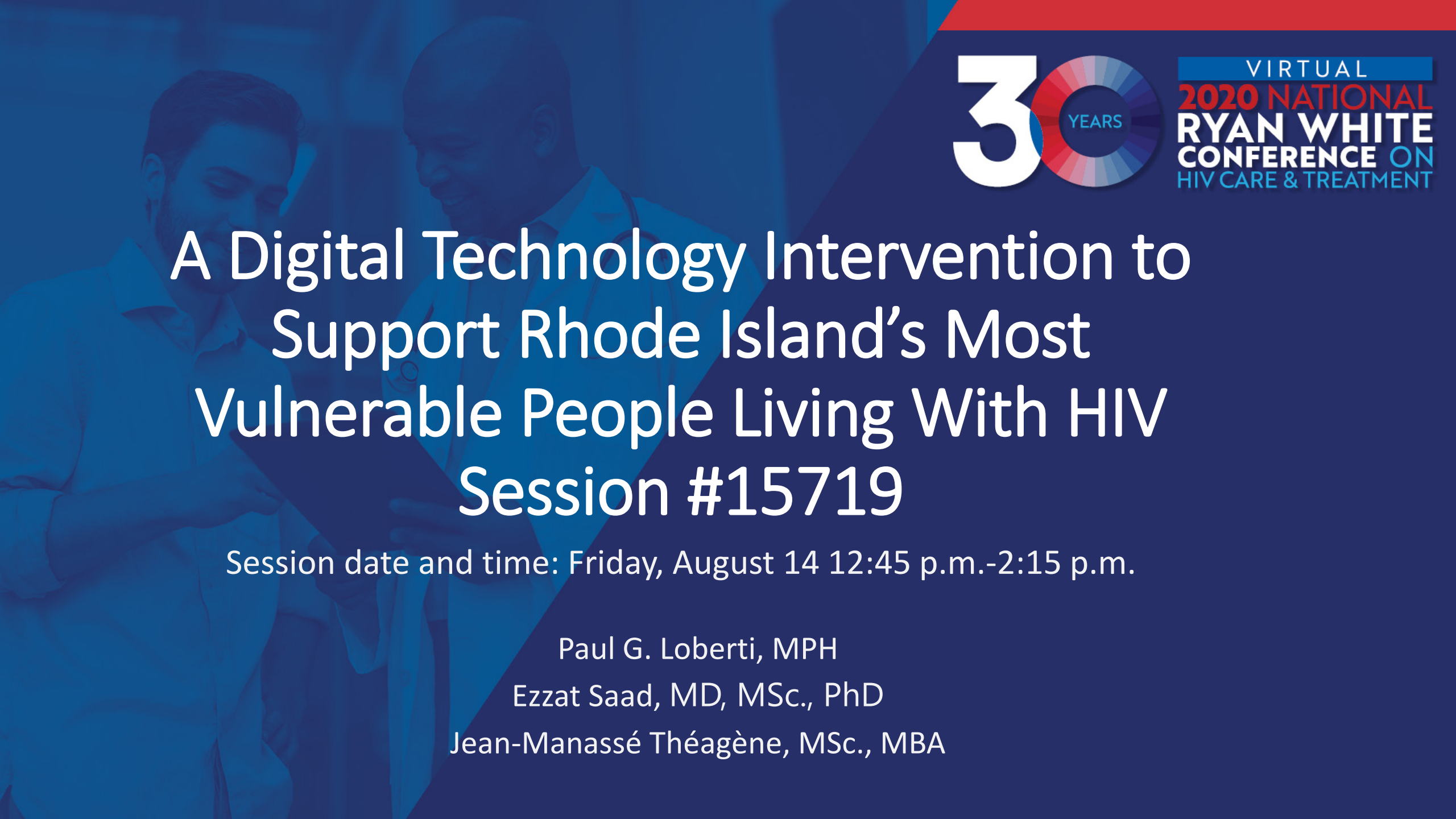


VIRTUAL
2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

A Digital Technology Intervention to Support Rhode Island's Most Vulnerable People Living With HIV Session #15719

Session date and time: Friday, August 14 12:45 p.m.-2:15 p.m.

Paul G. Loberti, MPH
Ezzat Saad, MD, MSc., PhD
Jean-Manassé Théagène, MSc., MBA

Presenters

VIRTUAL 2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

Paul G. Loberti

MPH, Administrator of Medical Services, Director HIV Provision of Care & Special Populations Unit, RI EOHHS

Ezzat S. Saad

MD, MSc, PhD,
Chief Medical Officer
360Medlink Inc.

Jean-Manassé Théagène

MSc. MBA
CEO & President
360MedLink Inc.

Session Objectives

- ❑ Describe how TAVIE Red was born, what it is and TAVIE/360MedLink product line
- ❑ Address specific specifications of TAVIE Red
- ❑ Detail the TAVIE Red platform and the relationship it has towards addressing social determinants of health
- ❑ Discuss electronic patient self-assessments and data collection, dashboards and coordination with practitioners

- ❑ Discuss how TAVIE Red enhances case/care management standards
- ❑ Describe how RI involved vulnerable populations
- ❑ Highlight the effect of behavioral economics and gamification on health behaviors and outcomes
- ❑ Provide the RI Case Review and Results: Data Reveal, Describe use of power BI tools to predict patient needs and analyze patient responses

Describe how TAVIE Red was born?

TAVIE Red was a child of Reform and the Triple Aim

1. Health outcomes
2. Patient experience and engagement
3. Efficient spending

RI **Medicaid** and the **Ryan White** program adopted these measures proactively, pre PPACA, and they continue to be in place today. Medicaid benefits from Ryan White Part B performance measures, and Ryan White Part B benefits from the Medicaid efficiency measures.

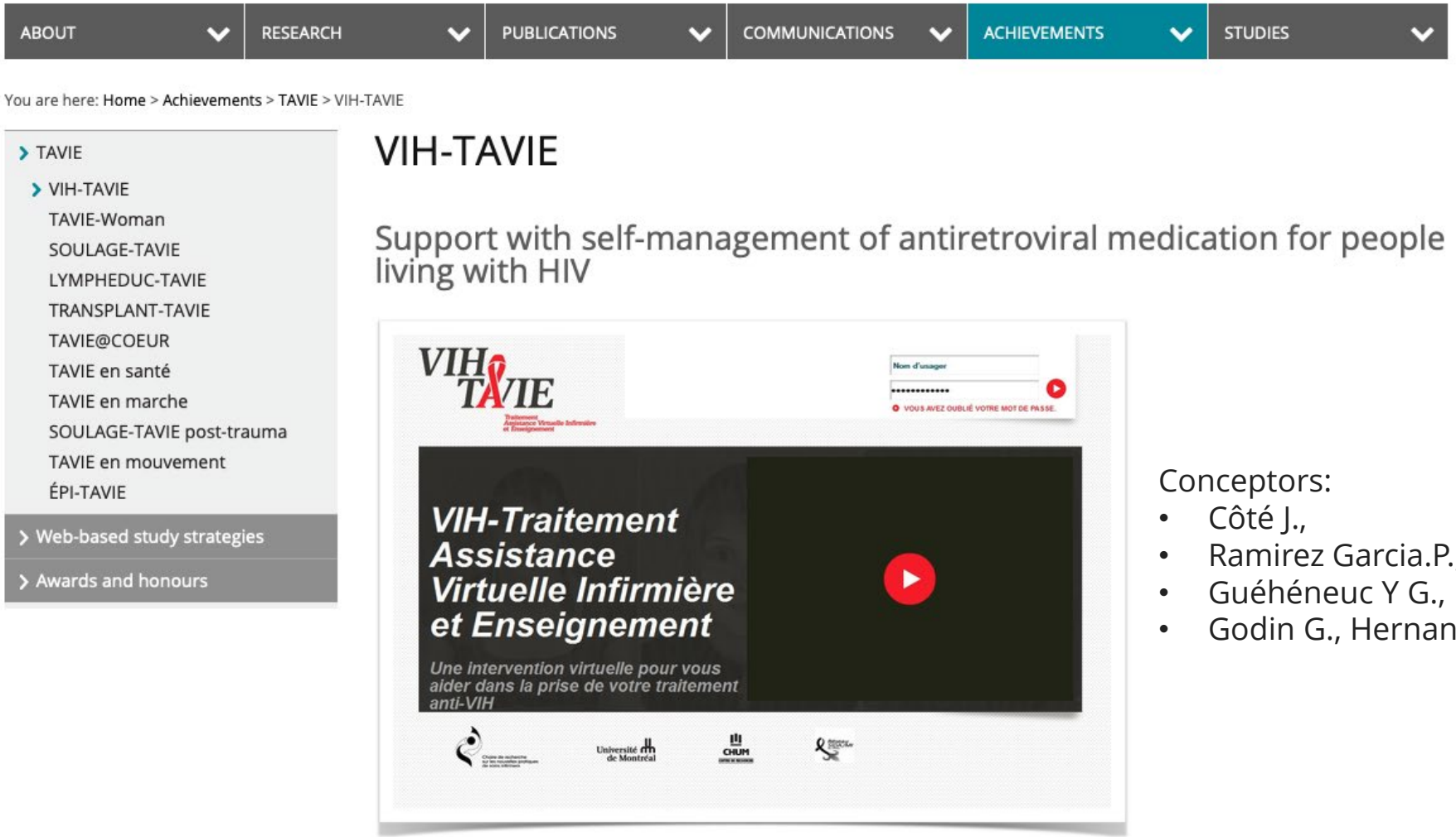
Birth Process: Triple Aim to TAVIE Red

- Understanding the nuances necessary to implement the Triple Aim and how to directly benefit our patients/client population via TAVIE was paramount
- The next slide reveals the evolution of the digital technology and how adaptable 360MedLink was in getting us from there to here
- Keep in mind that vulnerable people living with HIV do not ordinarily receive cutting edge digital technology (including Smartphones) to advance patient experience, to create better health outcomes, to increase their well being, or to maximize behavior change

What is TAVIE Red? In the next slides to follow we'll reveal how TAVIE Red is…

- An advanced digital solution to End The Epidemic
- A client/patient companion that is interactive and framed around gamification theory and behavioral economics
- Hits SoDH head on
- Integrates critical health and medical related self assessments, tracking components (e.g., quests inputs and outputs, etc.), engagement, and built in evaluation methods to describe needs, analyze data and enhance patient/client outreach via case management and clinical providers
- A flexible, generalizable and easily transferable platform for use anywhere by anyone
- Interoperable to promote easy report generation
- Modular design

TAVIE: Developed by HCPs and Patients



Conceptors:

- Côté J.,
- Ramirez Garcia.P.,
- Guéhéneuc Y G.,
- Godin G., Hernandez A.

Scientific Background

Randomized clinical trials demonstrated positive results

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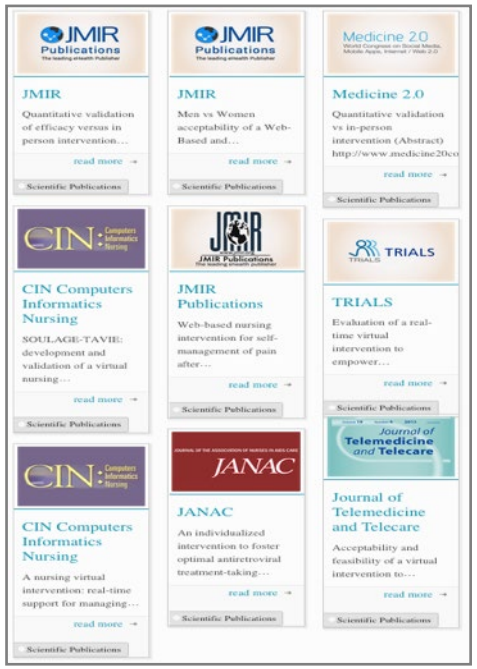
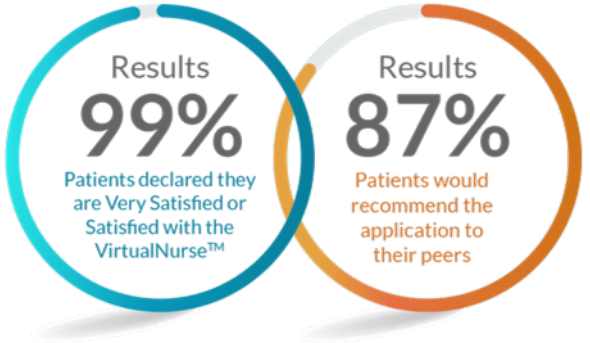
16 Articles — Published in peer-reviewed literature



TAVIE



Findings:

Raises adherence. As effective as in-person coaching.

Video-based coach appealing, friendly, and makes technology approachable. People felt like they had “someone” to rely on.

Selected as

“Sole Source” vendor

by HHS Rhode Island.

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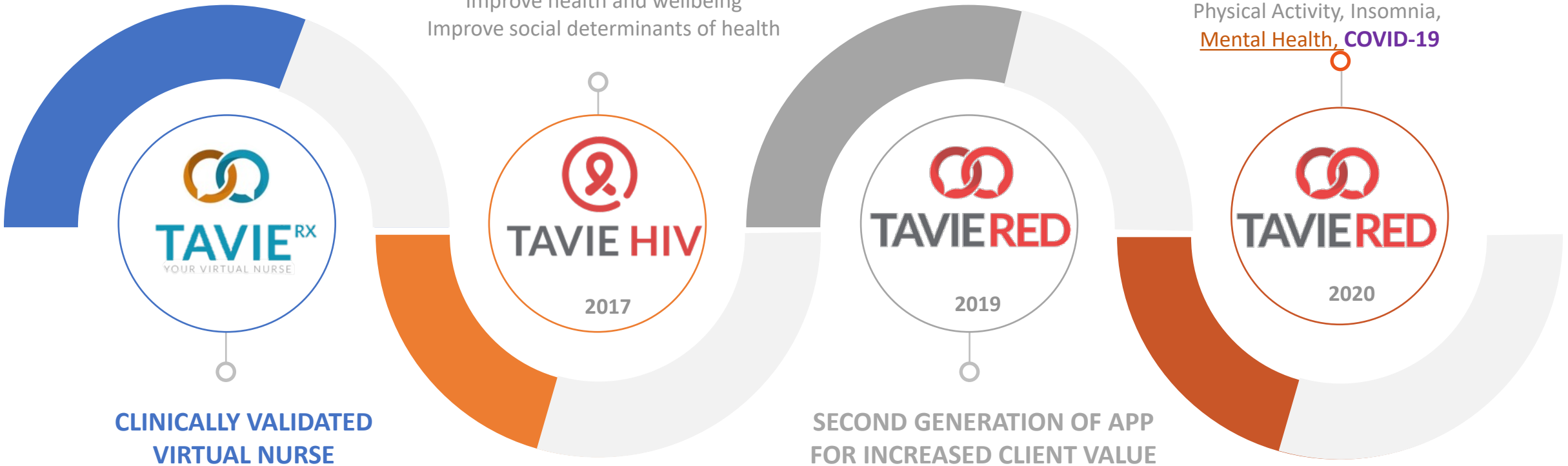
STATE OF RHODE ISLAND

