NATIONAL **S**RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT



TAVIE RED: Virtual Coaching Application for Smart Phones for Rhode Island Ryan White

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Agenda

- 1. Team
- 2. Context and Population
- 3. Approach and strategy
- 4. The platform
- 5. Reactions and experience
- 6. Discussion



















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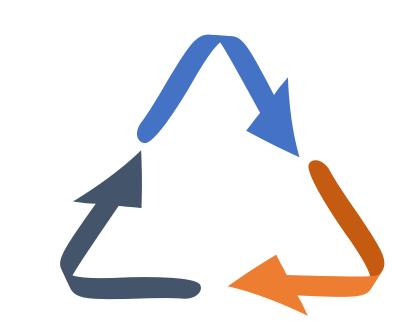
Our Goal: Programs to achieve Triple Aim

Improve:

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

RI **Medicaid** and the **Ryan White** program adopted these measures assertively pre PPACA, and they continue to exist today.

Medicaid benefits from Ryan White Part B performance measures, and Ryan White Part B benefits from the Medicaid efficiency measures.



1. Improve health outcomes

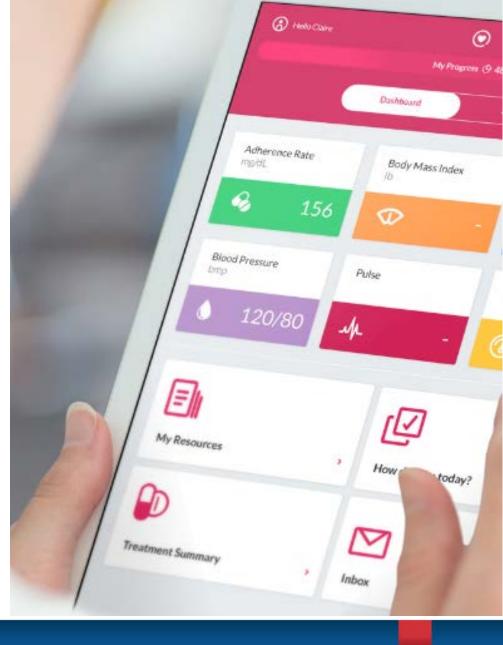
3. Promote efficient spending

2. Improve patient experience and engagement



A Bi-Product of Reform:

The opportunity to harness Digital Health Innovation

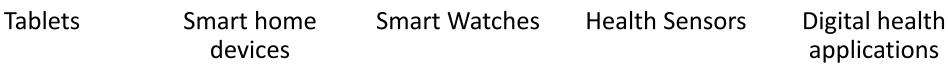




Context:

Growing body of evidence that Technology can support positive health outcomes







BUT: Our clients rarely have access





Asked to use what is freely available.

We learned the real price of "free"



We came to a different conclusion



RI state government search around PPACA implementation to effectively:

Communicate/monitor/enhance health outcomes

Engage in telehealth opportunities

Evaluate performance measures.

Conducted a 12 month review of existing products and smart phone applications.

We were looking for more than an application.

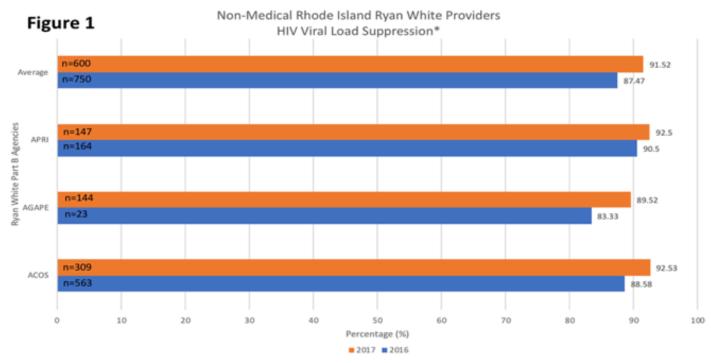
We wanted an innovative application coupled with a programmatic bent that directly interfaced with our consumers. After research stage, RI procurement allowed for a Sole Source with TAVIE^{RX}.



