How Wearables and an App Enable Injured Workers

Recovery at-home or on-the-go.
Anytime, anywhere

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How Wearables and an App Enable Injured Workers
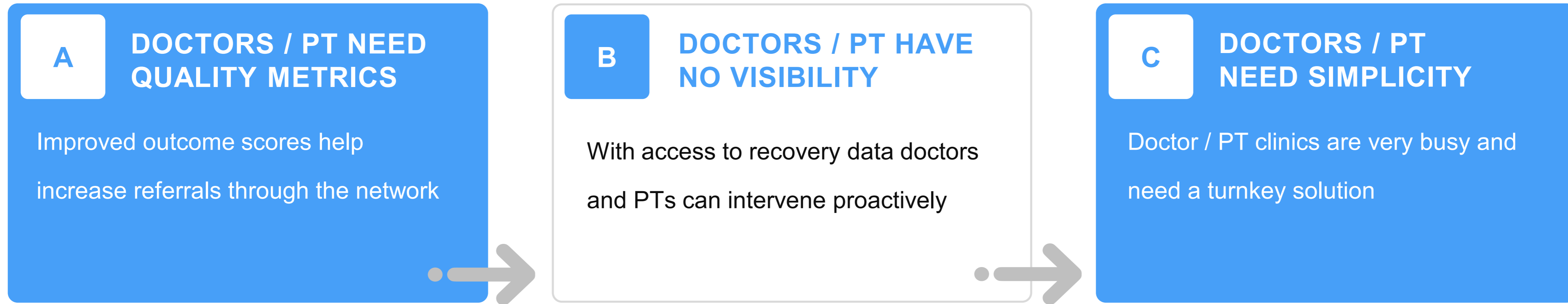
Learning Objectives

1. Discover new methods of capturing and driving injured worker engagement to achieve optimal outcomes through a bio-psycho-social approach to meet today's injured worker recovery challenges, while providing necessary insights critical for speeding up recovery and return to work.

2. Examine musculoskeletal care and associate how the right tools can empower injured workers by giving them the necessary motivation for managing their musculoskeletal health.

3. Observe and evaluate the role of digital health tools that cover the care continuum from acute to chronic conditions and how they can facilitate injured worker recovery.

4. Identify at-risk employees and facilitate the delivery of the right services at the right time.

5. Discover how digital health can keep the injured worker engaged, and how the resulting data provided by the technology can be key to a healthier quicker return-to-work and sustainable cost reductions.

6. Examine how real-time data can be used to ensure the right care is being provided at the right time, prevent ER visits, detect changes before a more serious consequence occurs, improve medical efficiency, and reduce unnecessary costs.

Care is transitioning to the home. Injured workers need to follow care program at home.

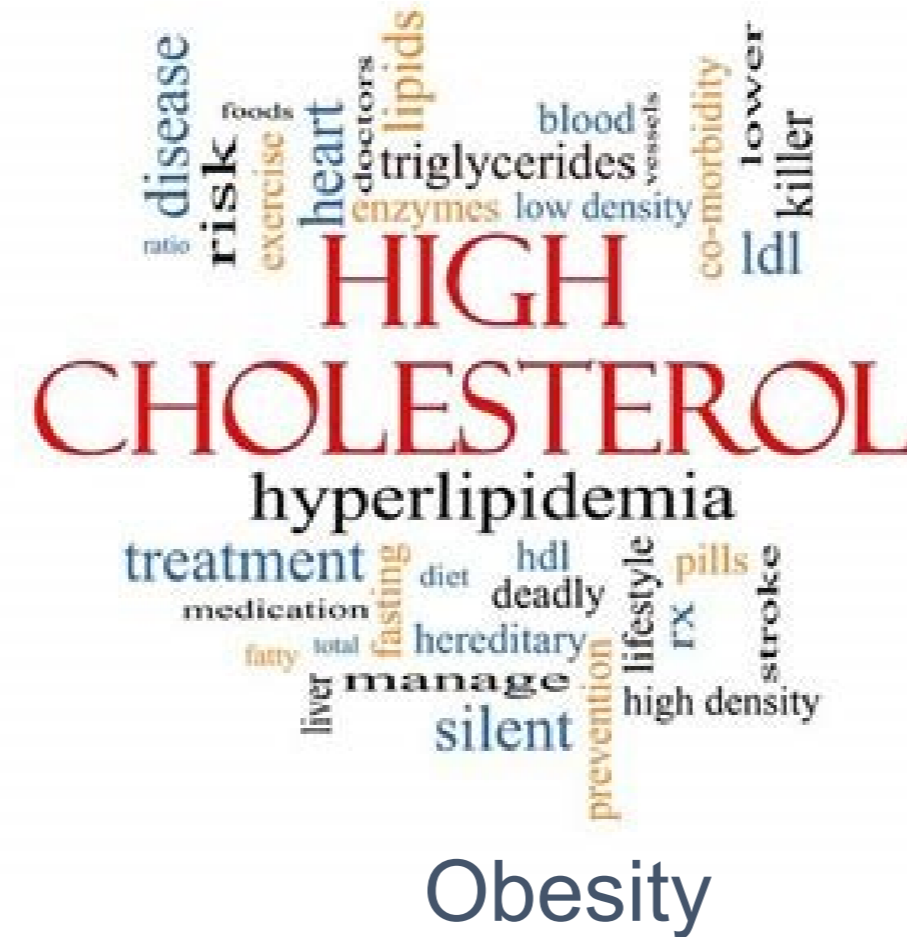Injured workers face several barriers to recovery. Increasing care costs

