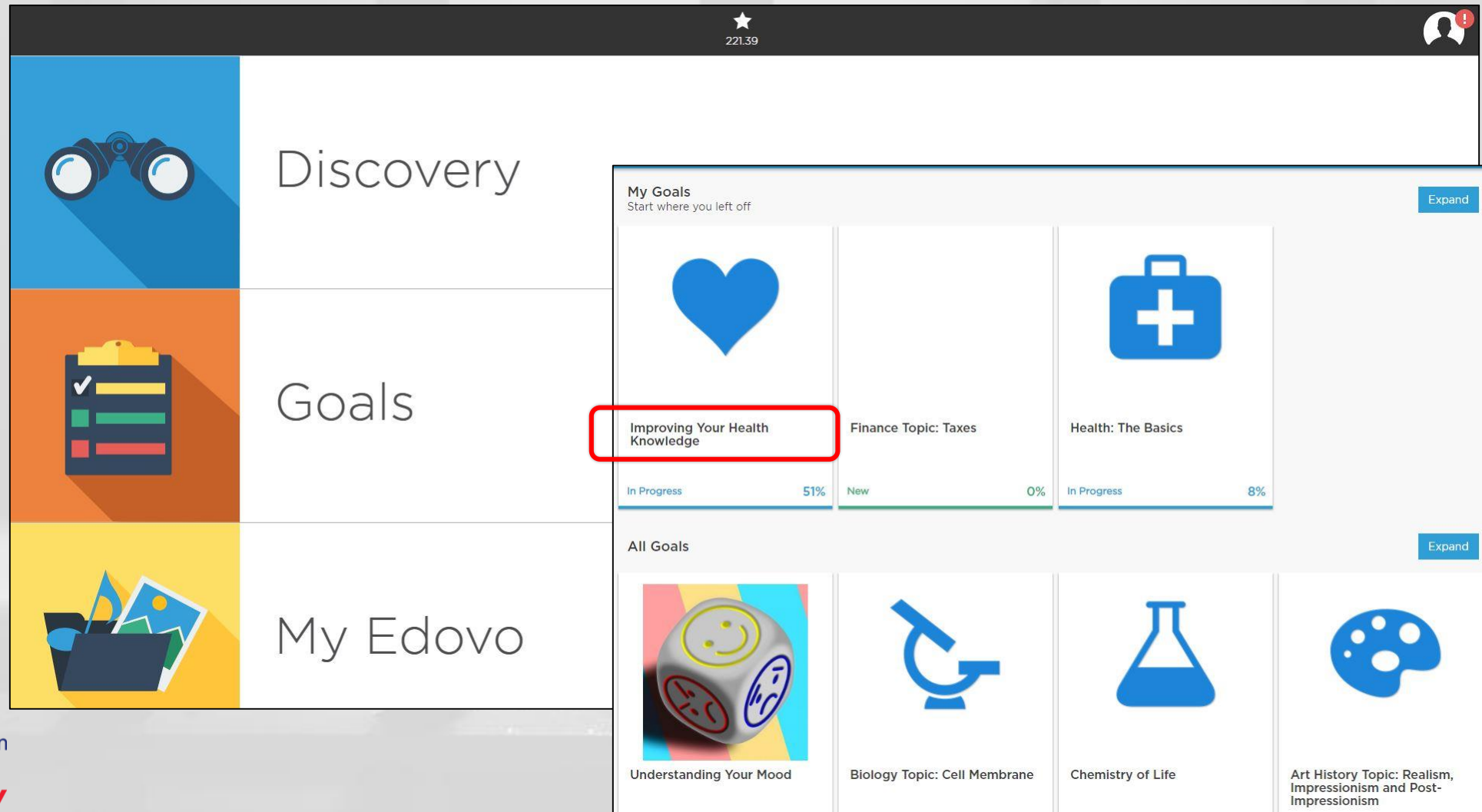
**Aim 4:** Follow a sample of justice-involved individuals for 6 months after they are released from incarceration to collect post-release outcomes



# Enter Edovo -Secure Tablet Technology



# Edovo Educational Content



The screenshot shows the Edovo Educational Content dashboard. At the top, there is a navigation bar with a star icon, the number 221.39, and a user profile icon with a notification badge. The main content area is divided into three vertical sections: 'Discovery' (blue background with binoculars icon), 'Goals' (orange background with clipboard icon), and 'My Edovo' (yellow background with folder icon). The 'Goals' section is expanded to show a grid of goal cards. The first card, 'Improving Your Health Knowledge', is highlighted with a red border and shows a heart icon, 'In Progress' status, and 51% completion. Other cards include 'Finance Topic: Taxes' (0% completion), 'Health: The Basics' (8% completion), 'Understanding Your Mood' (dice icon), 'Biology Topic: Cell Membrane' (microscope icon), 'Chemistry of Life' (flask icon), and 'Art History Topic: Realism, Impressionism and Post-Impressionism' (palette icon). Each goal card has an 'Expand' button in the top right corner.

