

Correlation Between Activity and Nutrition Tracking with Biometric Changes

10th Annual TCF IT Professional Conference

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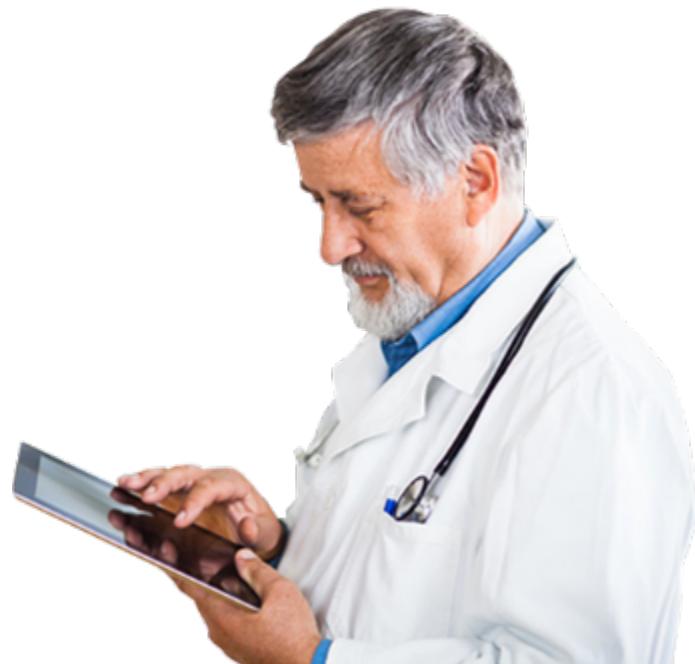
VitalCare
SERVICES

Agenda

- What is telehealth?
- Examples of Telehealth Technologies
- Pace University Telehealth Research
 - Wellness for Older Adults: Usability and Benefits of Telehealth
 - Pilot Health Tech NYC Study
 - Telehealth Intervention Programs for Seniors (TIPS)
- Correlation Between Activity and Nutrition Tracking with Biometric Changes Study
- Open Discussion – Q&A

What is Telehealth?

- The delivery of health-related services and information via telecommunications technologies



Examples of Telehealth Technologies



Remote Patient Monitoring (RPM)



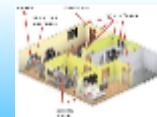
Portable ECG (Electrocardiogram) or EKG Health Equipment



Video Conferencing with Doctors



Google Glass



Ambient Intelligence (AiM) (sensors)



Non-invasive Glucose Monitoring



TeleMental Health



Fall Detection

Potential Benefits:

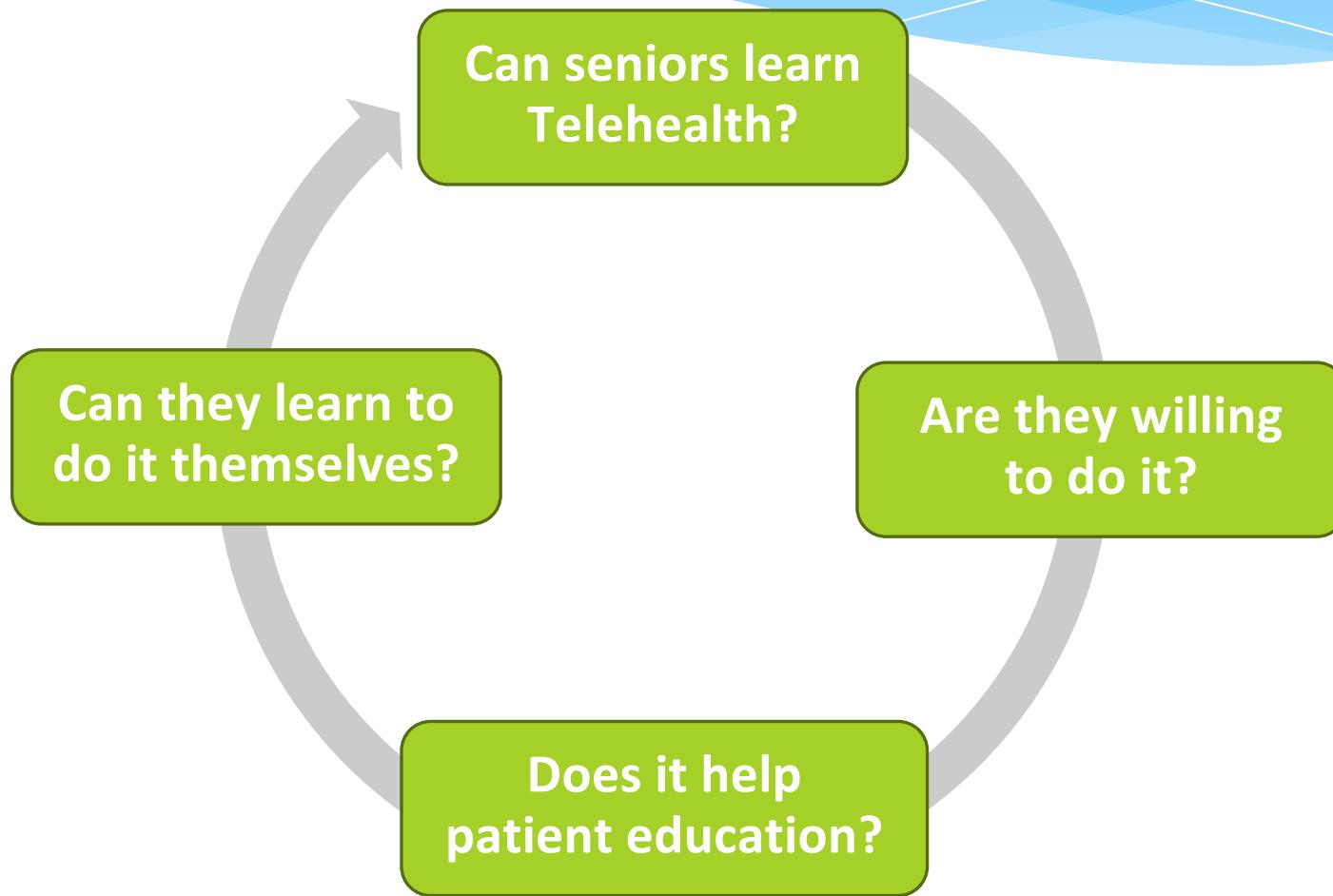
1. Healthcare Savings
2. Increased Accessibility
3. Reduced Hospital Re-Admissions