01 RECOVERY REQUIRES CARE AT HOME

Doctors and Physical Therapists require patients to manage care at home between visits

02 ONLY 35% OF PATIENTS FOLLOW CARE AT HOME

Leads to delayed recovery, additional clinic visits, readmission costs and additional surgeries

03 PATIENTS FACE SEVERAL BARRIERS

ACCESS TO CARE
- Distance barrier
- Schedule barrier

MOTIVATION
- Lack of motivation
- Lack of support
- Anxiety and Pain

Care team wants simplicity

A   **DOCTORS / PT NEED QUALITY METRICS**

Improved outcome scores help

increase referrals through the network

B   **DOCTORS / PT HAVE NO VISIBILITY**

With access to recovery data doctors

and PTs can intervene proactively

C   **DOCTORS / PT NEED SIMPLICITY**

Doctor / PT clinics are very busy and

need a turnkey solution

Claims team wants visibility

A **RIGHT CARE AT THE RIGHT TIME**

The right care at the right time results in lower cost of claim

B **NEED ENGAGEMENT VISIBILITY**

Recovery data allows claims to determine the need for additional services including PT

C **NEED TO CLOSE CASE**

Faster recovery results in faster claims closure

Injury was musculoskeletal, yet recovery is not going as planned

What lies beneath

Obesity

Adverse childhood experiences

Litigation drives poor outcomes

6 weeks post-op visit and 6 sheets of paper to go manage myself

Yawn!   I like my couch and Netflix better

Structured Episode of Care Management Programs

Requires injured workers to be disciplined in following their care protocol

**POST-SURGERY
OR NON-SURGICAL RECOVERY**

PRE-SURGERY

PATIENT
ONBOARD

BASELINE
ASSESSMENT

PRE-HABILITATION
EXERCISES
VIDEOS | TRACKING

PRE-SURGICAL
CHECKLIST
+
DAILY
CHECK IN

SURGERY

MEDICATION
REMINDERS

PAIN
TRACKING

MOOD
TRACKING

SYMPTOM
CHECK

PICTURE
UPLOAD

CARE TEAM
COMMUNICATIONS

PT PRESCRIBED
REHABILITATION
EXERCISES
VIDEOS | TRACKING

PYSCHO-
SOCIAL
COACHING

BY APP
AND COACH

ASSESSMENT

PATIENT
SURVEYS

- HOOS (Hip Disability and Osteoarthritis Outcome Score)
- KOOS (Knee Disability and Osteoarthritis Outcome Score)
- Modified Oswestry Low Back Disability Questionnaire (asks Employment/Homemaking)
- NDI (Neck Disability Index)
- QuickDASH
- QuickDASH – work module
- LEFS (Lower Extremity Functional Scale)

Hybrid care model

What it takes to get injured workers to follow care program and decrease claims cost