Goal Title	Icon	Status	Progress
Improving Your Health Knowledge	Heart	In Progress	51%
Finance Topic: Taxes	None	New	0%
Health: The Basics	First Aid Kit	In Progress	8%
Understanding Your Mood	Dice	None	None
Biology Topic: Cell Membrane	Microscope	None	None
Chemistry of Life	Flask	None	None
Art History Topic: Realism, Impressionism and Post-Impressionism	Palette	None	None

# Health Education Modules - Themes

Primarily  
short  
videos

Health Topic	Health Topic
Advocacy & Self-Care	Nutrition & Physical Activity
Preventive Care	Anxiety & Depression
Addiction & Substance Use	Dental Health
Pain Management	Smoking Cessation
Sexual/Reproductive Health	Medications & Lab Results
Mental Health	Health Insurance

# Methods

- Needs assessment administered via tablets at all Edovo partner facilities nationwide (February 2018)
- Research study administered via tablets at ten study participant corrections facilities where Edovo tablets already in place (February 2019 – February 2020)
- Study consent provided via video and PDF document linked in tablet
  - Eligibility: At least 18 years old; between 21 and 180 days remaining of sentence


# Methods

- Health education modules grouped as a Goal in the Edovo system
- Pre-and post-intervention questionnaires administered via tablets. Reminder messages sent to those who had accessed content but not yet completed questionnaires
- Participation incentivized with increments totaling up to \$50 loaded onto ClinCards at different stages of the study
- Contact information for the project distributed to facilitate post-release follow-up



# Video Consent

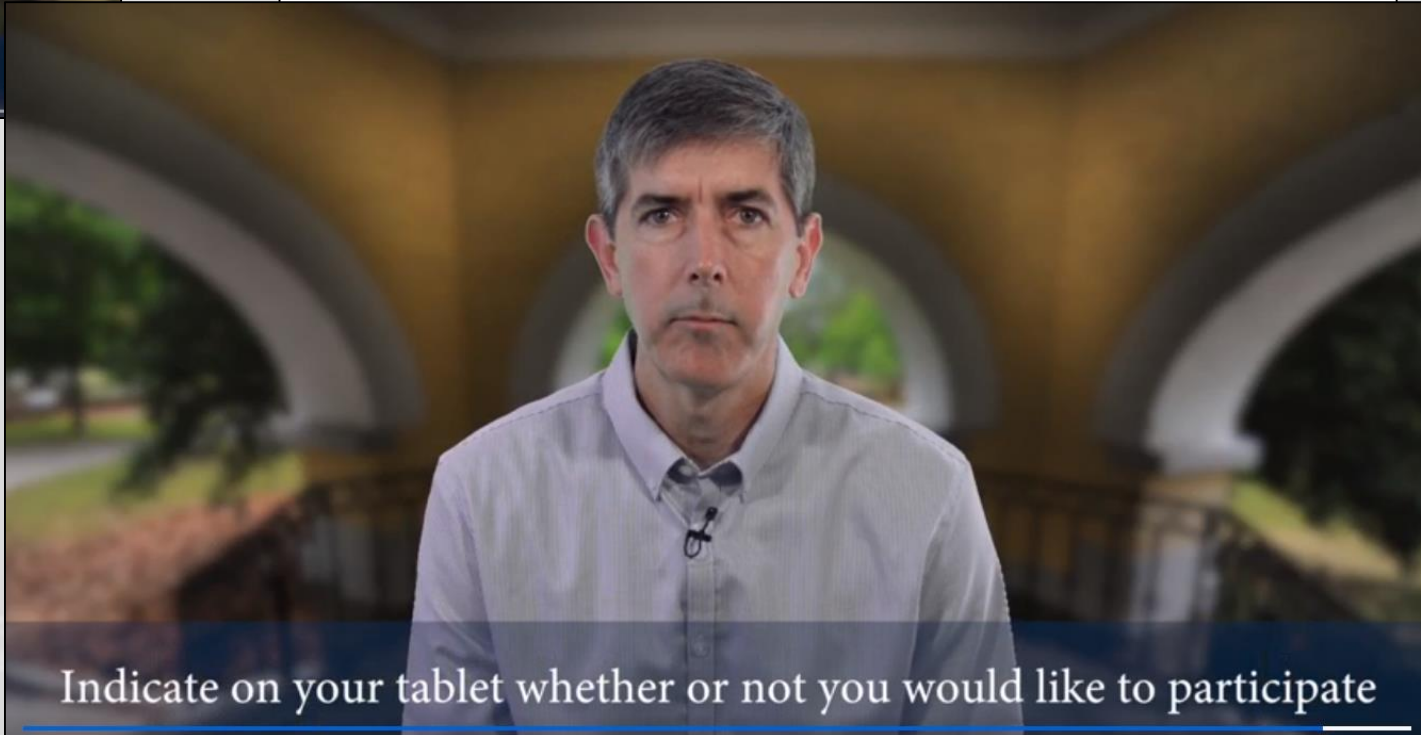
If you tell us that you or others have been or may be physically harmed, we are required to report that information.



Gail Kouame

✓ Does your knowledge about health issues get better after completing topics on the tablet?