Platform Evolution



CLINICALLY VALIDATED VIRTUAL NURSE

Developed and validated by the teaching hospital of Montreal, Chair on New Nursing Practices

ADAPTED FOR RYAN WHITE PART B

The goal of the platform is to help case managers and clients:
Improve health and wellbeing
Improve social determinants of health

SECOND GENERATION OF APP FOR INCREASED CLIENT VALUE

Increased engagement, support and hopefully, delight

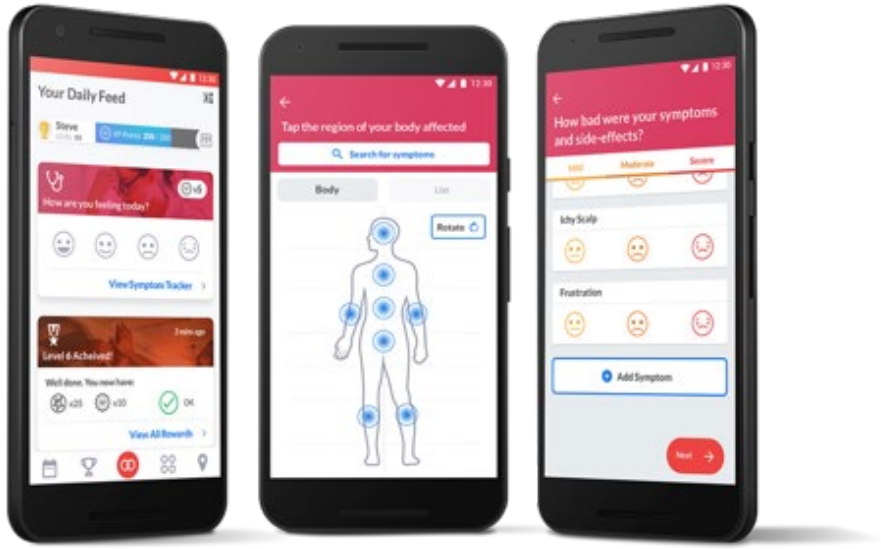
NEW UPGRADE OF APP FOR INCREASED ENGAGEMENT AND CLIENT VALUE

Boost of engagement, New Modules, New Quests, New experience!
Physical Activity, Insomnia, Mental Health, **COVID-19**

Gamification, SoDH integration, **Behavioural Economics at work**

Building on the RI Experience

A Portfolio of Treatment Companions



Red Women Cardio Vital Diabetes Pso Transplant Cancer

What is the TAVIE^{RX} Virtual Coach

TAVIE is the clinically validated digital platform that meets patients where they are...

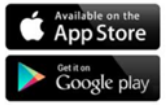
TAVIE^{RX}

Understands the Needs

Delivers Tailored Education

Culturally Adapted for language and ethnicity

Helps the Patient Day-to-Day to Make New Behaviours Routine

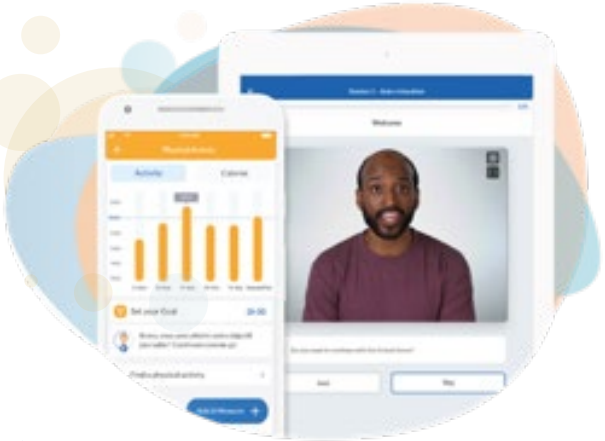


Integration in the Healthcare Ecosystem

TAVIE Care

CAREGIVER APP
Involvement in their patient care pathway

Provider Integration Facilitates Care Coordination



TAVIE

PATIENT COMPANION
Personalized coaching, and self-efficacy

TAVIE Sponsor

PAYOR DATA & ANALYTICS ENGINE
Real-time Patient Reported Outcomes. Personalizes dashboards. Population health insights and management.

TAVIE Pro

HEALTHCARE PROVIDER CONSOLE
Supporting remote monitoring, communications, and care coordination

TAVIE Platform: A Modular Design

1. Virtual Coaching

- Built in Assessments
- Treatment adherence
- Patient education
- Side-effect management

3. Whole Health & Holistic

- Psycho-social support
- Symptom management
- Service acquisition (food insecurity, housing, engagement with healthcare)

2. Trackers and Feedback

- Symptom assistance
- Treatment reminders
- Physical activity
- Viral load, weight, BP, +

4. Gamification

- Interactive Quests
- Dynamic Feed
- Upgrading reminders and notifications
- Alerts for care managers

TAVIE RED

A customized approach

Rhode Island:

A Case Study Placing Vulnerable Populations First

- HRSA supplemental grant
- RW variety of service categories with TAVIE-Red
- Program meets platform

The Challenge

In a recent RI state study we discussed barriers to care with physicians, nurses and case managers - they said:

01 | "We have little time to spend with patients"

02 | "We can't capture every patient's story or their set of beliefs about health"

03 | "Motivating patients to take action about their health is difficult, complex and time consuming"

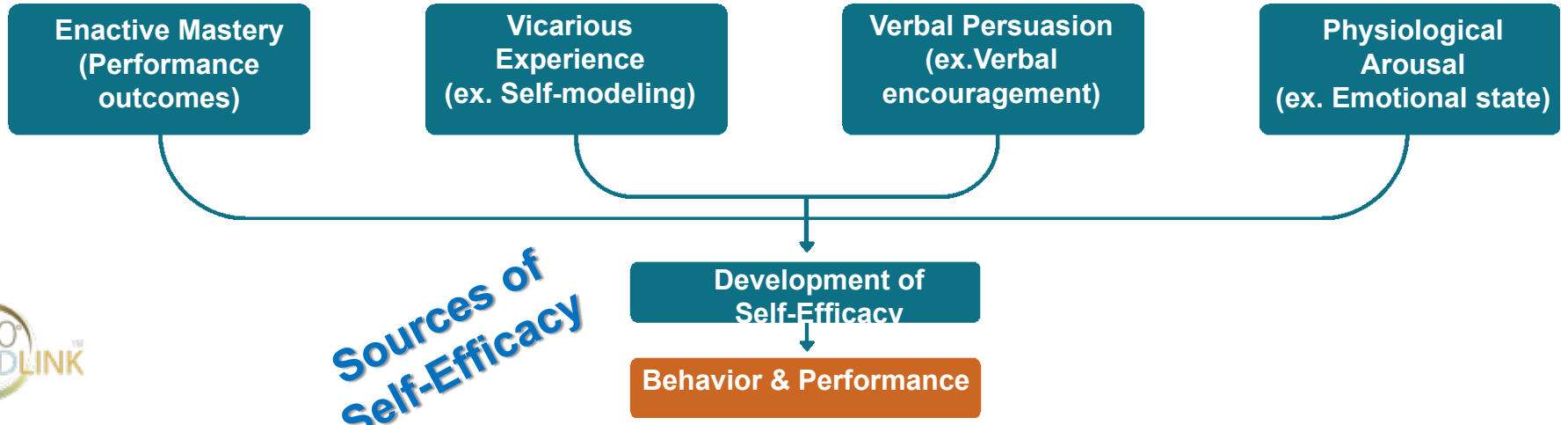
04 | "Proper health assessments are available but they are not all connected to each other and sometimes are unusable"

05 | "We understand social determinants of health are critical to a patient's success, but where do we start with these?"

Methodology and Approach...

Goal: An estimated 599 Rhode Island patient population with established HIV infection (covered by Ryan White Part B) are screened by the OHHS-RI.

- ✓ Eligible patients receive an android phone pre-loaded with the TAVIE-RED application.
- ✓ Case managers receive access to the professional platform on a desktop and in some cases, tablet devices to use the application in the field for communication, remote-monitoring and early intervention if needed.
- ✓ Three generations of the platform were deployed over a two-year period. Participants completed a survey at baseline and follow-up on paper and digitally through the application. **Thus far 250 people LWHIV have participated in this program along with their case managers, and recruitment is still open and ongoing.**
- ✓ The multidisciplinary team provide ongoing care and support between clinical visits.
- ✓ A clinically-validated virtual nursing intervention based on user- centered design and behavior change theory. ***The application targets constructs known to increase self-efficacy to perform self-management behaviors:***



TAVIE RED

User-Centered Design

Rhode Island- Based on an iterative, user-centered design. A cohort of approximately 200 people living with HIV was enrolled.

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360° MEDLINK™

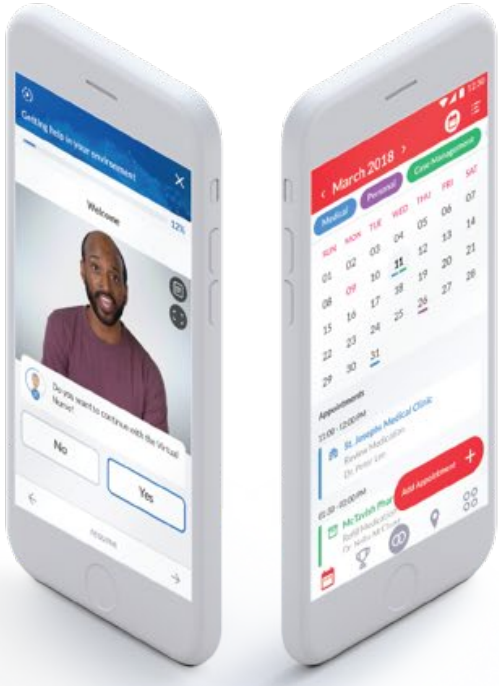
Features

TAVIE RED

“This technology is placed in a patient’s hands and then it enlivens them by sending them on a personal, healthcare journey filled with quests and gamification!”

ENGAGE

A “feed” page shows interactive content and announcements from case managers



ASSIST

Virtual coach, a GPS resource map, Symptom Tracker, announcements, and calendar with reminders help users manage day-to-day care

DELIGHT

High customer satisfaction and enjoyment! Users practice and solidify skills through health-related “quests” and gain rewards as they progress

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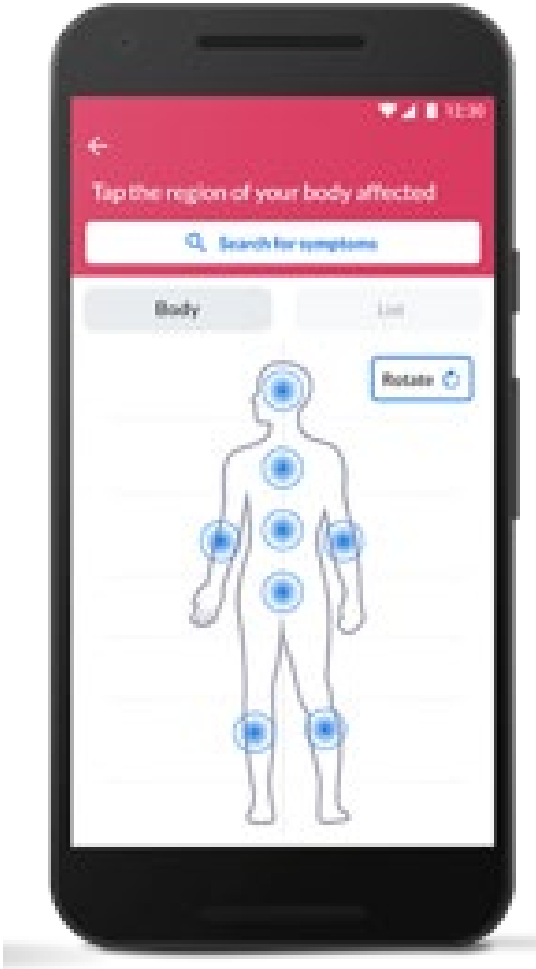
360° MEDLINK™

Treatment and symptoms management

TAVIE RED

- ❑ **Symptom assistant**
- ❑ Medication tracker
- ❑ Treatment reminders
- ❑ CD4 and Viral load charting tool

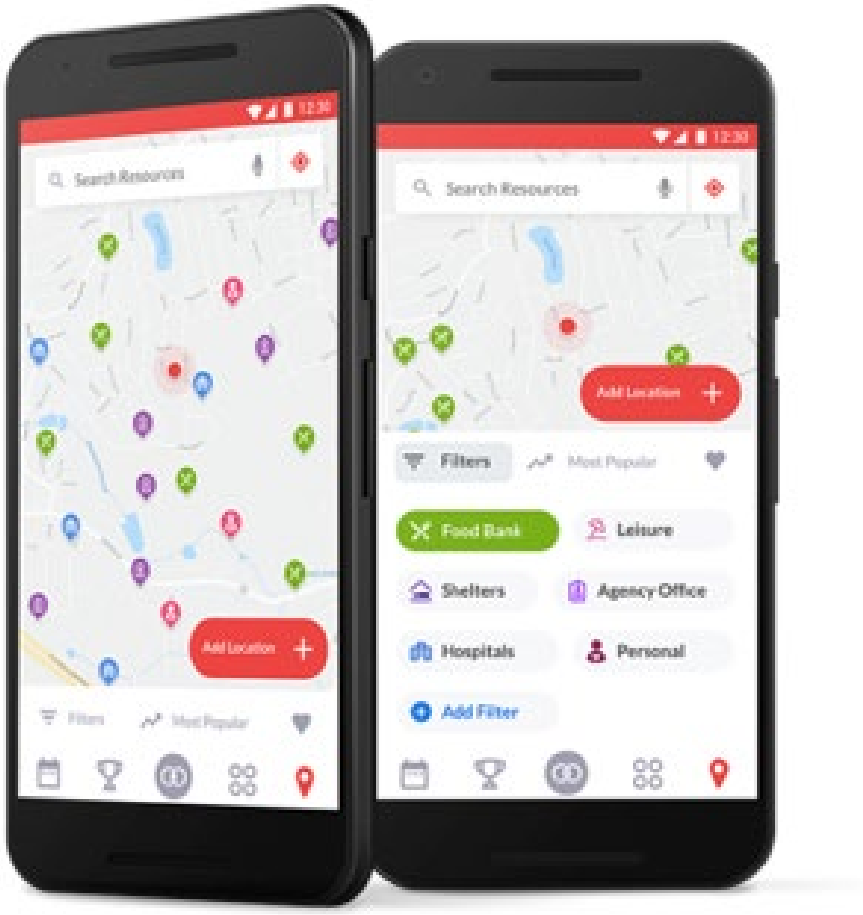


Resource Map

TAVIE RED

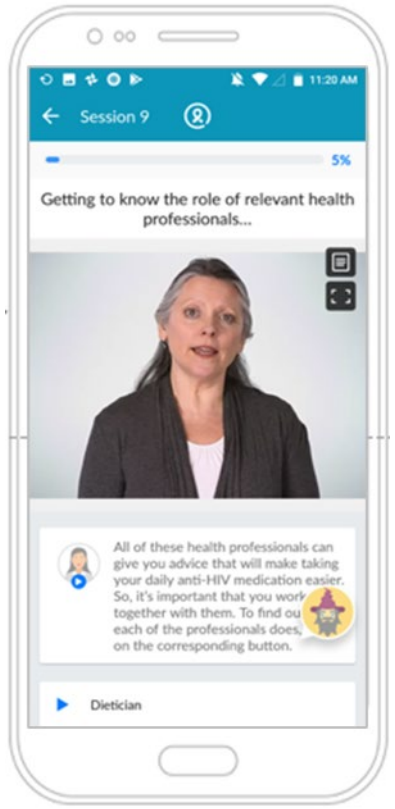
Clients can locate services recommended by Case Managers:

- ❑ **Food**
- ❑ **Medical services**
- ❑ **Housing**
- ❑ Counseling
- ❑ Other

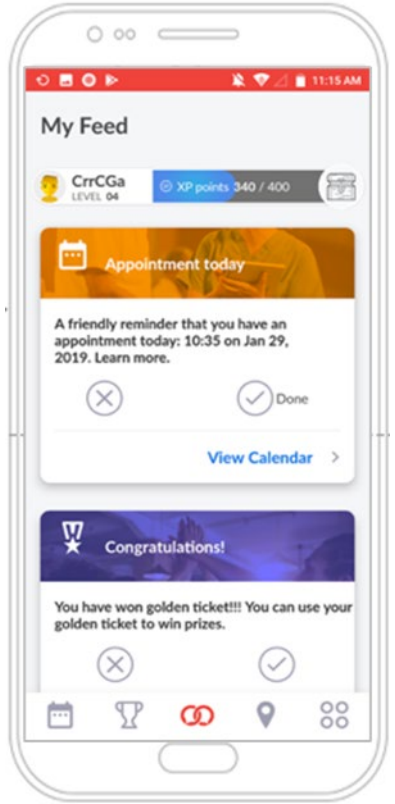


Supporting Healthy Choices and Behavior...