Good News: Viral Load

- 92% of respondents had a viral load below 200
- Levels improving over time

Reported through clinical assessment used for Quality Management Performance Measures.



* The number of clients with a HIV viral load less than 200 copies/mL at the last HIV viral load test within the last 12 months. Numerator is defined as, the number of clients in the denominator with a HIV viral load less than 200 copies/mL at last HIV viral load test within the last 12 months.

Denominator is defined as, all Ryan White Part B non-medical case management clients, regardless of age, with a diagnosis of HIV.



However, Our population is vulnerable

- 80% of users single ٠ divorced or widowed
- Only 22% college educated ۲

- 21% in unstable housing or ullethomeless
- 5% are uninsured ۲
- Low technical literacy ۲

At risk of slipping out of care

isolation 80%			
Single, divorced or widowed			
	Under- educated	Unstable housing	Un or
	22%	21%	under- insured
	College educated	Homeless	5%

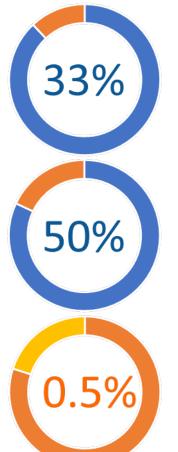
Many people living with HIV in RI with lower income (and other social determinants) did not have smartphones or computers. * Source: Baseline assessment survey. ** In other surveys, RI clients living with HIV have reported upwards of 32% homelessness.



Need: Psychological, QOL, Technological, and for Connection

Clients report being socially isolated, struggling with mental health, and burdened with symptoms of pain, sleep issues, and fatigue.

They report low self efficacy in getting help from the community and managing symptoms



Clinically depressed

Report symptoms. Most report low self-efficacy managing symptoms

Had a smartphone. Tech literacy is low



Source: Baseline assessment



Our Approach

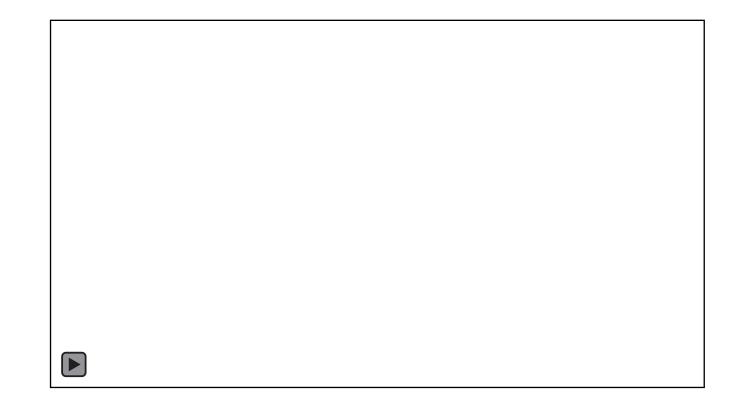


Approach:

The First Clinically Validated Virtual Nurse Interactive Coach, TAVIE.

- Customized PRO collection
- Tailored virtual coach for each user
- Treatment reminders
- Symptom tracking

Theory-driven interventions





Approach: Platform connects clients and case managers. Progress reviewed through analytics.

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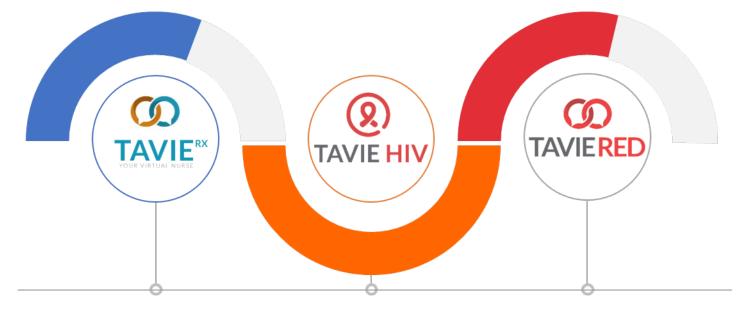




Clinically Validated Virtual Nurse App for Patients. Users receive personalized coaching sessions, treatment reminders and tracking tools Provider Console to Monitor and Intervene. An interface for case managers and providers to stay in touch and assist patients. Stakeholder Analytics. Customizable dashboard to track performance measures, view clinical outcomes and track engagement to inform decisionmaking.