Injured worker follows program at home

Including PT/OT prescribed home exercises

App delivers structured program

Sensor tracks progress

Coach motivates injured worker

Care team and claims team gains real time recovery data

Coach monitors and engages clinic for quicker intervention

Quality recovery and quicker return to work

How to engage injured workers at home

Improve At Home Care With Advanced Digital Insights

Non-Surgical Patients | Conservative Care | Surgical Patients | Chronic Pain | Catastrophic Cases | Old Claim Cases
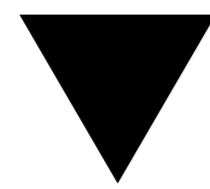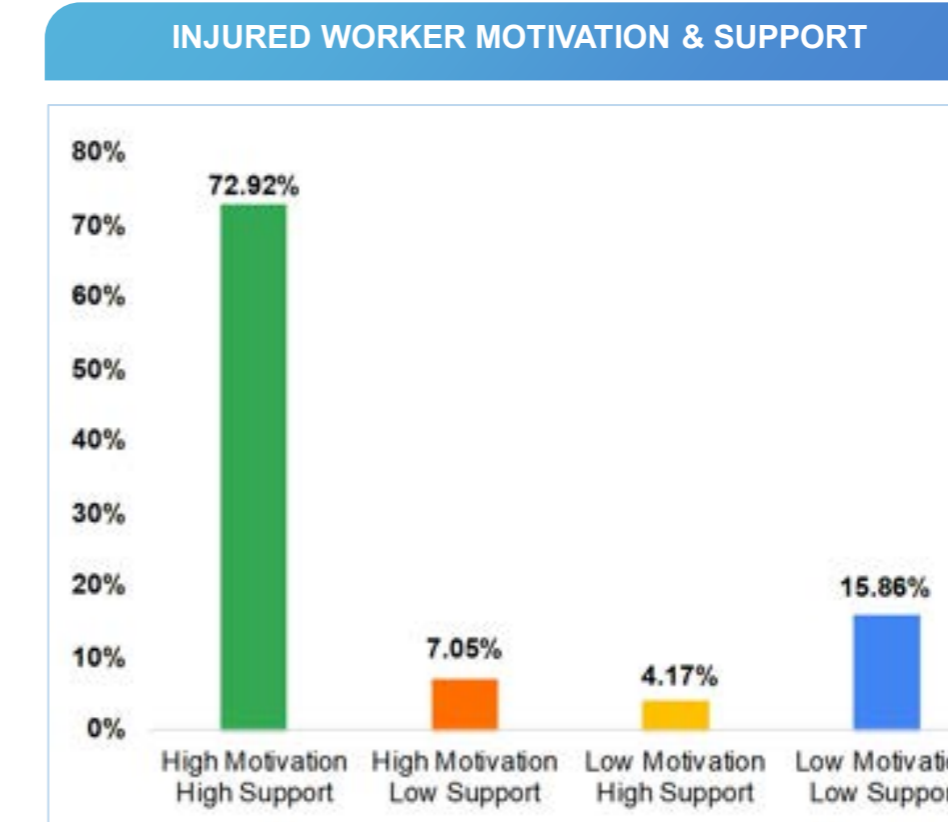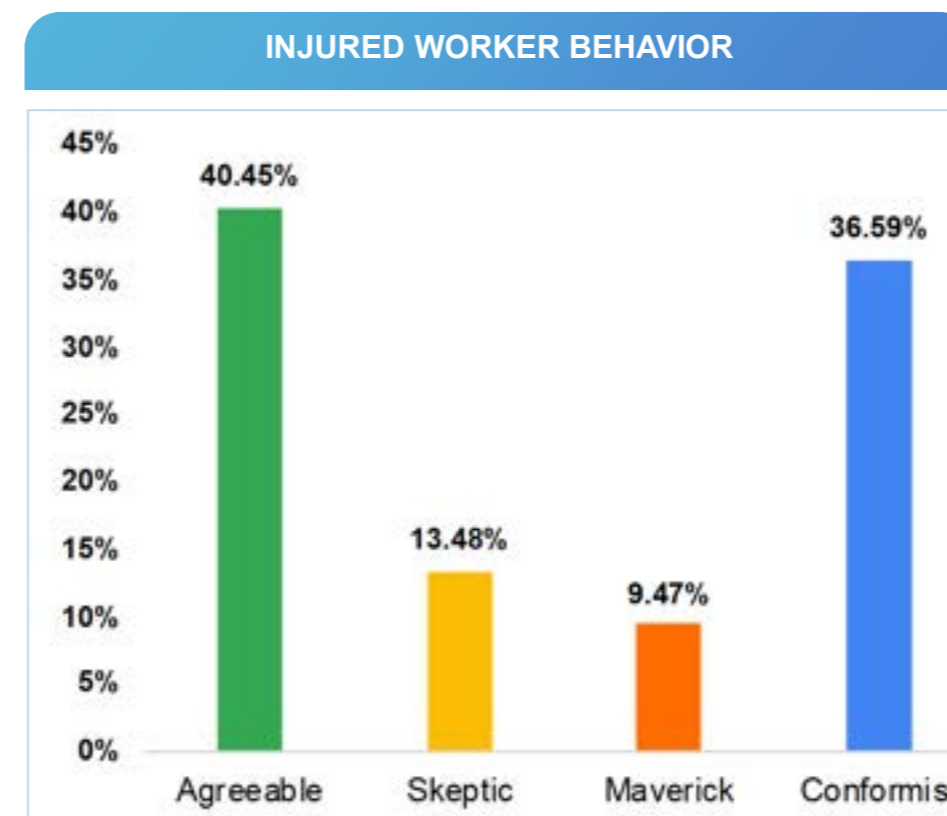