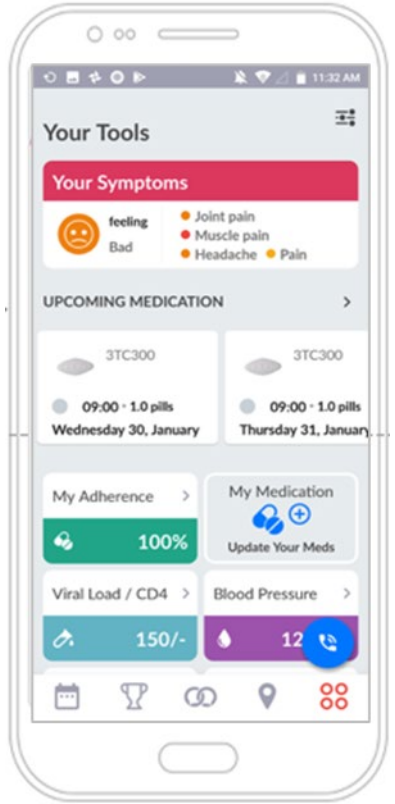
TAVIE RED



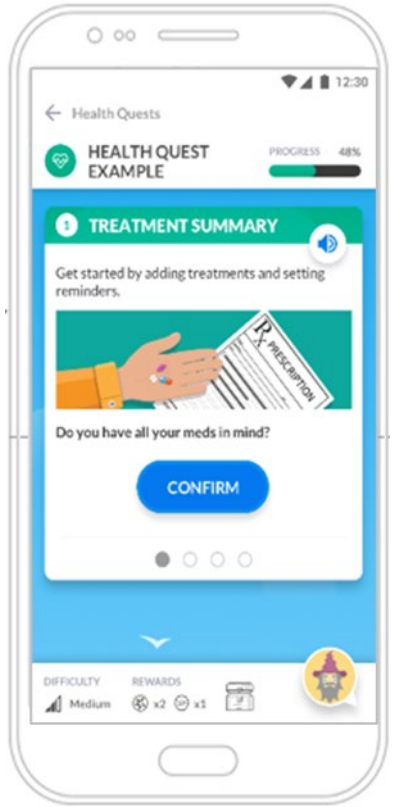
Personalized coaching



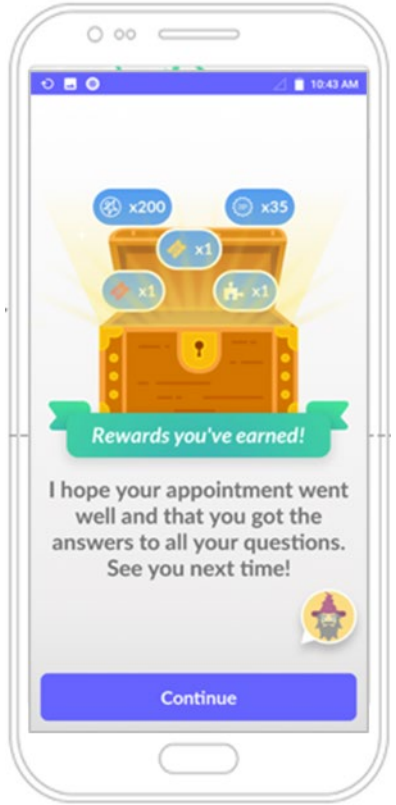
Feed of upcoming events and tasks



Patient dashboard



Health quests to support behavior



Serious gaming, rewards, and feedback

Delight Through Gamification Feature

TAVIE RED

30 YEARS

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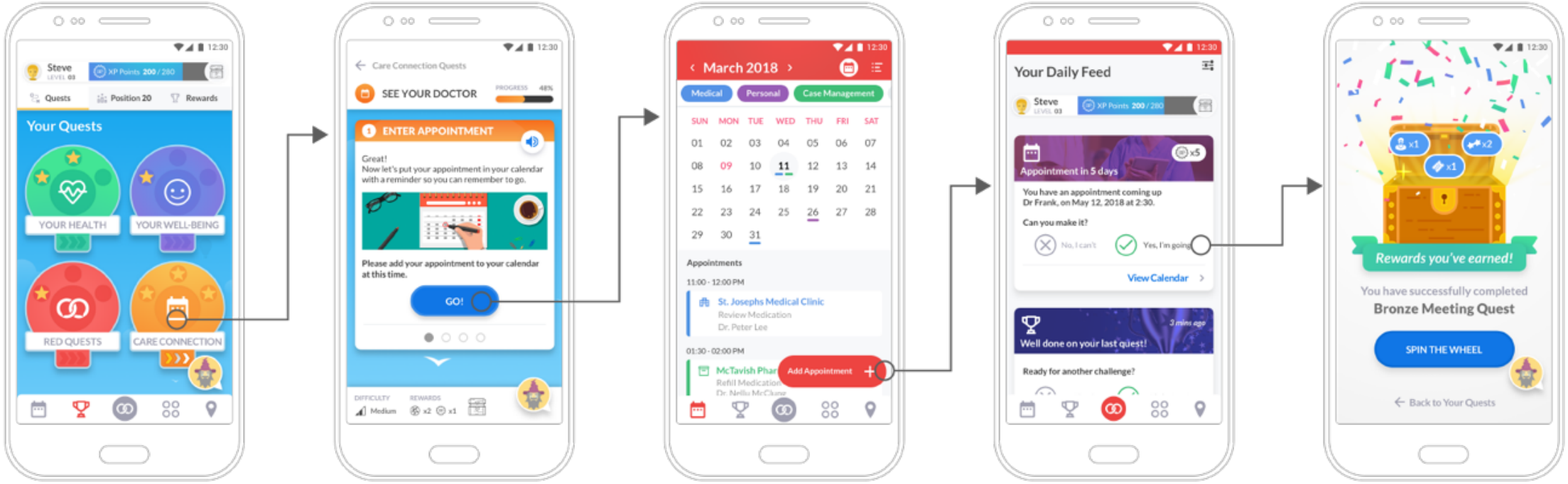
A Serious Game Quest: Client chooses to prepare for a doctor visit quest...



Quest is launched to help the client create and prepare for the appointment

Appointment is saved in the in-app calendar

Client receives reminders for the appointment in the feed

Quest Completed!

Healthcare Provider Console

Bi-directional information exchange

Via a Console/Dashboard the Case Managers can...:

- ❑ Send announcements
- ❑ Schedule appointments
- ❑ Review progress to encourage and support
- ❑ See assessment progress

Built-in Real-Time Data and Analytics

1. Data sophistication
2. Actionable real-time data and reporting
3. Interlinked reporting

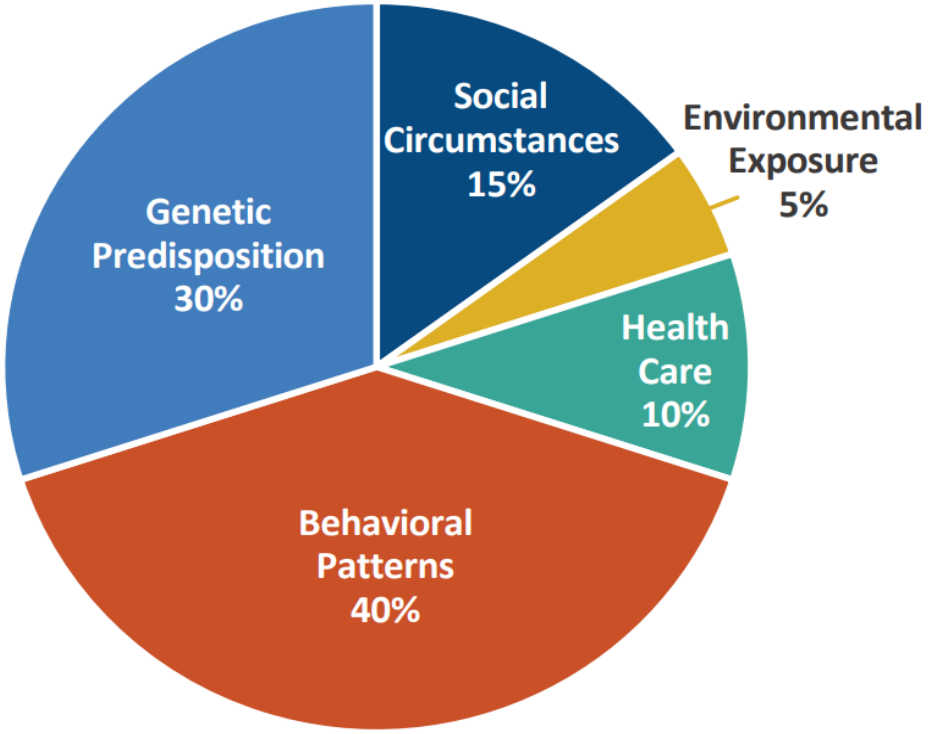
Interesting Facts from our Analytics

"Statistics are like swimwear - what they reveal is suggestive but what they conceal is vital." *-Ashish Mahajan, Lancet 2007*

1. Domestic violence seems to influence treatment adherence rate
2. Unstable housing influences retention in care
3. Under diagnosed rates of clinical depression in vulnerable populations ?
4. Connectivity impacts quality/intensity of care

Determinants of Health and Their Contribution to Premature Death : What Impacts Health?

Health care is a relatively small component of what influences health outcomes…



Using Business for Good. Is good business!

If our business models [as in the case of ACOs] relate to total cost of care, than it makes great sense to solve SoDHs.

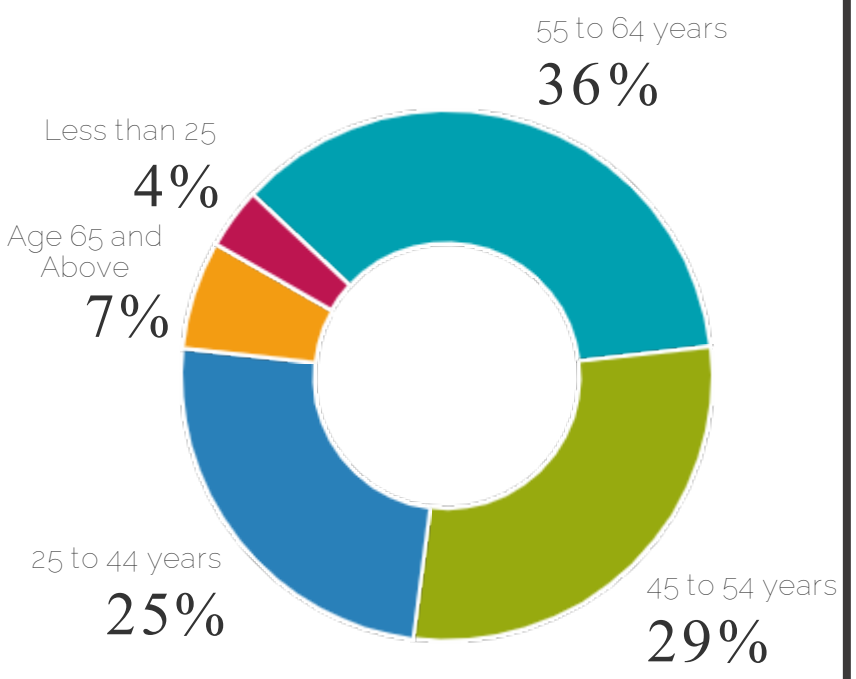
SOURCE: Kaiser Family Foundation. (November 2015). Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity. http://kff.org/disparities-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/

TAVIE Red - Demographics

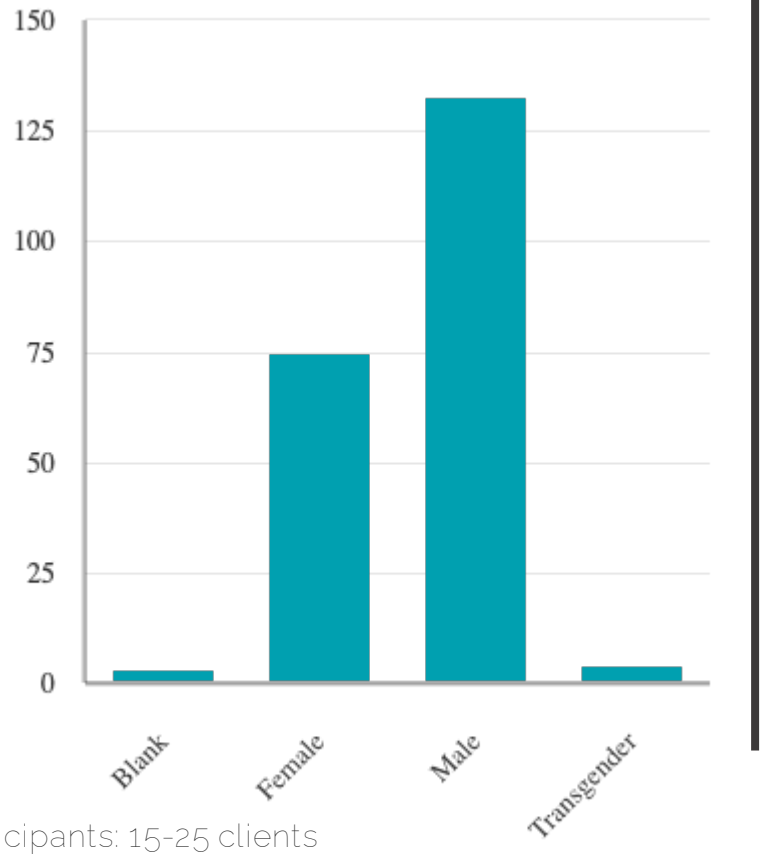
VIRTUAL 2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