✓ Do you use this information when you return to your community?



Indicate on your tablet whether or not you would like to participate

# Methods

- Data about which modules were accessed collected and data dashboards sent to research team weekly
- Data from pre- and post-intervention questionnaires collected and managed at Edovo
- Raw questionnaire data made accessible to research team for analysis

# Three Sets Of Study Questions

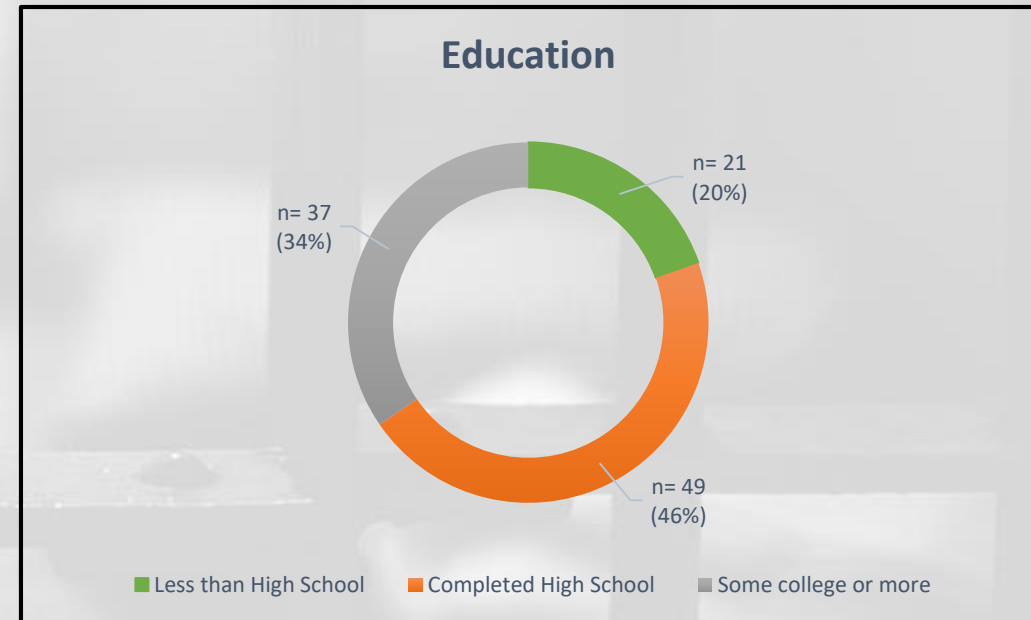
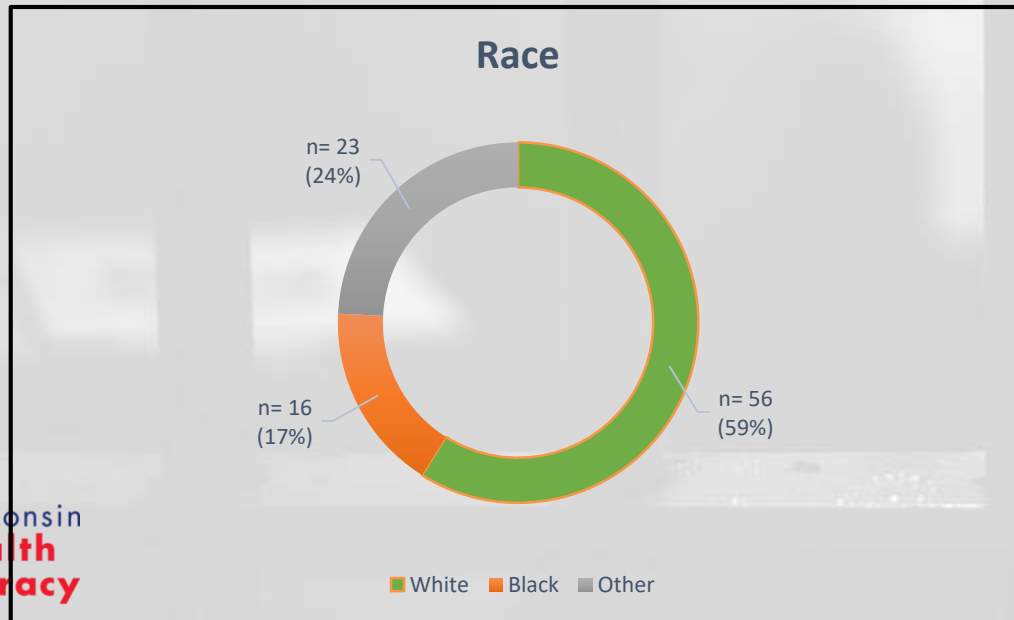
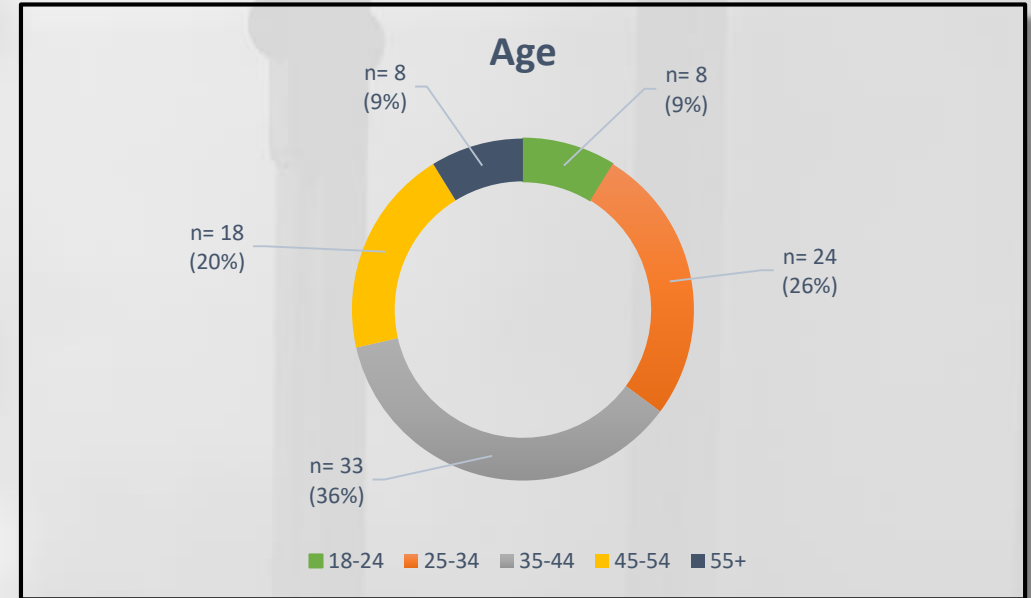
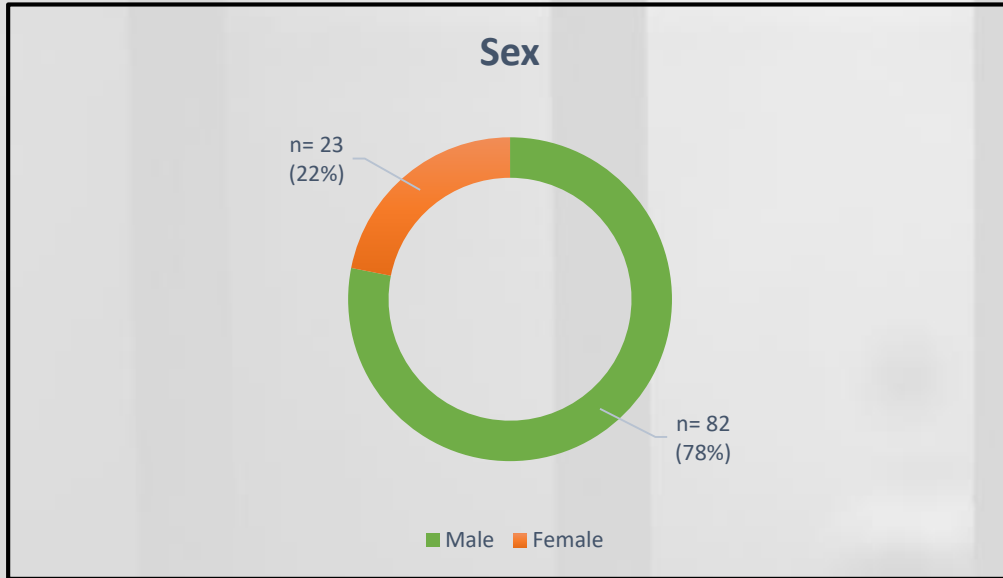
1. Questions to measure health literacy
2. Questions regarding importance of health behaviors
3. Questions regarding confidence in performing selected health-related behaviors