Platform Evolution (talk tomorrow)



1. Validated Platform

Developed and validated at University of MTL Medical Center

2. Initial Adaptation

Adapted the content and trackers for U.S. vulnerable population

3. Second Release

Based on input and need to address SODH, increase engagement and delight



Modular Design

1. Virtual Coaching

- Treatment adherence
- Patient education
- Side-effect management
- 3. Whole Health
- Psycho-social support
- Symptom management
- Service acquisition (food insecurity, housing, engagement with healthcare)



2. Trackers and Feedback

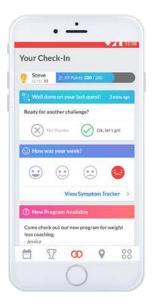
- Symptom assistance
- Treatment reminders
- Physical activity
- Viral load, weight, BP, +

4. Gamification

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



TAVIE RED: A Client Companion







Engage

A "feed" page shows interactive content and announcements from case managers

Assist

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

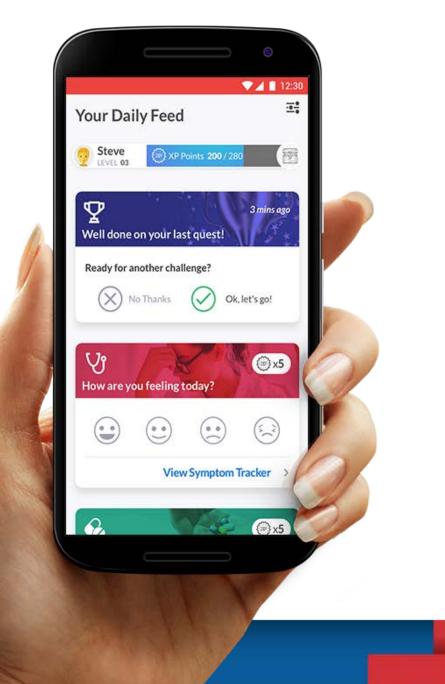
Delight

Users practice and solidify skills through health-related "quests" and gain rewards as they progress



1. Engage: Feed

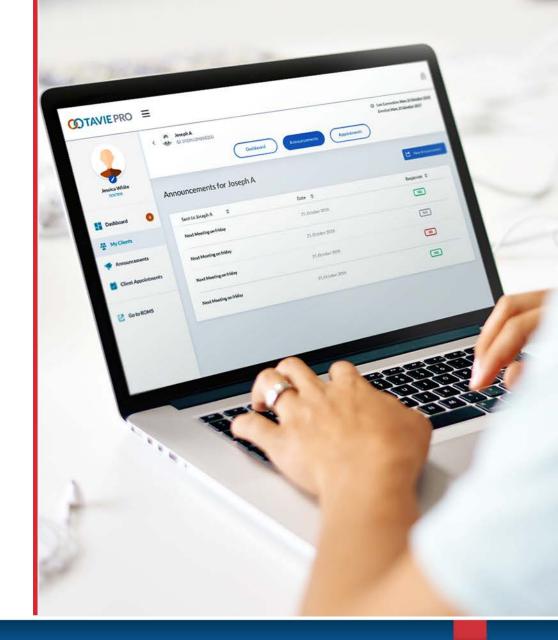
Dynamic view of app content with next steps for the client.





1. Engage: Announcements

Case managers can send clients announcements, short messages with yes or no responses.