MARIA GOT INJURED AT WORK

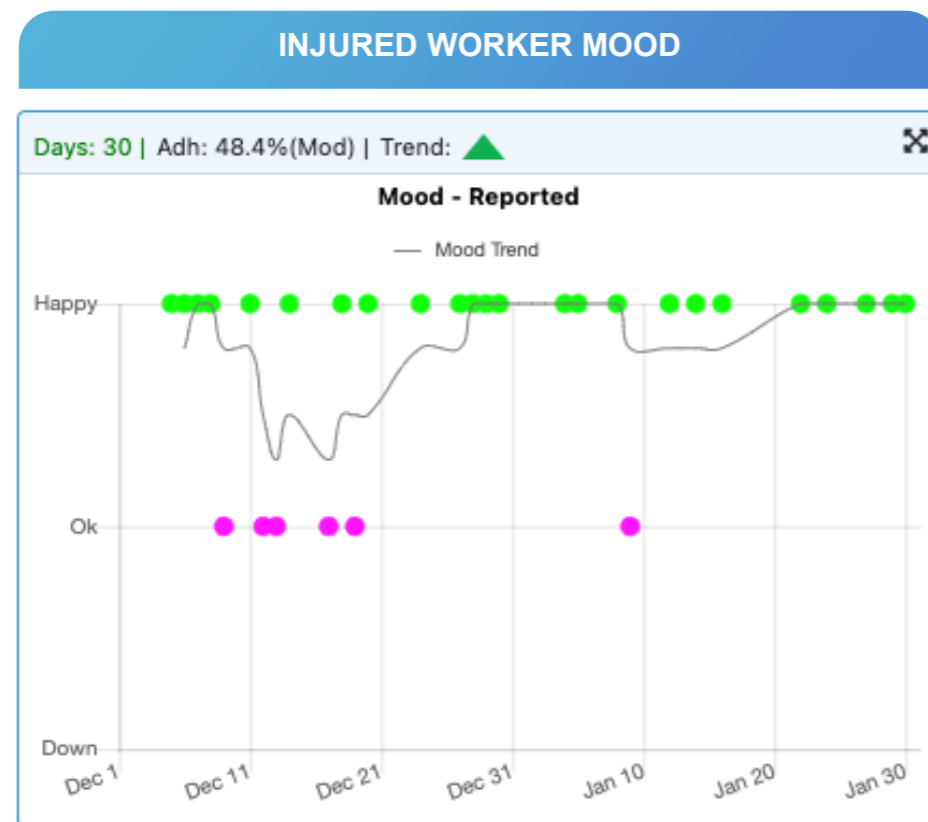1. **BIO-PSYCHO-SOCIAL PATIENT ENGAGEMENT MODEL**