Total Participants = 215

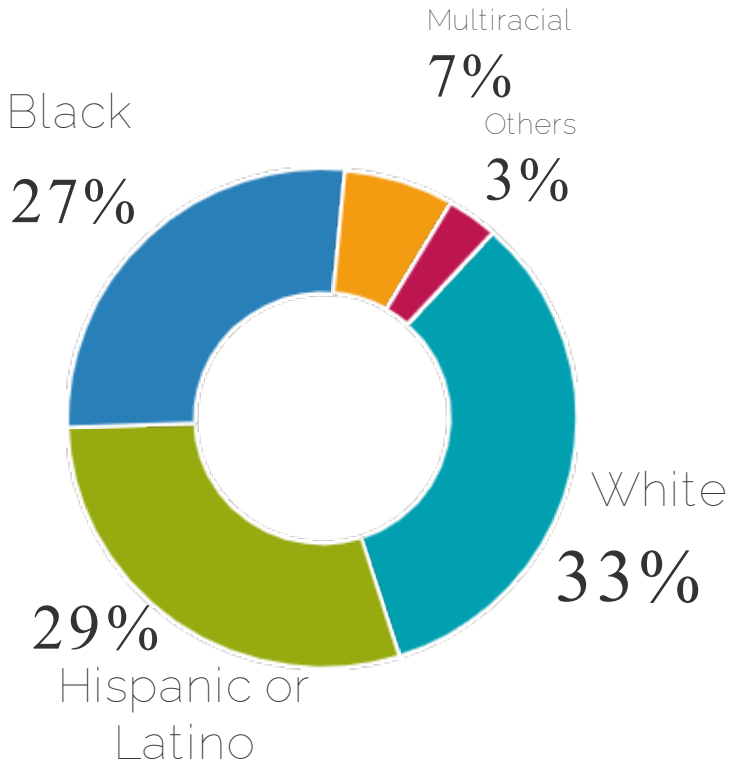
Age



Gender



Race



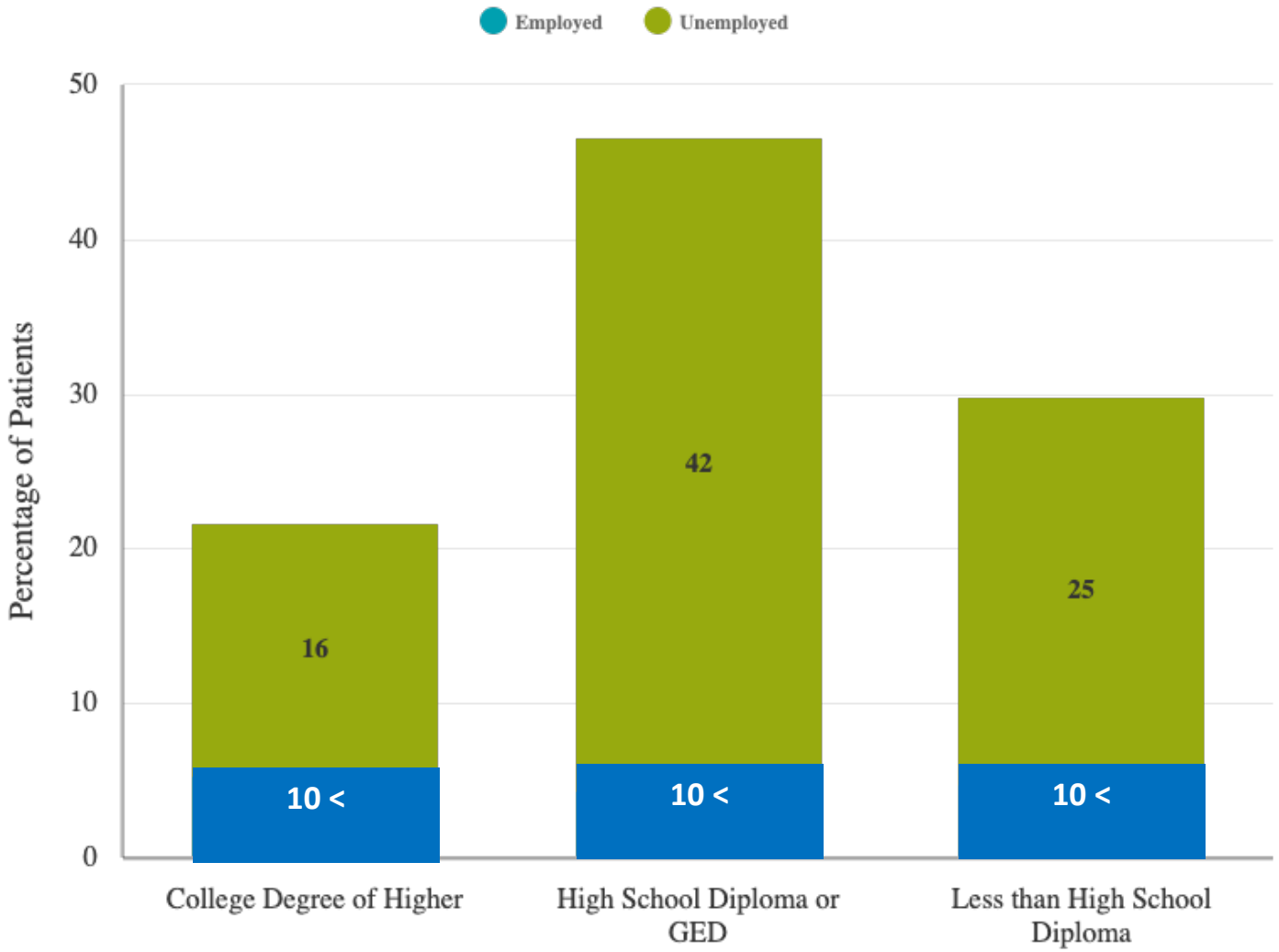
Frequency: 3-4 times per month; Average amount of participants: 15-25 clients

TAVIE Red - Demographics

Education and Job Status

Timeline: Sept 2018 - Sept 2019

Total Participants = 215

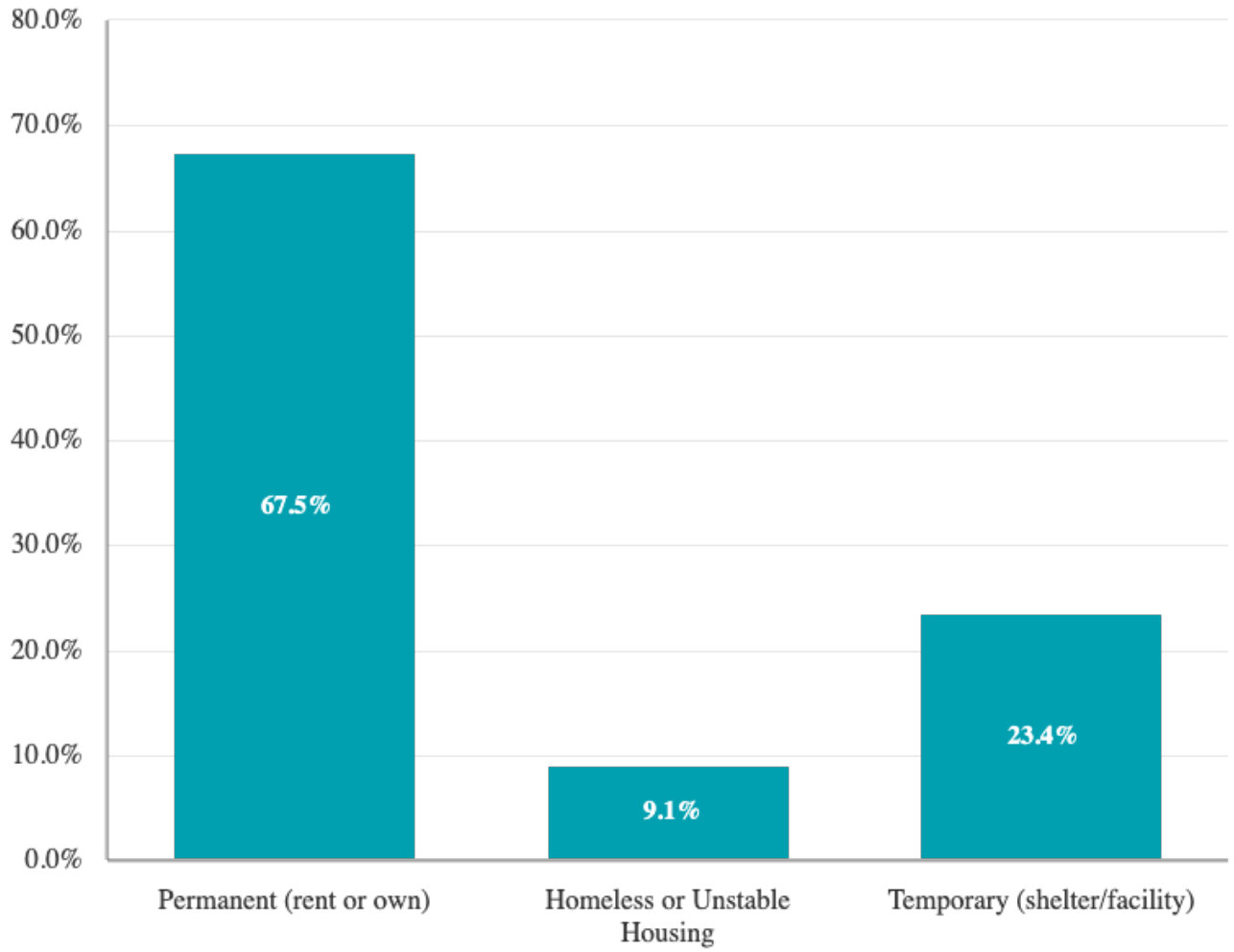


TAVIE Red - Demographics

Housing Status

Timeline: Sept 2018 - Sept 2019

Total Participants = 215

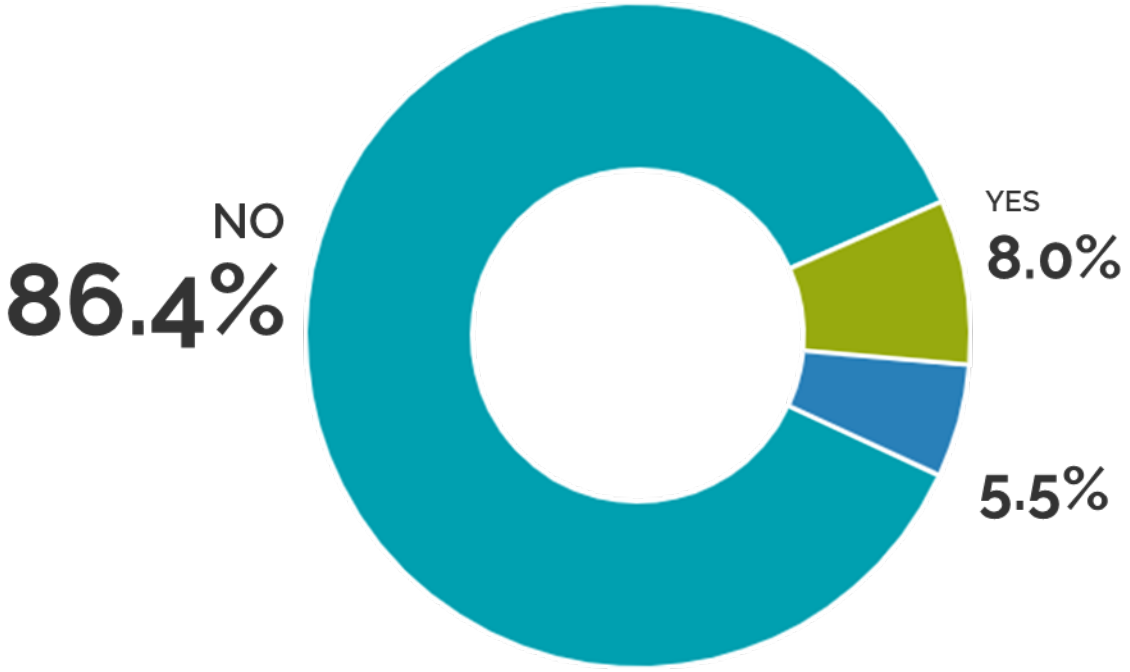


TAVIE Red - Demographics

Presence of Domestic Violence

Timeline: Sept 2018 - Sept 2019

Total Participants = 215



Q: During the past 6 months, were you victim of domestic violence?