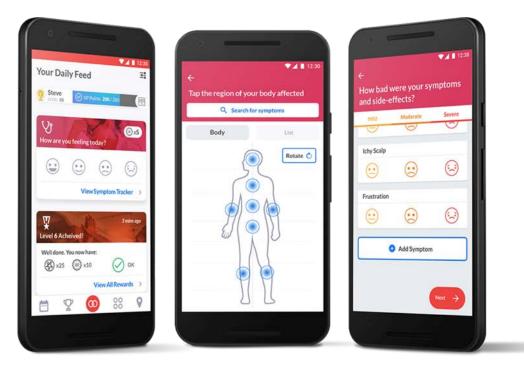




2. Assist Coaching and Tracking

- Virtual coach delivers educational content and support
- Symptom assistant
- Medication tracker and reminders
- CD4 and Viral load charting tool

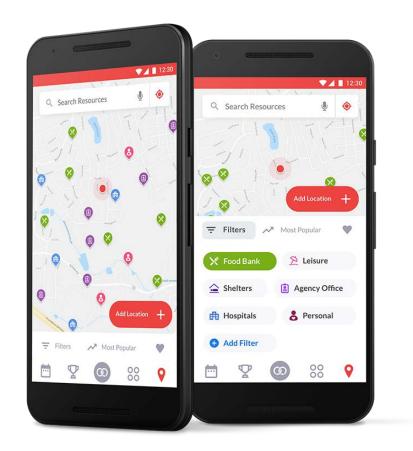






2. Assist: Resource Map

Clients can locate services recommended by case managers.

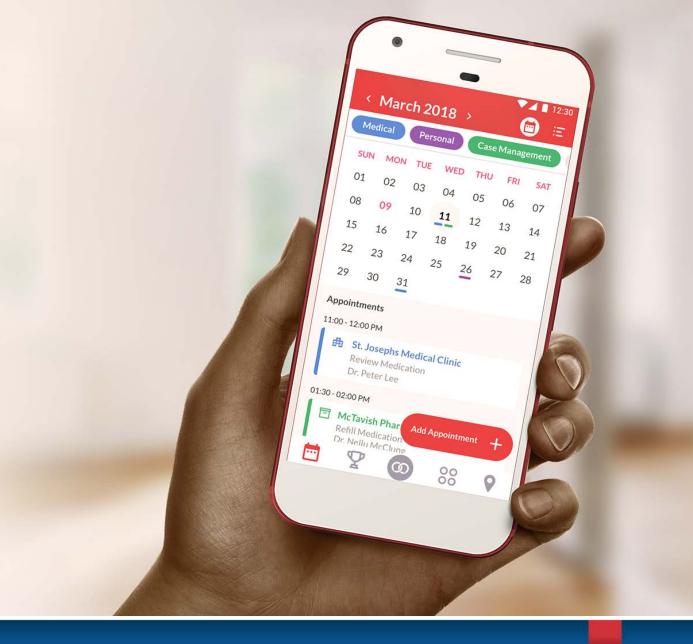




2. Assist: Calendar and Appointments

Clients and case managers can add appointments to the calendar.

Clients can receive reminders before the appointment begins.





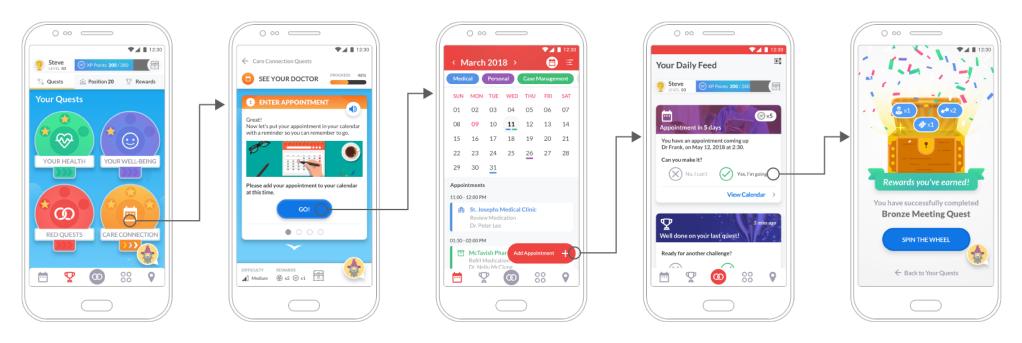
3. Building rituals: Playful engagement and Gamification

- User actions are incentivized through points and rewarded through raffles.
- Users rehearse healthy behaviors as they complete quests.