Wellness for Older Adults

Usability and Benefits of TeleHealth

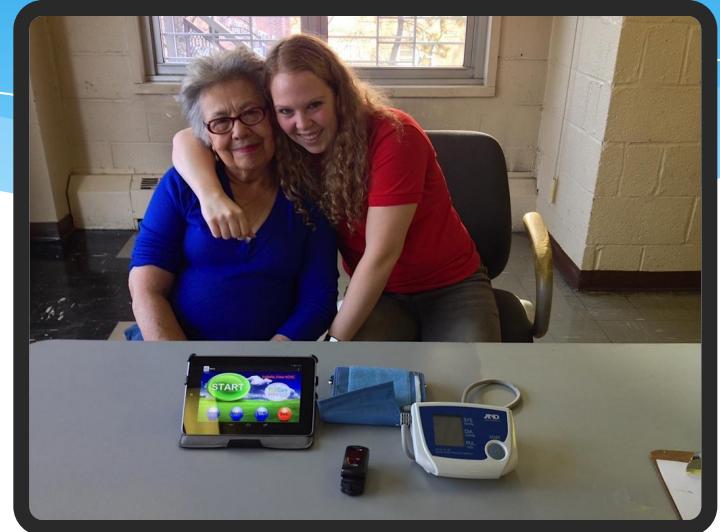


Pilot Objectives

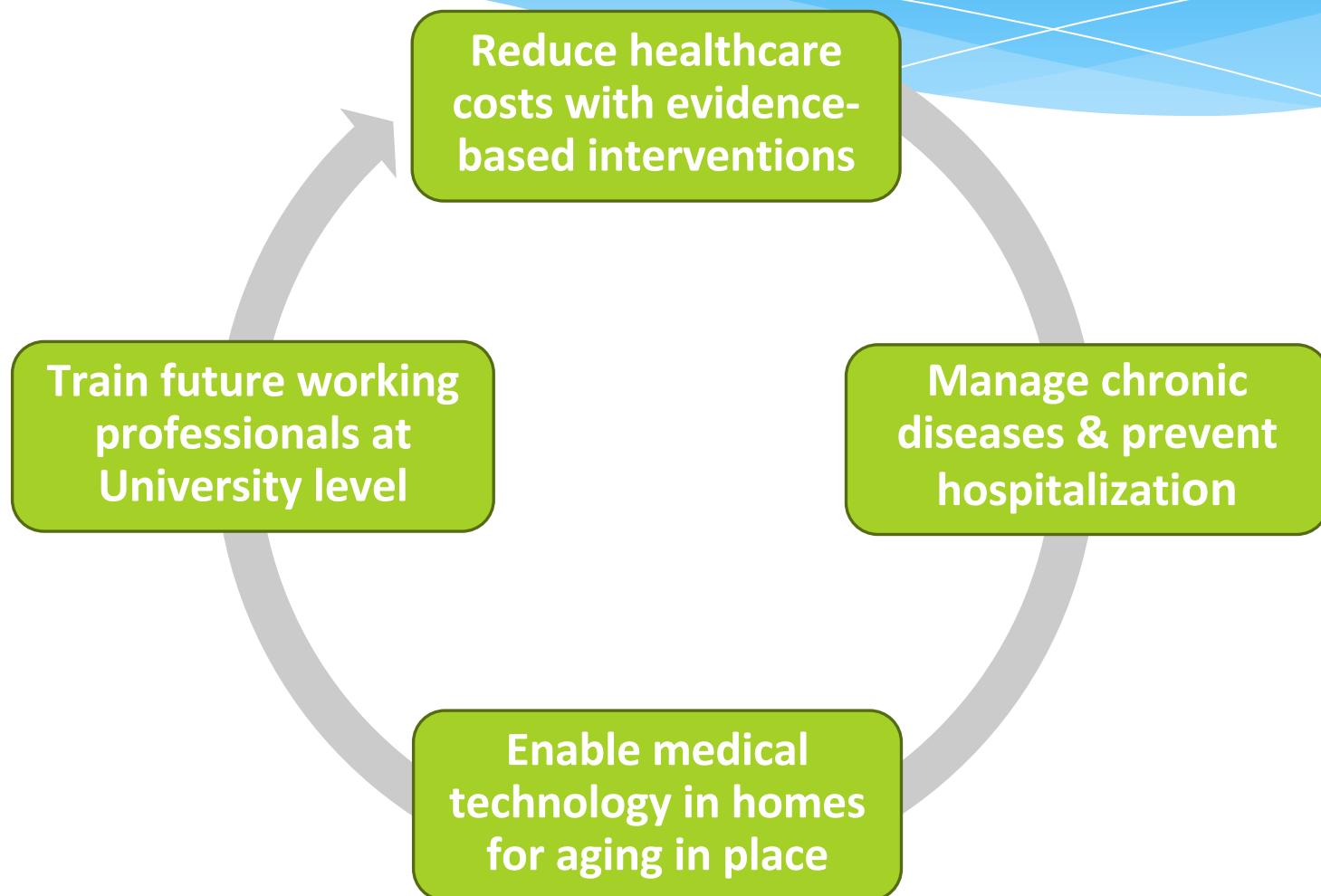


NYC Pilot Program

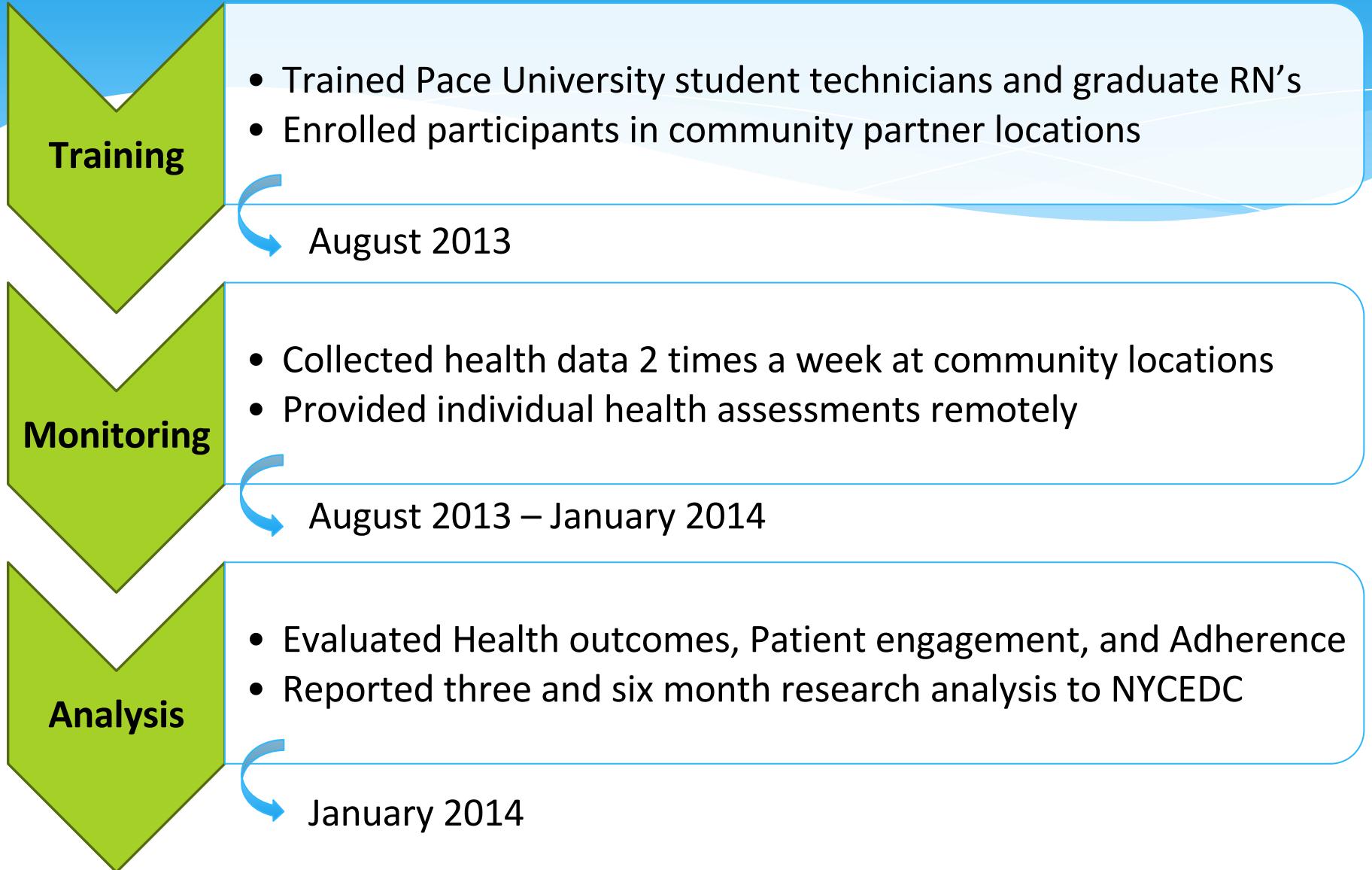
PILOT
health tech NYC



Pilot Objectives



Pilot Design



Pilot Summary

Design

Number of participants: 122 older adults

Frequency:

- 2 visits per week
- 3 hours per day

TeleHealth Staff:

- 5 Technicians
- 2 Remote Nurse
- 2 Site Administrators

Qualifications:

- 65+ years of age
- at least one chronic health condition
- lives in congregate living facility in NYC

Income Level:

- 2 low income communities
- 1 mid income community
- 1 high income community

Demographics

Average Age: 82

Sex: 88% Female / 12% Male

Ethnicity:

- 47% White/Caucasian
- 29% Hispanic
- 16% Asian
- 4 % African American
- 4% Russian

Primary Language:

- 59% English
- 25% Spanish
- 15% Chinese (Mandarin/Cantonese)
- 1% Russian

Number of Health Conditions Reported:

- 62 Cardiovascular
- 36 Diabetes
- 29 Respiratory, Asthma, Obesity

Case Study 1

Age: 93

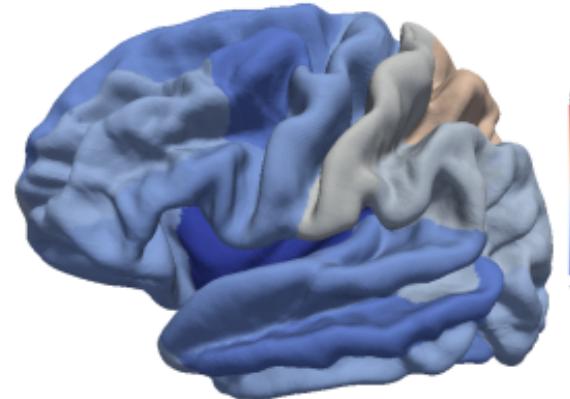
Sex: Female

Health: Dementia and Hypertension

Medication: Blood Pressure Management

Telehealth Monitoring:

1. Initial Reading > 200 systolic blood pressure > 100 diastolic.
2. On-site program manager notified and transportation was arranged to ER.
3. Collaborative approach between the telehealth team, staff at her residence, and her family to help manage her blood pressure and medication compliance.
4. As a result, the son calls his mother every morning and reminds her to take her medication.
5. Importance of taking prescribed medication and the son's caretaker role to follow up regularly.



Case Study 2

Age: 65

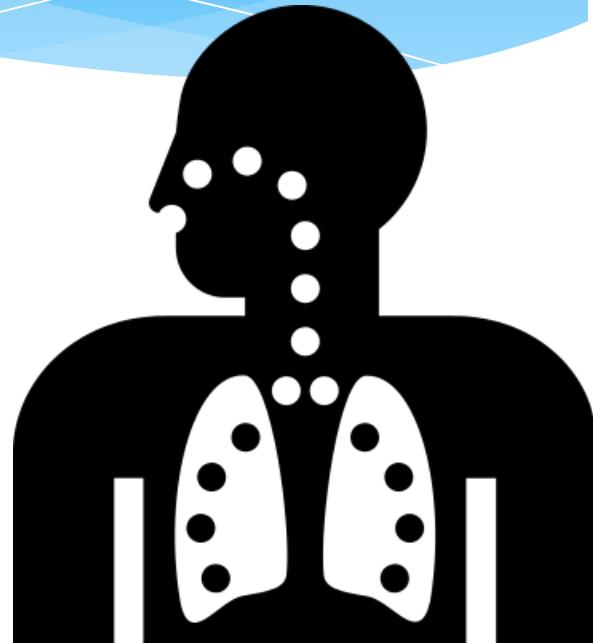
Sex: Female

Health: Hypertension, Diabetes, Asthma and COPD

Medication: Oxygen by Inhaler

Telehealth Monitoring:

1. Low oxygen saturation
2. Nurse followed up with the company providing oxygen tank
3. Patient brought into an intervention and was hospitalized on 11/15/13.
4. Patient attended asthma workshop and obtained a new oxygen tank.
5. Due to early recognition of the deteriorating oxygen saturation, the patient received early intervention and had her oxygen tanks replaced.
6. After continued telehealth monitoring, the participant's oxygen levels improved significantly to stabilized normal range.



Westchester County

Department of Senior Programs & Services



Telehealth
Intervention
Programs
for Seniors

Westchester County

Health Fairs

Why it Matters

- In 2014, 679 adults (60+) were anonymously screened at 15 Westchester County, NY health awareness fairs.
- 3 in 4 displayed above “normal” health risk
- 1 in 2 lived alone
- 9 in 10 would find it beneficial to have remote patient monitoring (RPM) in their homes