HIV Medication Report

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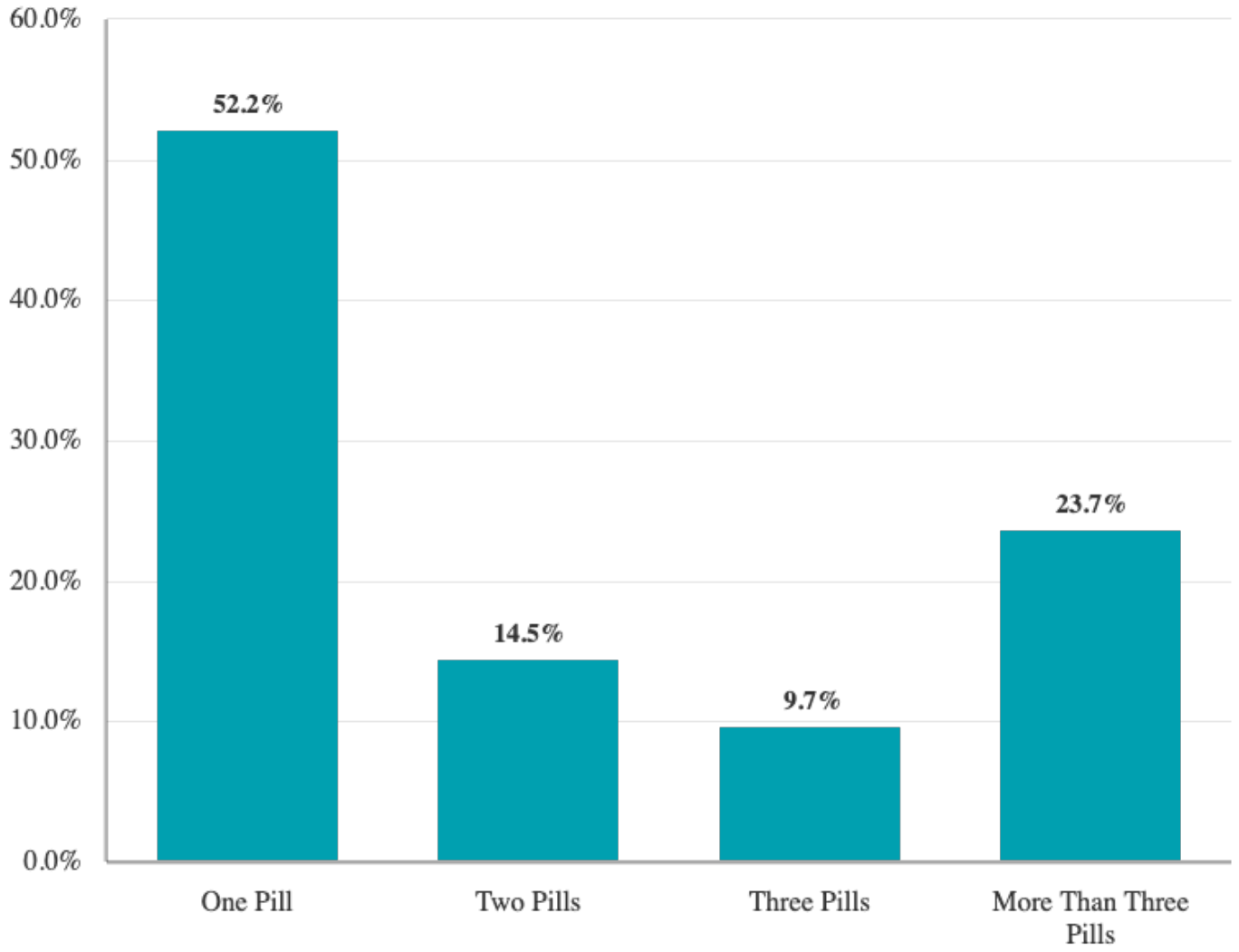
Use of Medication Report

Timeline: Sept 2018 - Sept 2019

Total Participants = 215



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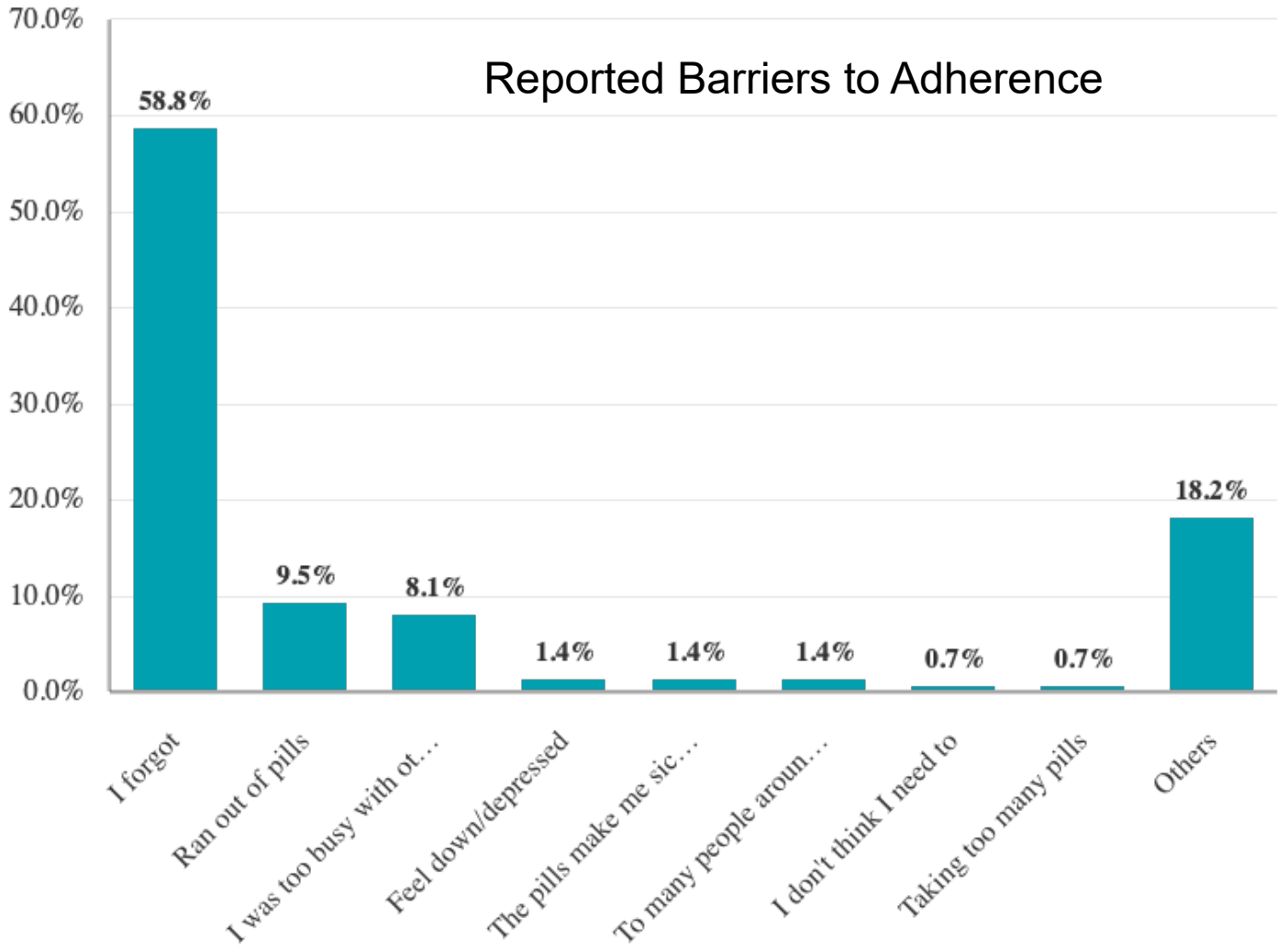
Self-Reported Barriers

Baseline Medication Adherence (87%)

Timeline: Sept 2018 - Sept 2019

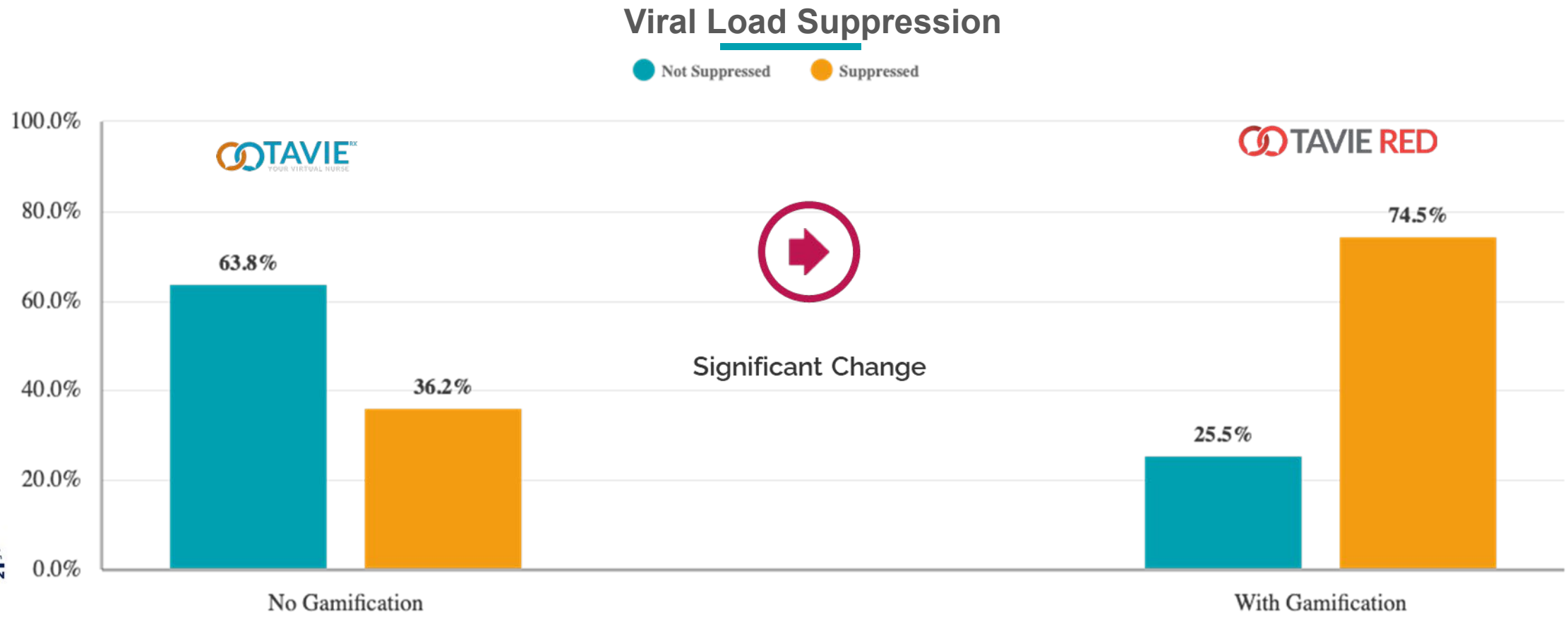
Total Participants = 215



Pre and Post Gamification:
Outcomes Improve with Gamification

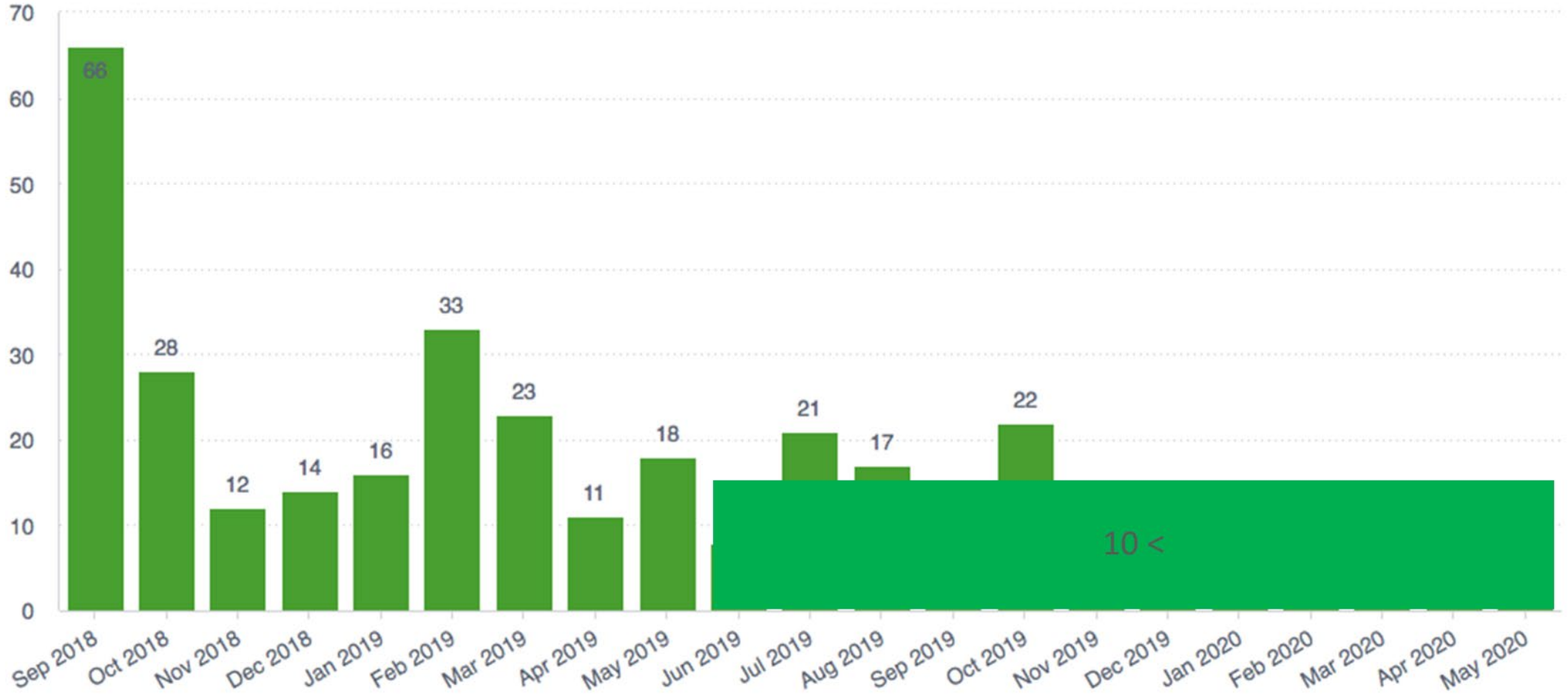
TAVIE HIV represents the initial app, without gamification. TAVIE Red is revised app with gamification.

Initial Cohort (N=47)