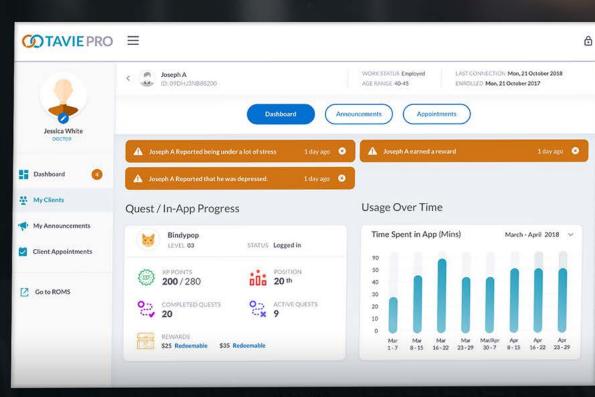


3. Delight: Serious Game Quest



- Client chooses Quest is launched to the prepare help the client for a doctor create and prepare visit quest for the appointment
- Appointment is saved in the in-app a calendar
 - Client receives reminders for the appointment in the feed
- Quest Completed!





MacBook Pro

OTAVIE PRO

Discussion

TAVIE Pro

Case managers:

- Review progress and stay connected with clients
- Send messages to keep clients informed
- Make and review appointments with clients







Experiences to Date



Protocol:

- Targeting 600 clients using the platform
- Clients receive phones preloaded with the application.
- Case managers track progress and followup with clients

Project Status:

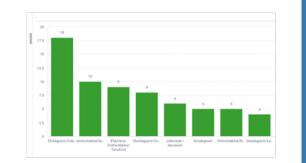
- 50% to our target:
 - 150 users of a first version of the app (TAVIE HIV)
 - 167+ users of TAVIE RED
- Feedback gathered through:
 - In-app assessments
 - Analytics



Findings 1: Real time data reporting and metrics

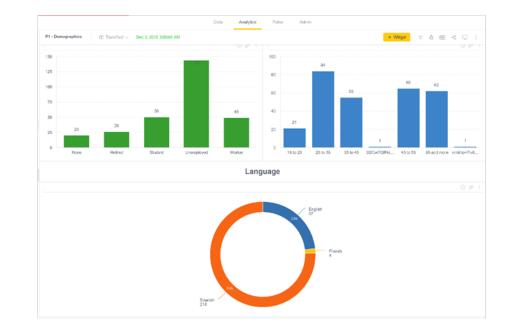
- Demographics and characteristics of the population
- Treatment regimens, adherence levels, symptomology, comorbities...
- Real-time understanding of user needs and symptomology
- Engagement with the application and progress through educational materials

HIV Treatments Reported



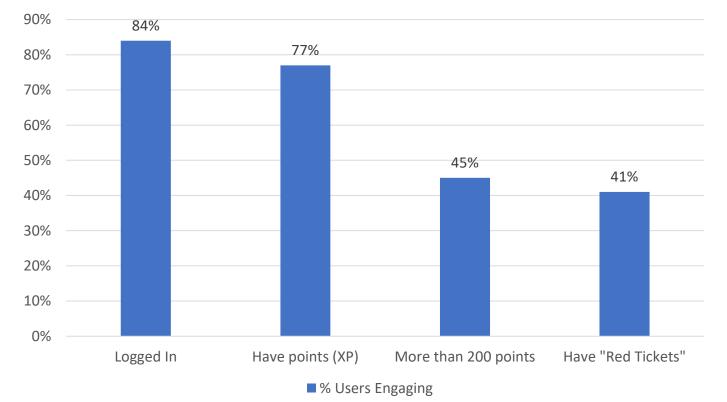
Most Common Symptoms

Symptoms	# Reported ~
Pain	23
Muscle pain	10
Joint pain	7
Muscle weakness	7
Anxiety	6