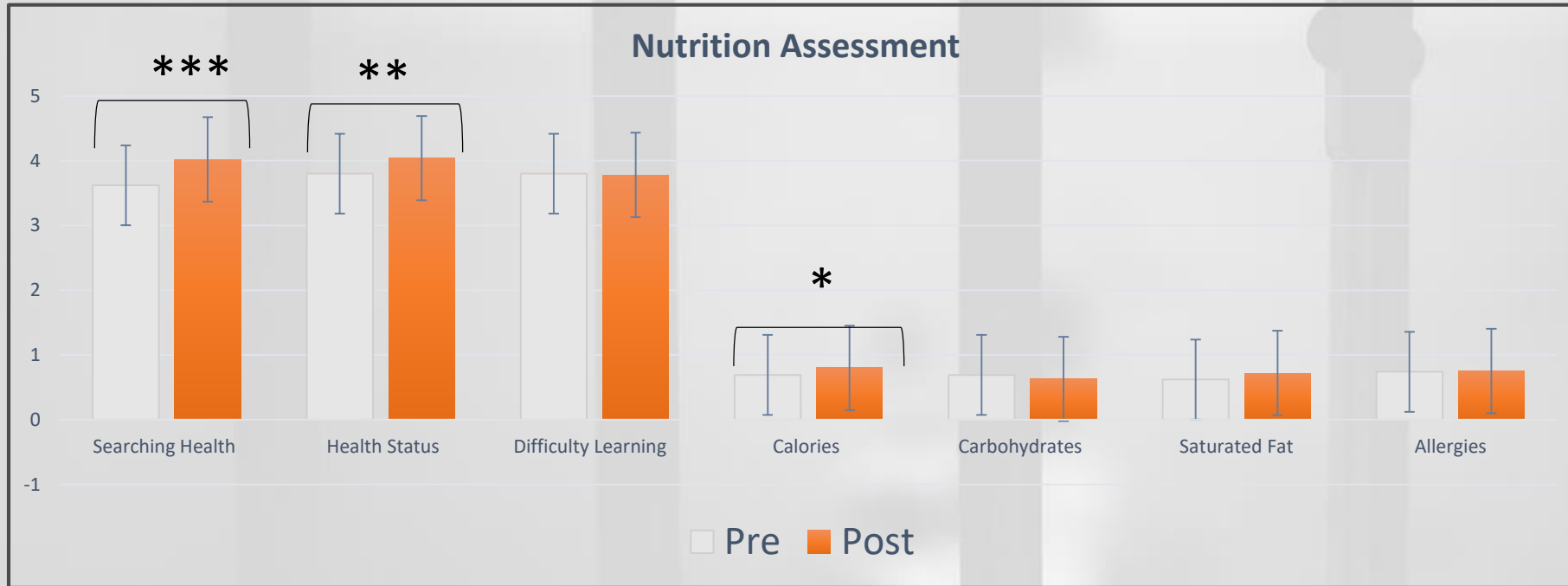
# Results

- Over 3,000 individuals at participating facilities accessed at least one educational module
- 453 individuals completed the introductory material and the consent
- 112 individuals completed all phases of the research study
  - The following data represents the findings from these participants
  - All questions were optional to answer
- 9 individuals completed the post-release survey

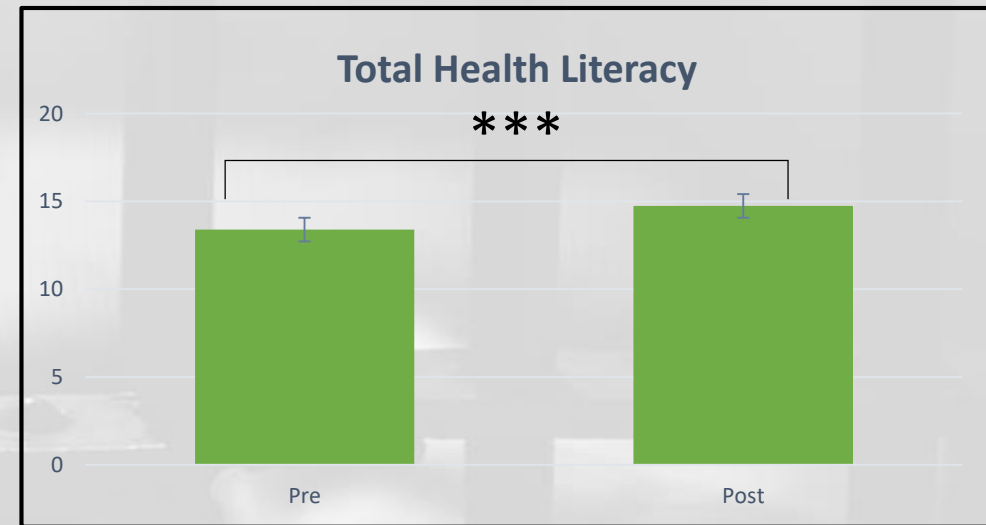
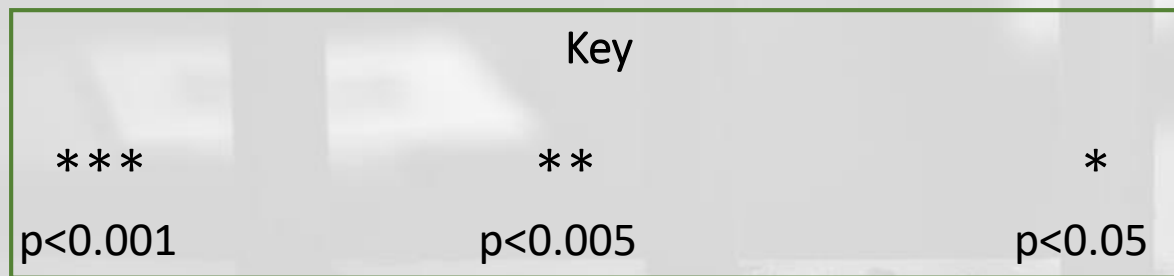
# Results - Demographics