Enrolment Rates

TAVIE RED



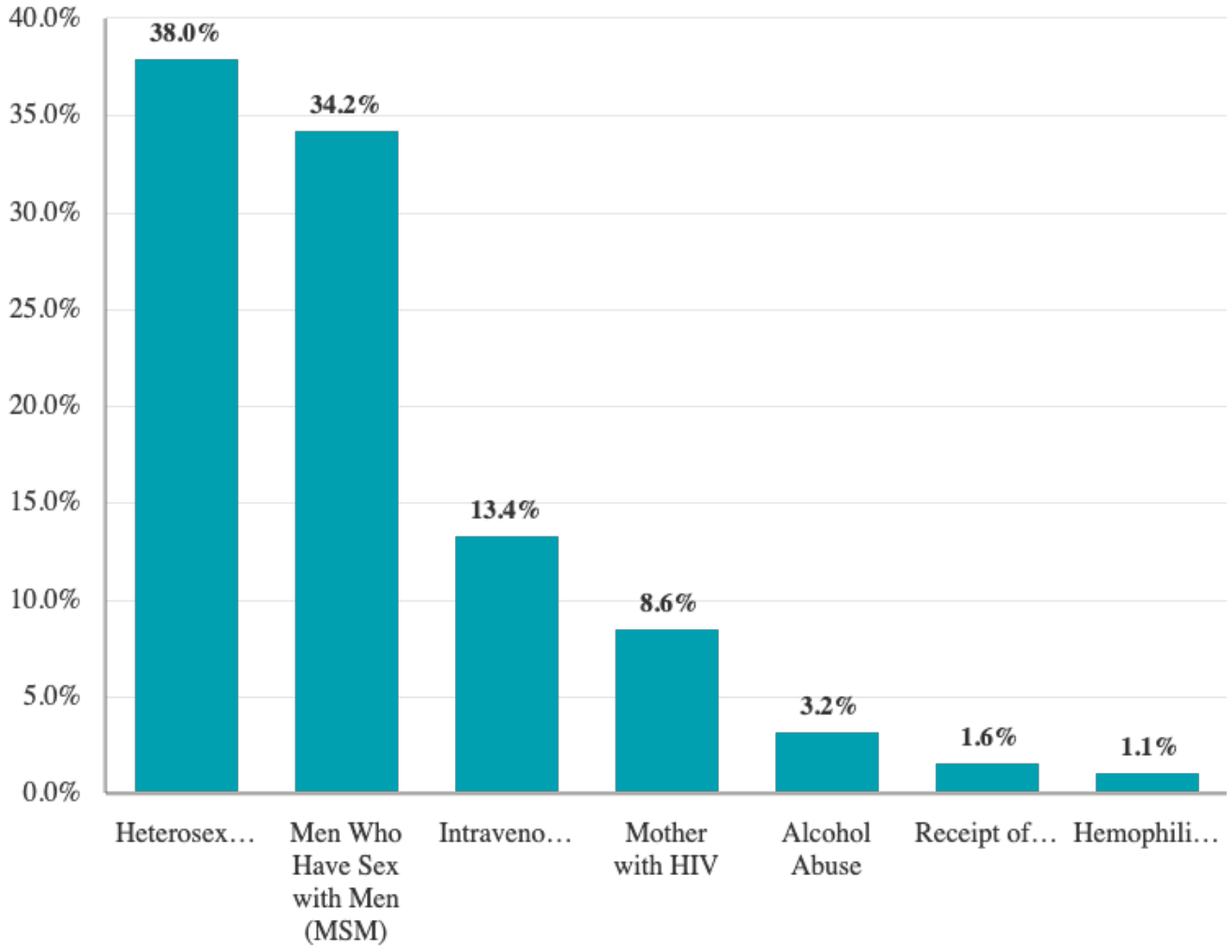
Results: Risk Factors

TAVIE RED

Risk Factors & Comorbidities

Timeline: Sept 2018 - Sept 2019

Total Participants = 215



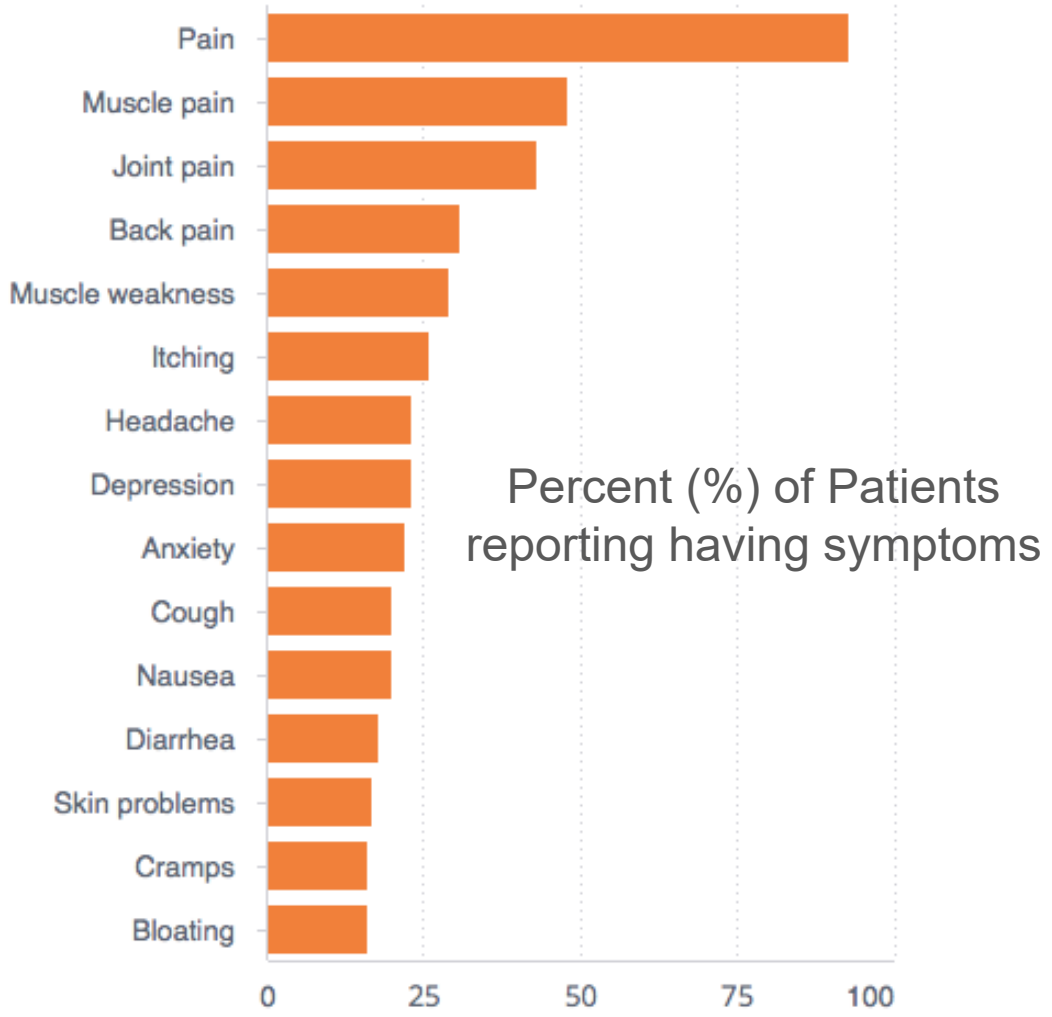
Results: Symptoms and Side-Effects

TAVIE RED

Self-Reported Symptoms and Side-Effects

Timeline: Sept 2018 - Sept 2019

Total Participants = 215



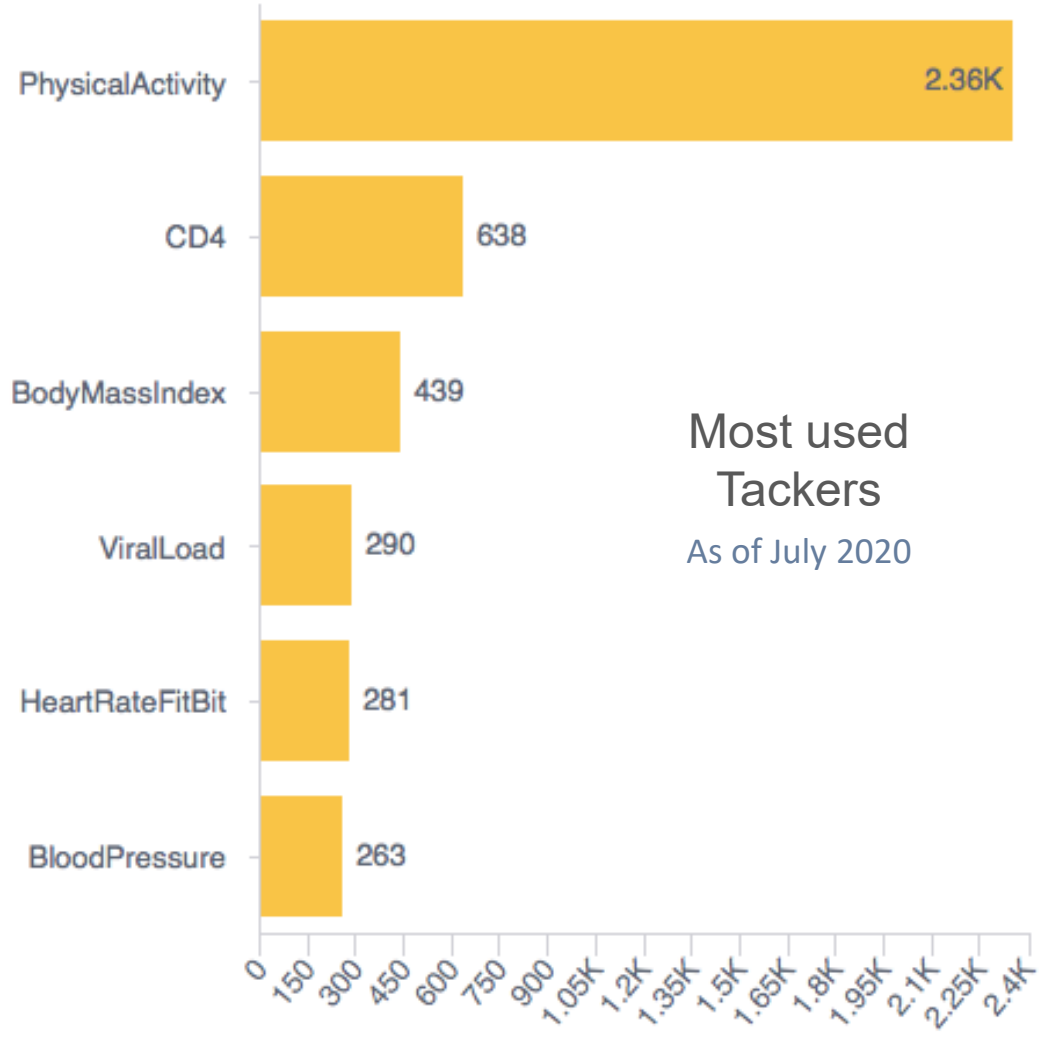
Results: Usage and Engagement

TAVIE RED

Usage and Engagement - **Activity**

Timeline: Sept 2018 - Sept 2019

Total Participants = 215



Most used Tackers

As of July 2020

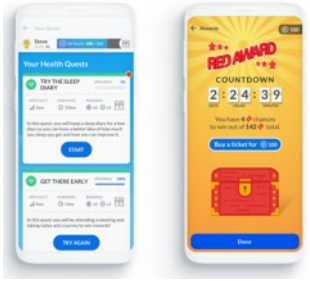
Results: Usage and Engagement

TAVIE RED

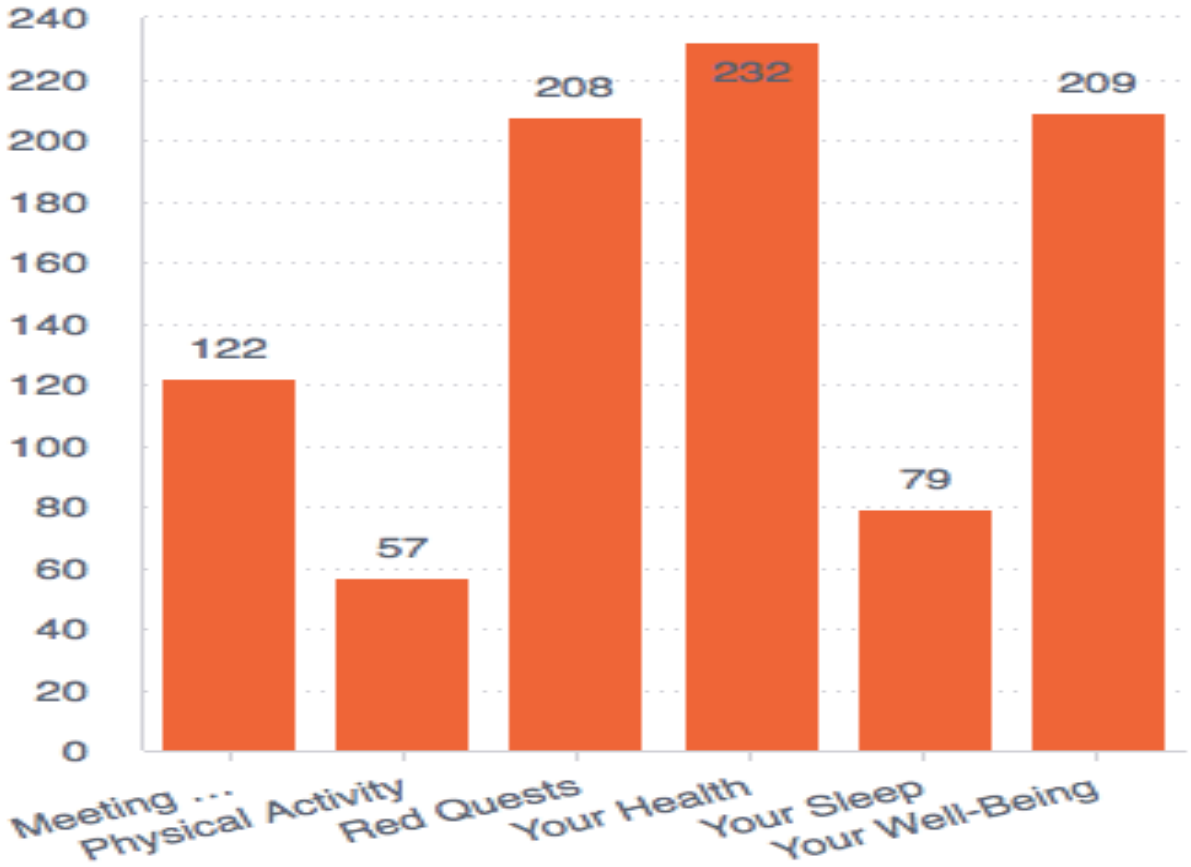
Usage and Engagement - **Quests**

Timeline: Sept 2018 - Sept 2019

Total Participants = 215



Number of Users Completing a Quest per Category



As of July 2020

Results: Risk Factors and Comorbidities

TAVIE RED

Risk Factors and Comorbidities

Timeline: Sept 2018 - Sept 2019

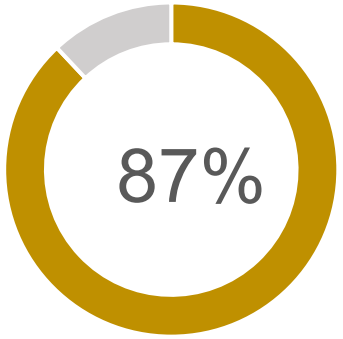
Total Participants = 215

High Levels of Comorbidities

Most Reported Health Issues	
Mental Health	89
Hypertension	46
Hepatitis C	29
Diabetes	22
Cardiovascular Diseases	19
Hepatitis B	17
Cancer	10
Others	35

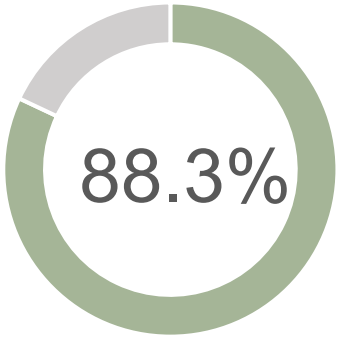
Number of patients reporting having comorbidities

Results: Increased Adherence



At start

TAVIE-HIV



After 3 months

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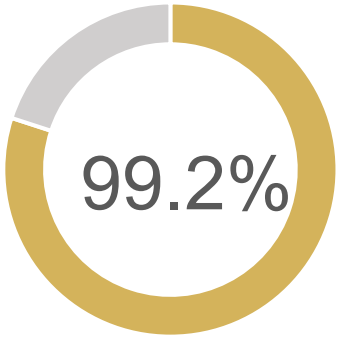

After 9 months

TAVIE RED

Medication Adherence follow-up at 3 months & 9 months

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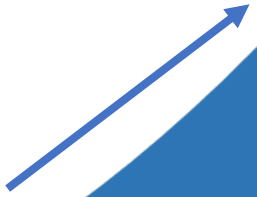
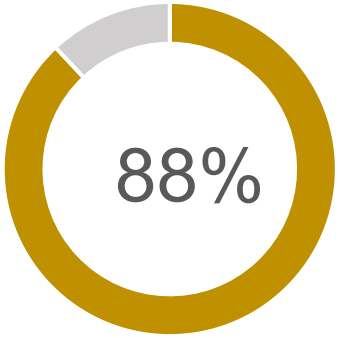
NODE HEALTH



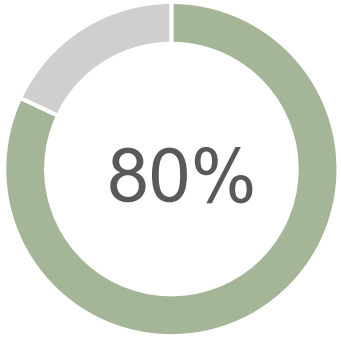
+12% Adherence!