Findings: Patients Engaged

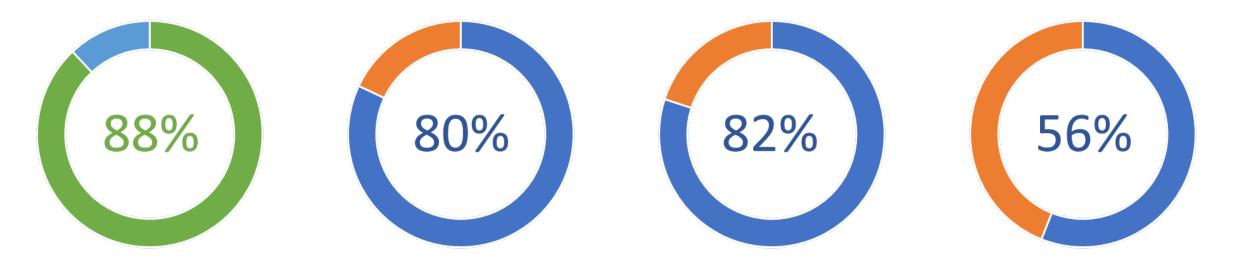
- 90% of other health apps unopened
- Most RED users actively engaged with the application
- Clients using the functionality
- Clients engaging over time with the gamified elements



% Users Engaging



Findings: User Response Through In-App Assessment



Would Recommend

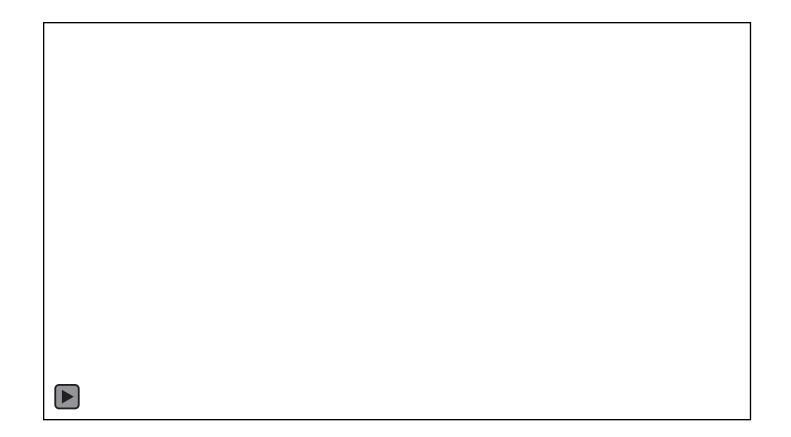
Agree Helps Manage Medication Agree Helps Manage Condition

Agree Helps with Managing Appointments

41 users completed, 68% male, 29% female, 2% trans, Distributed across age, 61% unemployed



Feedback





Summary Findings

Ability to design to Needs & performance measures

- New mechanisms to improve CM-client communication
- Vehicle to achieve performance measures
- Social determinants are inextricably linked to the performance measures – moving from isolation of a SDoH to a solution

Greater Understanding of the population

- In-app assessments
- Patient-reported outcomes
- Contextual data
- Performance measures
- Greater understanding of clients' needs, challenges and abilities

Positive Assessments and Outcomes

- 21% of users did not have a phone before
- 88% of early users would recommend, now more positive
- Helps people take medication, manage their condition, and use tech generally



Lessons Learned

- 1. Implementation reveals barriers & challenges
- 2. Vulnerable populations deserve and thrive with advanced technology
- 3. Unexpected cost saving: Evaluation and Performance measures
- 4. Procurement in state government is critical



Questions?



Thank you!



Paul Loberti Jeana Frost Ezzat Saad Andre Parker