# Health Literacy Results

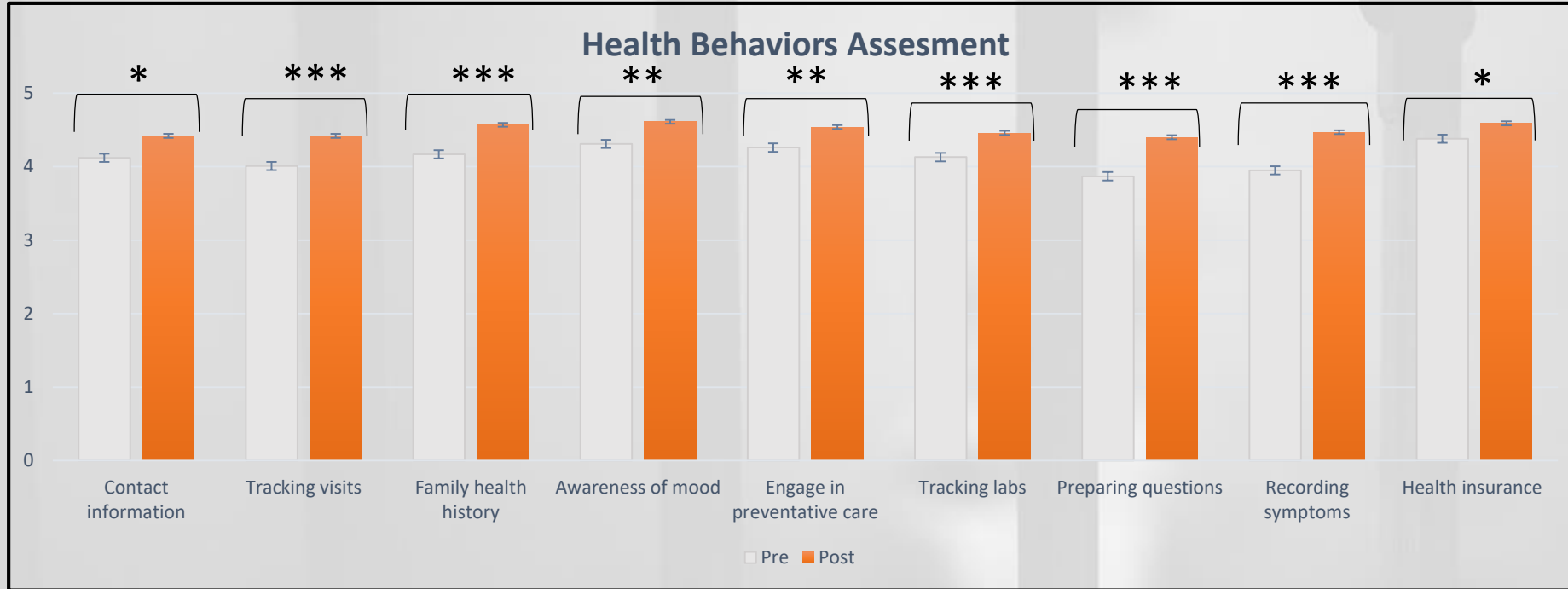


Results from individual questions

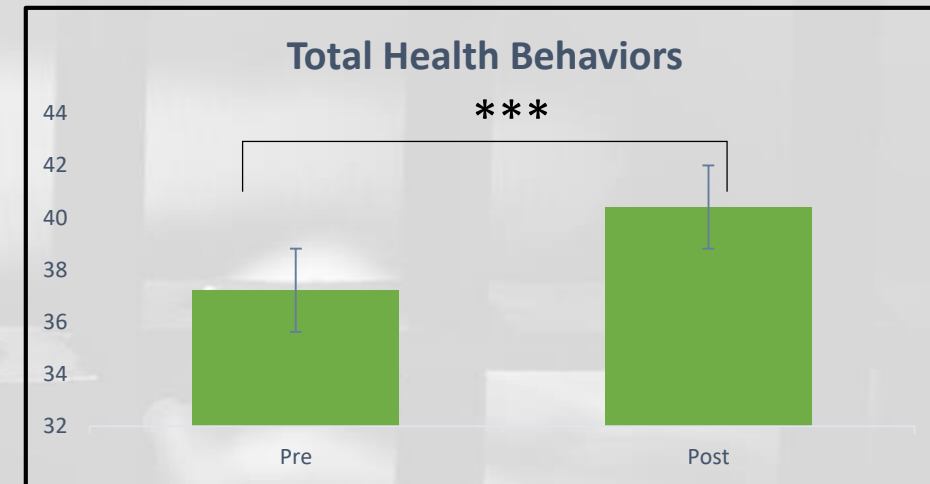
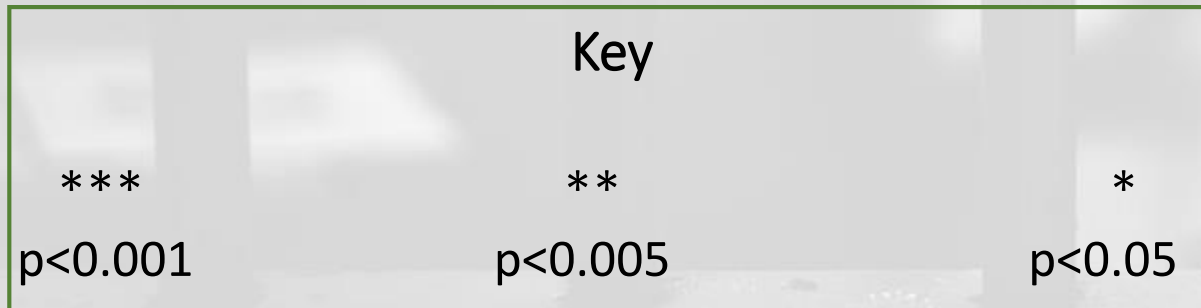