Results: Increased Satisfaction

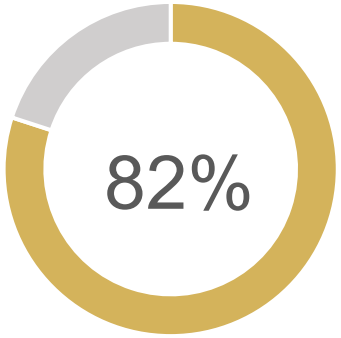
TAVIE RED



Would Recommend



Agree Helps Manage Medication



Agree Helps Manage Condition

High rate of **adoption, satisfaction, and perception** of value are high. Despite having little experience with technology.

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NODE HEALTH

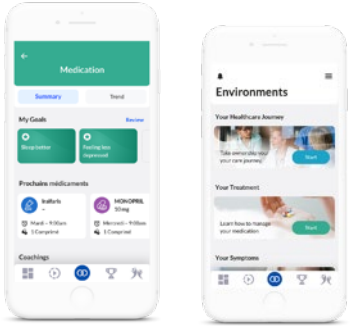
TAVIE^{RX} Portfolio of Therapeutic Indications

360Medlink: Our Mission

Develop clinically tested and affordable **digital therapies** in specialty conditions and deliver to **special populations** worldwide.

"Our technology platforms enables more coordinated and integrated care across physical, mental and social health."

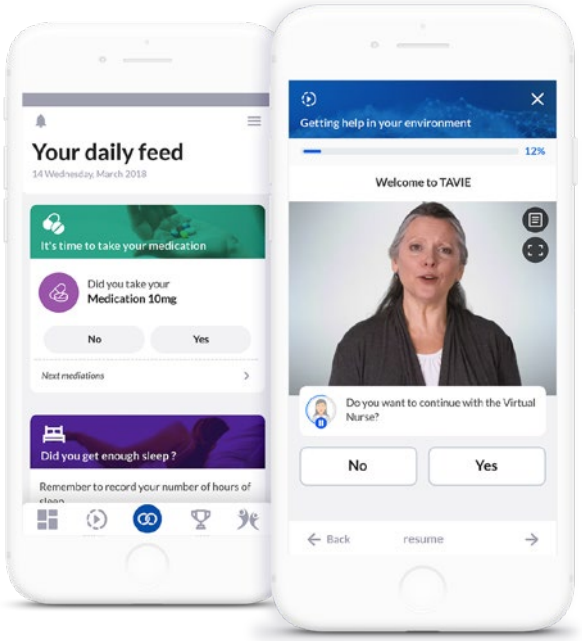
360° MEDLINK™



TAVIE RED

TAVIE Pso

TAVIE Plus



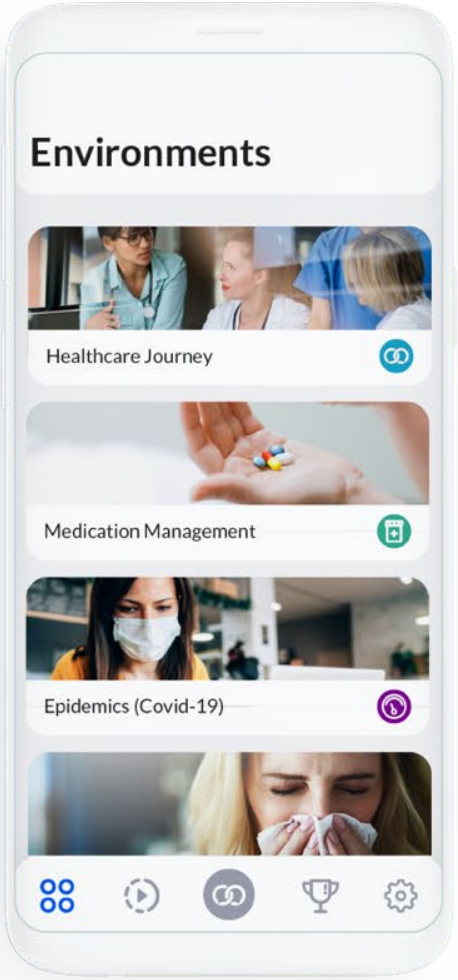
TAVIE Skin

Current TAVIE Therapy areas

Helps Achieve Optimal Self-Management

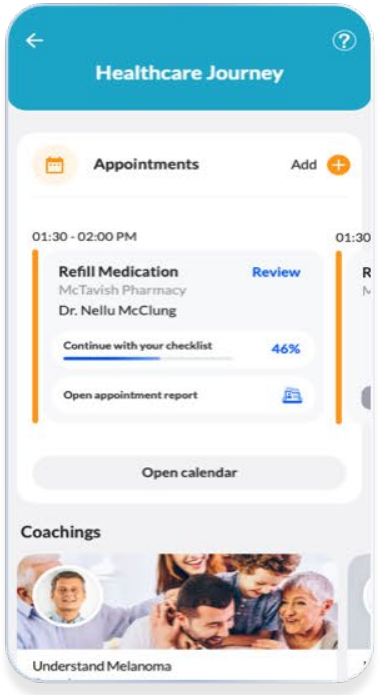
From prevention to treatment management

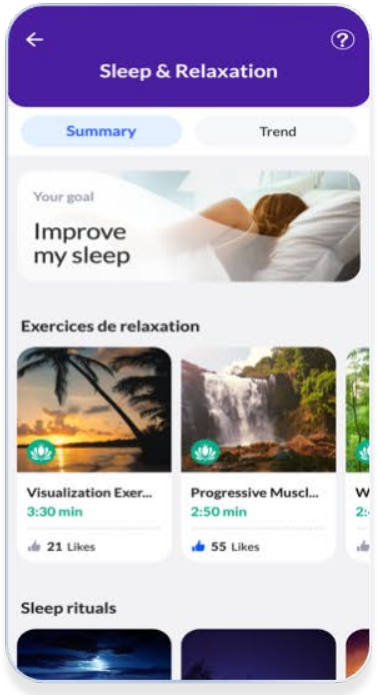
VIRTUAL 2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

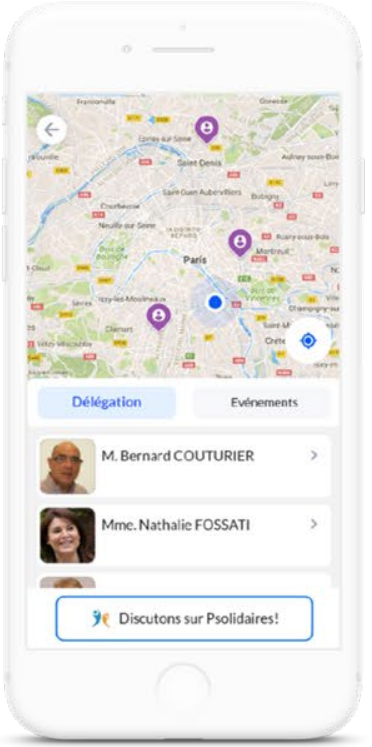


COTAVIE RX

Select your Environments...







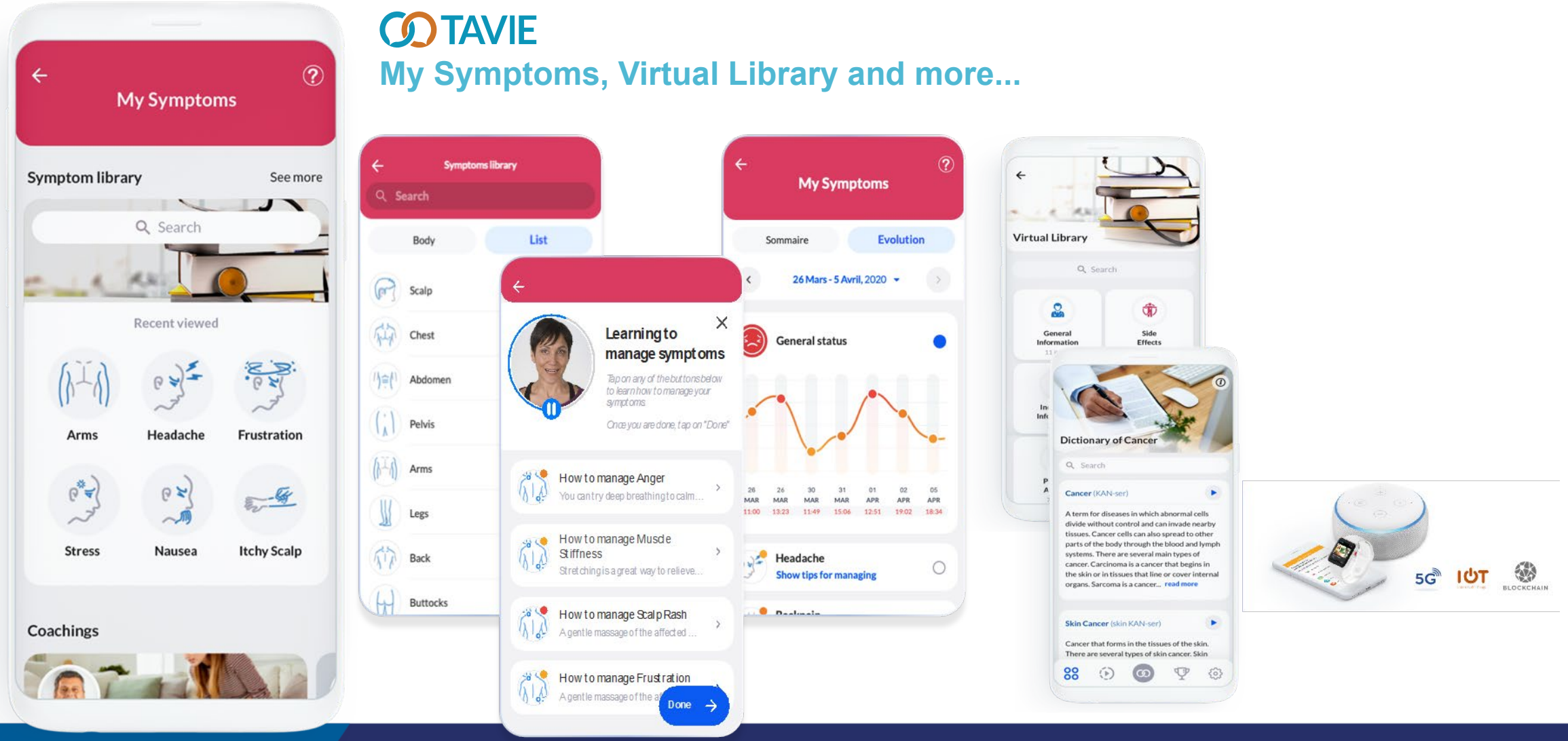
Resource Map

Helps Achieve Optimal Self-Management

Identify symptoms, manage side-effect, learn, and share with care providers

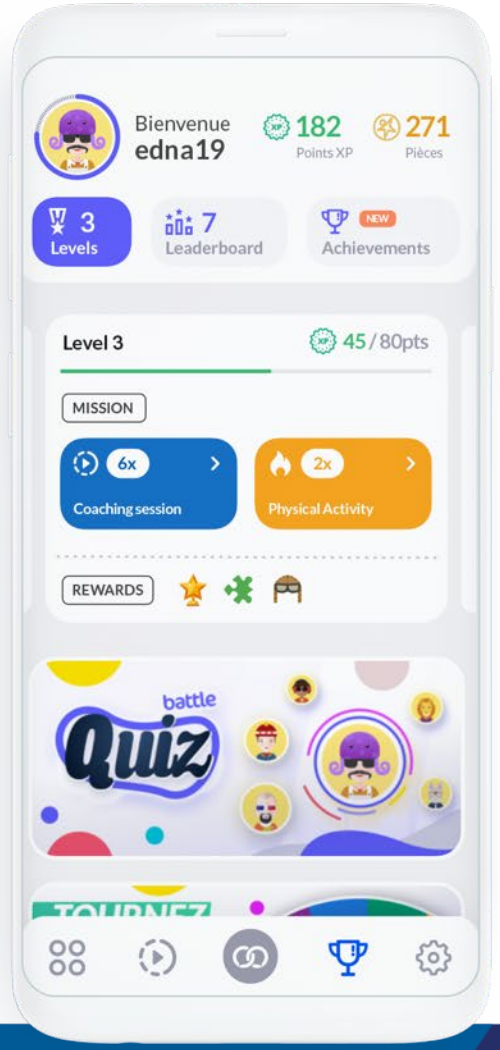
TAVIE

My Symptoms, Virtual Library and more...

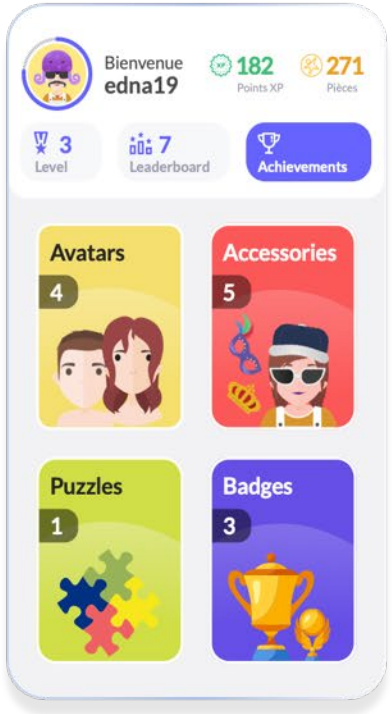


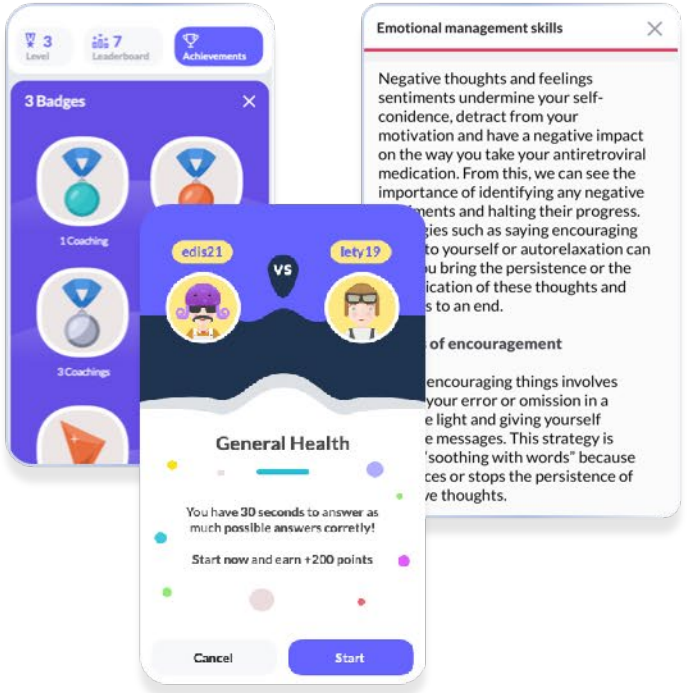
Gamification and Behavior Adoption

Quests, challenges, recursive rewards...