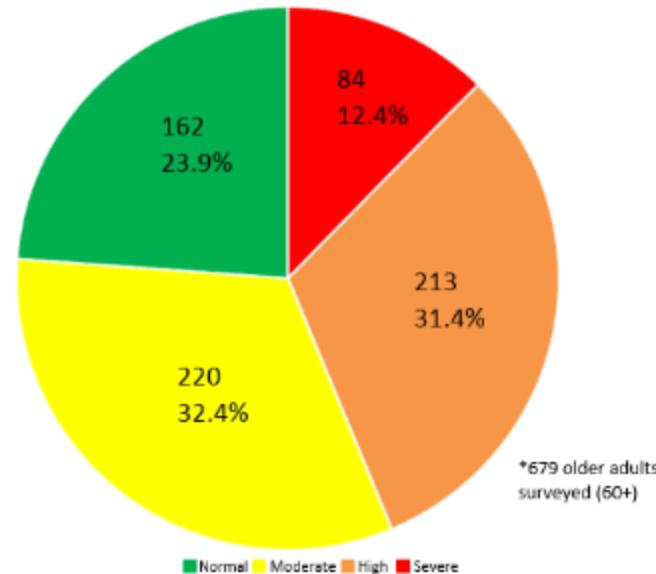


3 IN 4

OLDER ADULTS
(60+) SHOWED
ABOVE “NORMAL”
HEALTH RISKS*.

*Recommended Health Risk Guidelines: University of California San Francisco Medical Center | American Heart Association | Weight-control Information Network

Health Risk Breakdown



Correlation Between Activity and Nutrition Tracking with Biometric Changes

➤ Carter Burden Senior Center - FitBit Pilot Project

- **Purpose:** To test the correlation between activity tracking and biometric changes in blood pressure and weight in participants using wearable technology
- **Outcome:** Use of the wearable technology was shown to be a highly motivational tool to promote healthy activity in the senior population



Objective

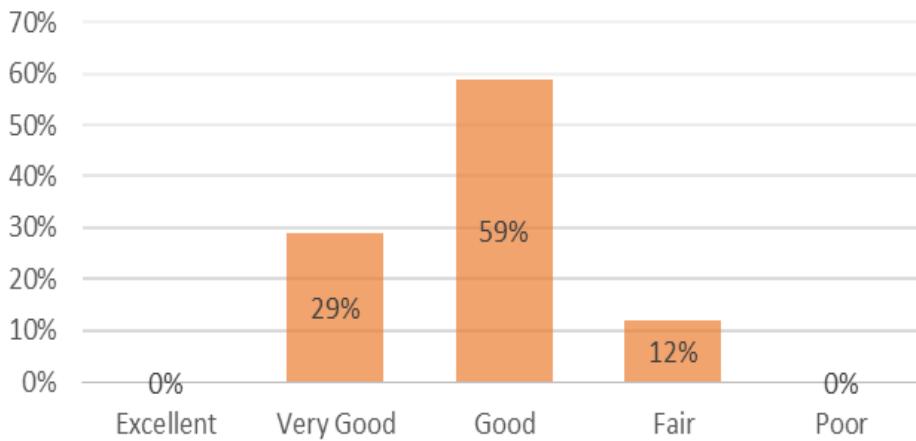
The research team's objective was to improve overall health and wellness as correlated by vital sign data and self-reported changes.

- * Educating seniors on health awareness.
- * Familiarizing them with application and hardware
- * Weekly visits and vital sign data
- * Revealing the results

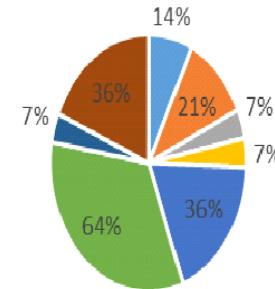
Senior Status

- * Between the ages of 60-80
- * Conditions included: Hypertension, Hypotension, Diabetes, High Blood Pressure, and Heart Disease.
- * 88% of seniors confident in their health.

HOW WOULD YOU DESCRIBE YOUR HEALTH?



Primary Health Issues



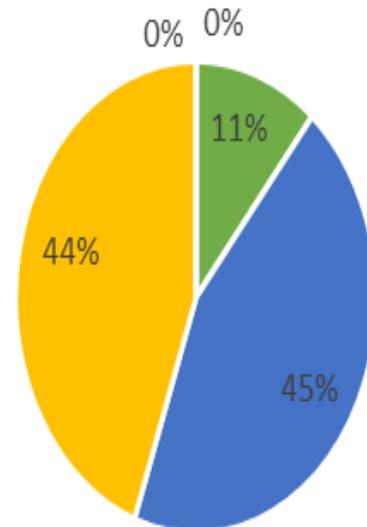
- Heart Disease
- Hypotension
- Chronic Obstructive Pulmonary Disease
- Renal Disease
- Obesity
- Hypertension
- Depression
- Diabetes

Technology

- * Pace students used internet articles, and national guidelines of health parameters to educate seniors about their health
- * Tablet applications were demonstrated
- * Created user accounts for Fitbit and Vital Care Dashboard.