Aggregate data from all questions

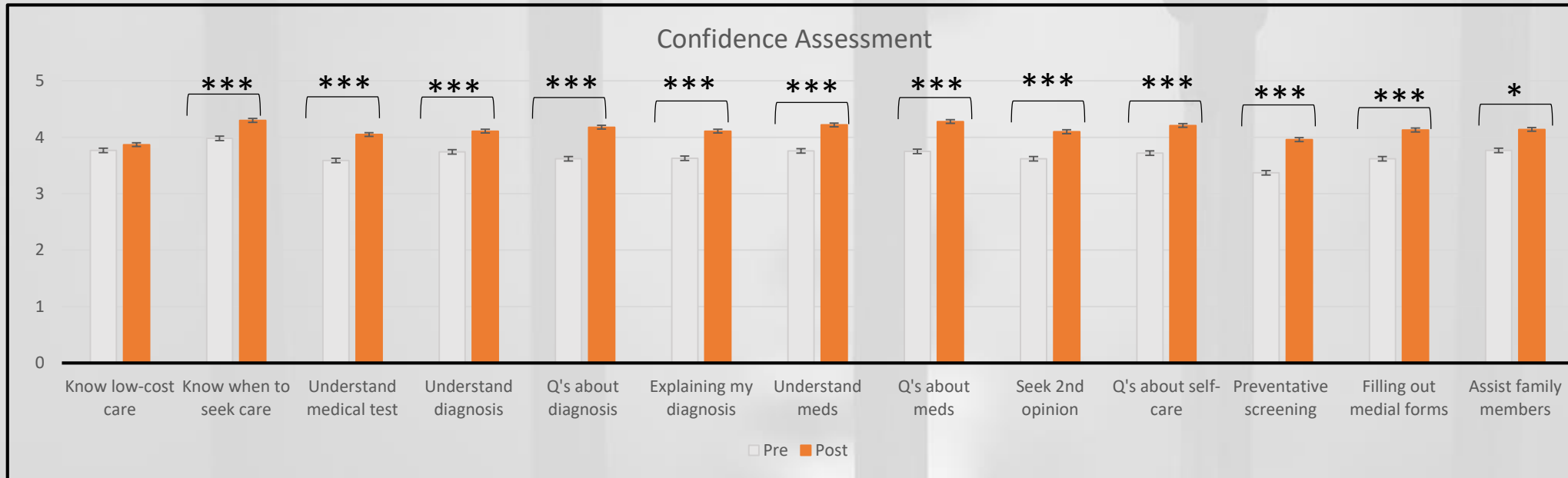
# Health Behaviors Results



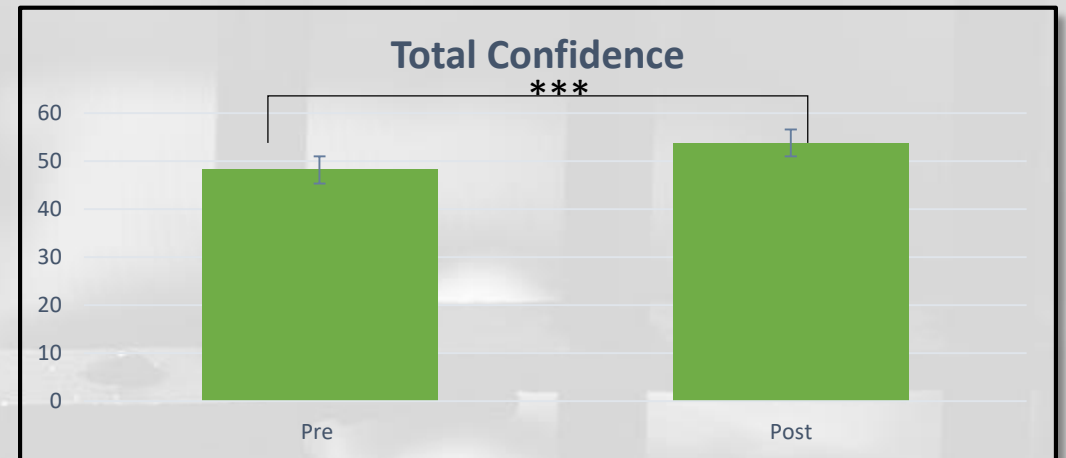
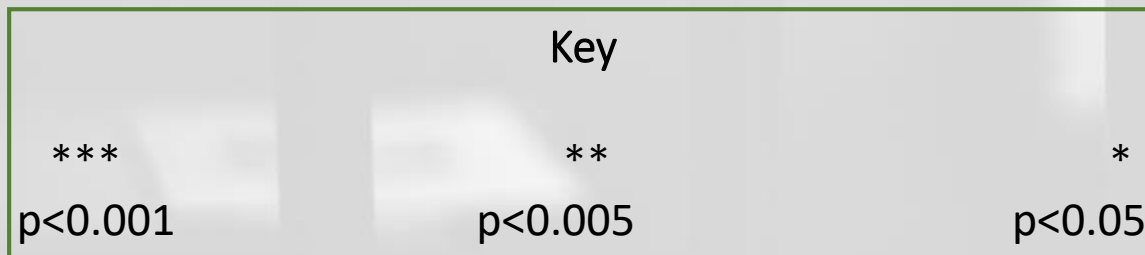
Results from individual questions