Gamification





Behavior Economics Principles

Behavioral Economic Principles

Social proof (the bandwagon effect) – Tendency of people to assume the actions of others reflect the correct behavior in a given situation. We look for cues in how others behave and copy their behavior in unknown situations.

Status quo or knowledge bias – Tendency of people to choose the option they know best rather than choosing the best option. Sometimes called the IBM effect in business (people would choose the IBM PC because IBM was a well known commodity – although not always the best choice).

Zeigarnik effect – Uncompleted tasks are more prevalent in your mind than completed ones. Uncompleted tasks occupy a significantly larger portion of our cognitive attention than do completed tasks (we ruminate about them more).

Behavior Economics in Motion

Process and Flow of Incremental Behavior Change with TAVIE Red

***Real Time Data** Visible Via **Console, Analytic Capability, Report Builder, Performance Measure Feature** (e.g., health outcomes, usage, etc.)*

Quest Selected or Prescribed

Behavior Change is Often Immediate when Quest begins

Questing Builds Rituals (Across a Variety of Self Assessments, Medication Adherence, Lifestyle Change, chronic Diseases, etc.)

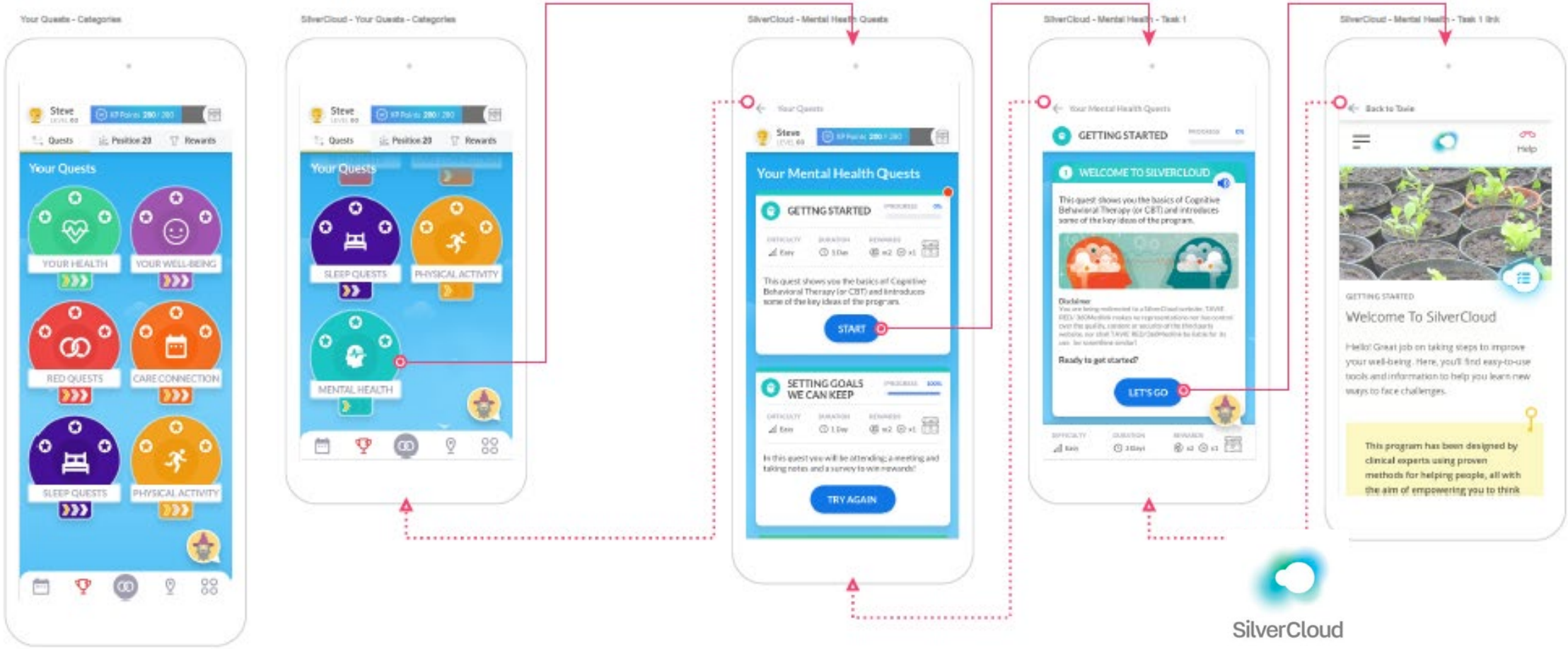
Completion of Quest Leads to **Recursive Rewards** (Tokens, Points, Gift Cards, etc.)

Points are assigned, Leader Board Avatar (anonymous) **Recognition**

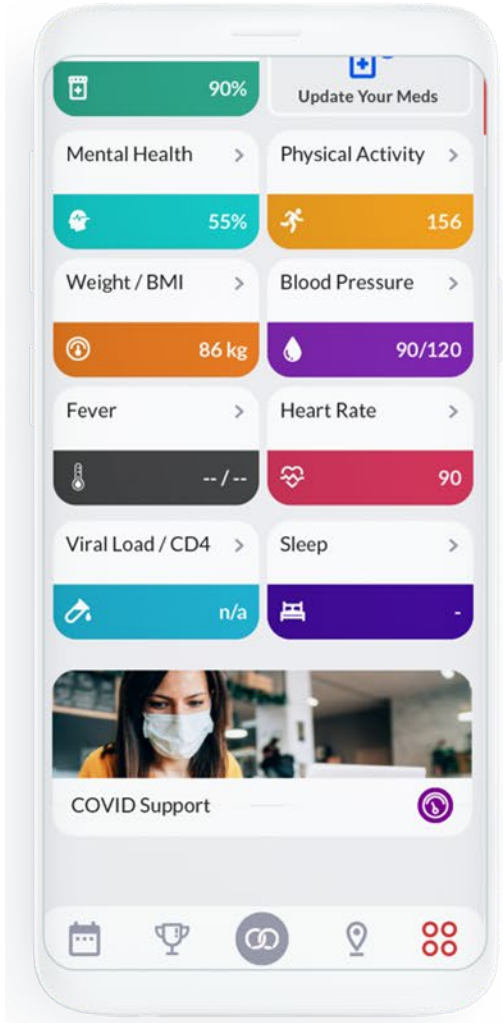
EXECUTIVE OFFICE OF HEALTH & HUMAN SERVICES
STATE OF RHODE ISLAND

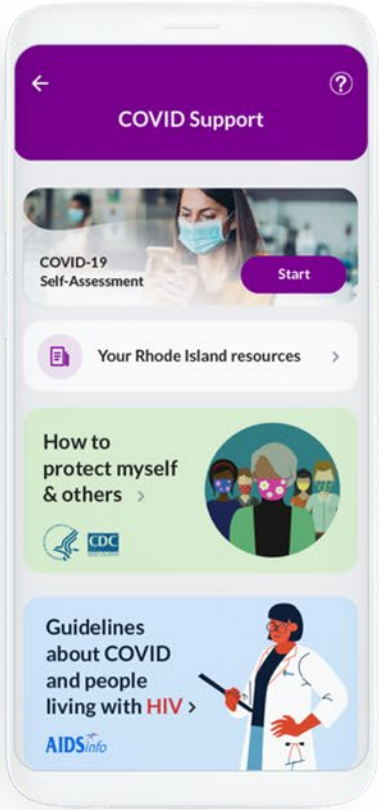
Expanding Mental Health Support

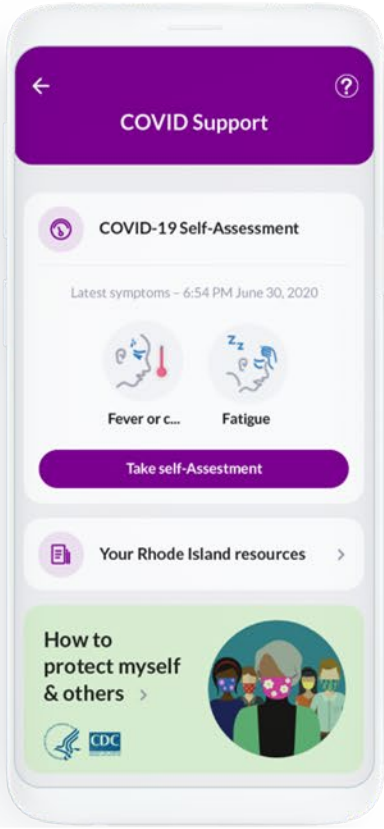
TAVIE RED

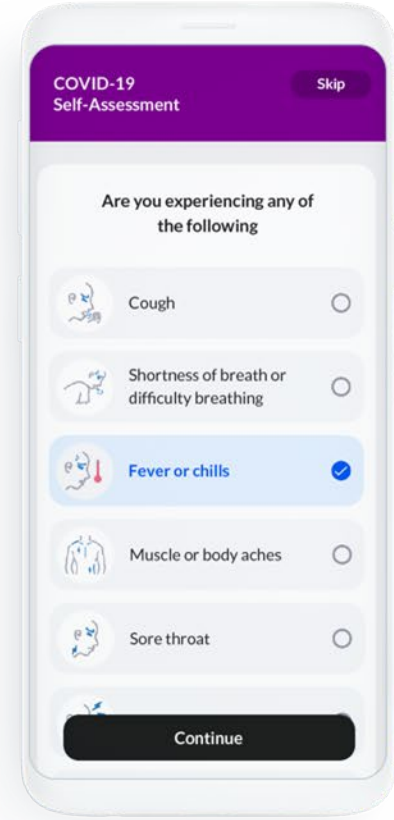


COVID19 Support and beyond...









Emergency Preparedness

Opportunity for Expansion...

Opportunity	**Are there opportunities to implement TAVIE-RED in your organization ?** • As additional tool for COVID19 and emergency preparedness ?
Solution	• The **TAVIE** platform: scientifically validated, exceptional user satisfaction, high performance measures that are clinically adaptable, etc. • Assisting highly vulnerable people with difficult behavior change challenges
Options	• Off the shelf (Use of existing TAVIE resources) • Hybrid approach • Special adaptation or customization

Based upon the Rhode Island experience and best practice observations

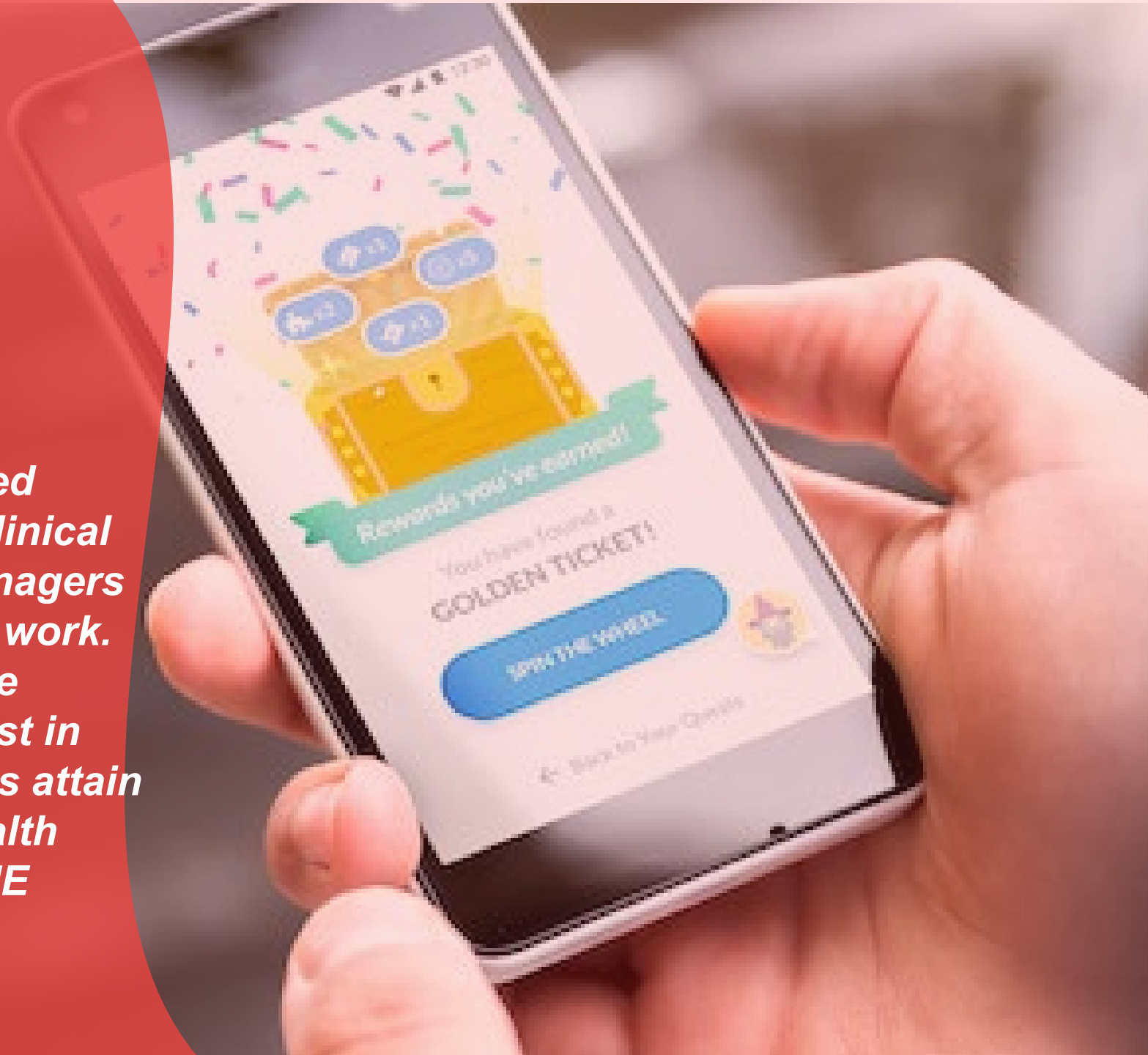
Summary of Session Objectives…

- ❑ Describe how TAVIE Red background
- ❑ Address specifications of TAVIE Red
- ❑ Detail the TAVIE Red platform and how it addresses SDoH
- ❑ Discuss patient self-assessments, data collection, and coordination with practitioners

- ❑ Discuss how TAVIE Red enhances case/care management standards
- ❑ Describe how RI involved vulnerable populations
- ❑ Highlight the effect of behavioral economics and gamification on health behaviors and outcomes
- ❑ Provide the RI Case Review and Results: Data Reveal, Describe use of power BI tools to predict patient needs and analyze patient responses

Thank You !

“Advanced digital technology must be conscientiously placed in the hands of patients and clinical providers, as well as case managers in order for any application to work. Coupled with a comprehensive platform, and a specific interest in helping vulnerable populations attain connectivity and excellent health outcomes – this is where TAVIE stands unique.”



Discussion

Factors contributing to this improvement