How is your Comfort with Technology?

■ Excellent ■ Very Good ■ Good ■ Fair ■ Poor



Vital Sign Data

Vital Sign Data

- * Blood pressure
- * Weight
- * Blood oxygen saturation
- * Uploaded once a week

Fitbit Zip Data

- * Steps Taken
- * Distance Traveled
- * Calories Burned
- * Synced Once a week

Results

Participant A

Before Fitbit:

- * Blood pressure: 132/86
- * Weighed: 165lbs.

Post Study:

- * Blood pressure: 125/81
- * Weighed: 162.4lbs.

Participant walked a total of 116,217 steps, burned 45,146 calories and traveled a total of 50.34 miles

Participant B

Before Fitbit:

- * Blood pressure: 176/98
- * Weighed: 262.8lbs.

Post Study:

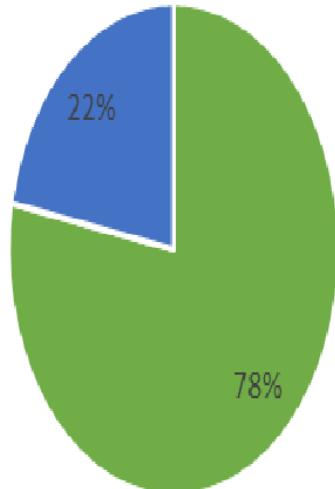
- * Blood pressure: 137/76
- * Weighed: 261.4lbs.

Participant B walked a total of 74,525 steps, burned 64,412 calories and traveled a distance of 32.25 miles over the course of the study.

Conclusion

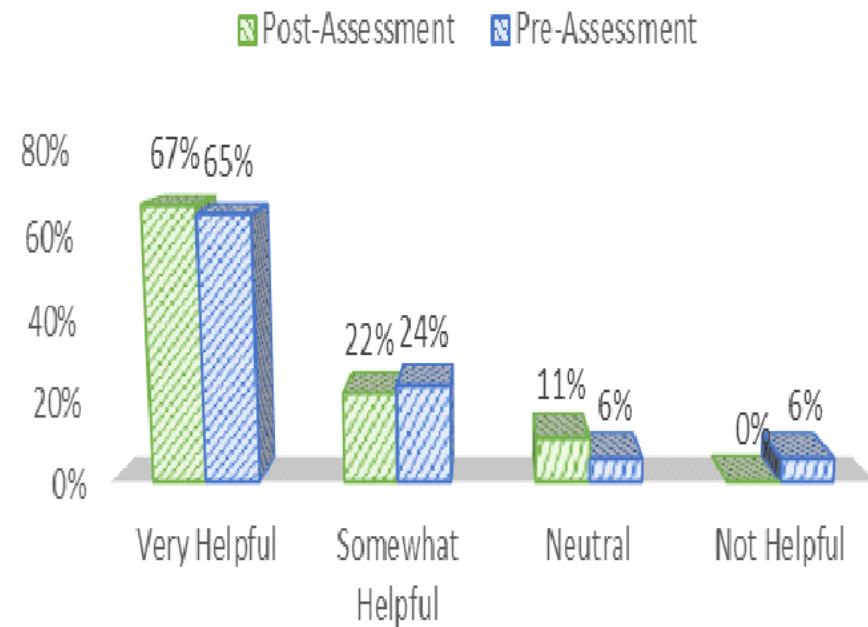
- * 100% of participants agreed that it was helpful to track their steps daily.

Is Tracking Daily Steps Helpful?



- Very Helpful
- Somewhat Helpful
- Neutral
- Not Helpful

IS IT HELPFUL TO KNOW YOUR VITAL SIGNS?



Open Discussion – Q&A

Please contact for research collaborations!



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