# Confidence Results



Results from individual questions



Aggregate data from all questions

# 6-Month Post Release Survey

**Participants (n=9) completed a survey approximately 6 months after being released**

## Results:

- 7 (77.8%) reported having some type of health insurance in the past 6-months
- 7 (77.8%) answered at least 80% of the nutrition label comprehension questions correctly
- 7 (77.8%) reported currently taking prescribed medication, with 4 (57.1%) of those reporting not taking their medication as prescribed in the last 6 months
- 6 (66.7%) reported visiting a doctor, nurse, or other health provider in the past 6-months
- 5 (55.6%) reported being involved in treatment programs for mental health problems or substance use disorders
- 5 (55.6%) reported being confident or very confident:
  - Understanding the medications that I am taking, what they are used for, and their side effects
  - Filling out medical forms by yourself
  - Providing assistance to a friend or family member who has a health care need
- 4 (44.4%) reported visiting an emergency room or urgent care center in the past 6-months
- 4 (44.4%) reported having problems learning about their health because written information is hard to read or understand

# Correspondence From Participants

MAY 1ST 2020  
DEAR AUGUSTA U. TEAM,  
SALUTATIONS & THANK YOU FOR ALL THE  
OPPORTUNITIES  
ARE TRYING TO  
KEEP FIGHTING

GREETINGS AUGUSTA UNIVERSITY 10-1-19  
TEAM,  
THANKYOU FOR THE LETTER.  
I REALLY ENJOY PARTICIPATING IN  
THE IMPROVING YOUR HEALTH KNOWLEDGE,  
AS WELL AS THE MANY OTHER COURSES  
ON THE EDOVO TABLET PROGRAM.  
IF IT WAS NOT FOR PEOPLE LIKE  
YOU, PEOPLE LIKE ME WOULD  
NEVER HAVE THE OPPORTUNITY TO  
BETTER MYSELF (THEMSELVES)  
EVEN THOUGH I AM NEVER BEING  
RELEASED (I HAVE 7 LIFE SENTENCES,  
PLUS THE DEATH PENALTY (IN FLORIDA))  
JUST BECAUSE I AM NEVER BEING  
RELEASED, DOESNT MEAN I DON'T  
WANT TO IMPROVE MYSELF. MAYBE  
I CAN PASS ON THE KNOWLEDGE TO  
OTHERS.  
I STUDY EASY TO DIFFICULT COURSES  
TO TEST MYSELF, AND TO IMPROVE.  
I WANT TO BE A BETTER PERSON  
THAN I WAS WHEN I ENTERED  
PRISON 39 YEARS AGO, AT 17 YEARS  
OF AGE.

- “Salutations and thank you for all the opportunities...”
- “I really enjoy participating in the ‘Improving Your Health Knowledge...’ on the Edovo tablet program. If it was not for people like you, people like me would never have the opportunity to better myself (themselves)...Just because I am never being released, doesn’t mean I don’t want to improve myself. Maybe I can pass on the knowledge to others.”

# Conclusions

Providing health education modules paired with self-directed learning via secure tablets computers is an effective method for improving health literacy and self-care management for incarcerated persons

There is not a strong correlation between gender, race, or education level and health literacy or self-care management, based on the findings of this study



# Challenges

- Learning to speak each others language
- Adapting the research design to fit the technology
- Navigating the MOUs
- The Video Consent
- The unknown unknowns
  - Could we “attract” this population to health literacy?
  - Would they enroll in study?
  - Would they use and apply the information gained?
- **THE POST RELEASE FOLLOW-UP!**

# Policy Implications – Based on Lessons Learned

- There are several tablet providers for corrections facilities – do leg work to determine which is the best fit for your needs
- Determine whether or not the Department of Corrections you plan to work with has a contract for tablets and with whom
- If you plan to do research with justice-involved participants, the IRB process is more complex – allow plenty of time
  - The consent process can be a barrier as well

# Policy Implications – Based on Lessons Learned

- Assure buy-in from participating facilities
  - Get letters of support and MOUs
- Follow-up with people once they are released is challenging
  - How to communicate
  - How to stay in touch
  - They have other more pressing priorities (housing, finding a job, reintegrating into the community)

# Thank you!



## **Gail Kouame, MLIS**

Director, Charles M. Baugh Biomedical Library

University of South Alabama

[gmkouame@southalabama.edu](mailto:gmkouame@southalabama.edu)

(251) 460-6886