2. **ADVANCED DATA DRIVEN RECOVERY**

3. **PERSONALIZE INJURED WORKER EXPERIENCE**

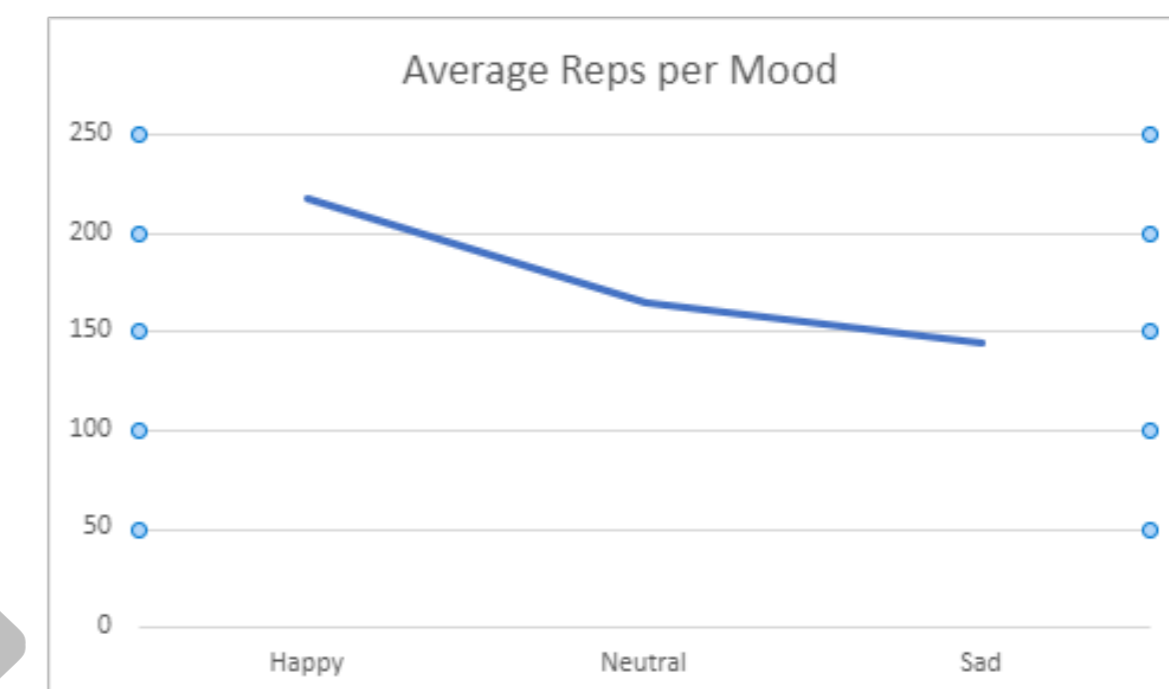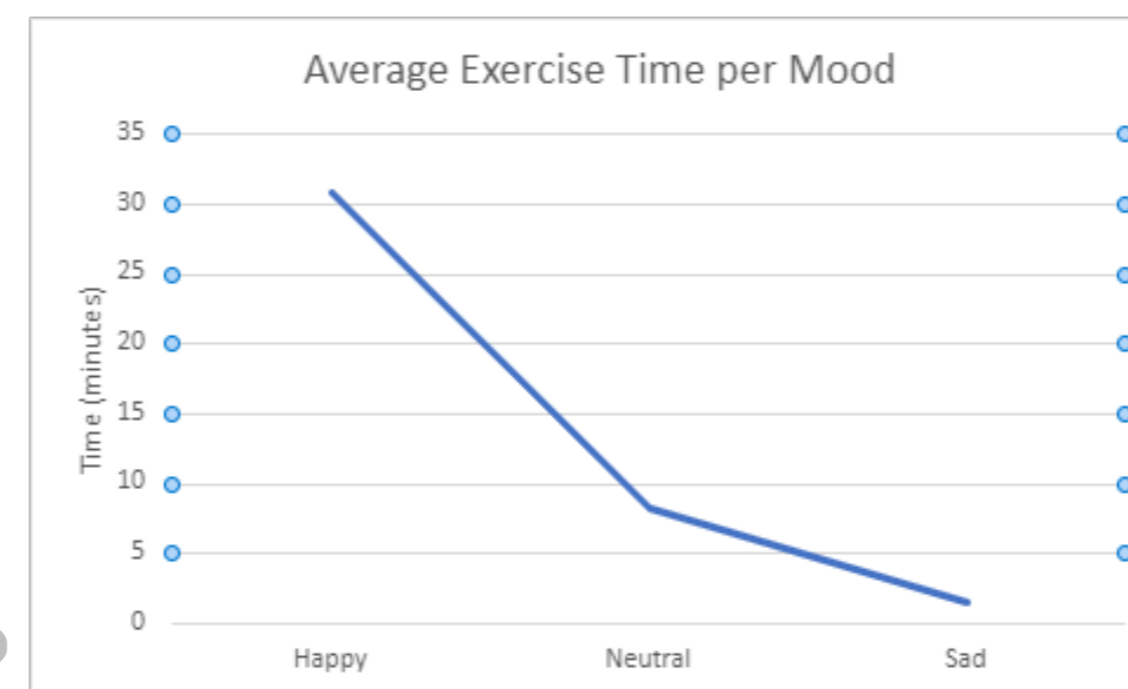4. **QUICKER INTERVENTION**

5. **ADDRESS BARRIERS TO RECOVERY**

JOHN NEEDS KNEE REPLACEMENT
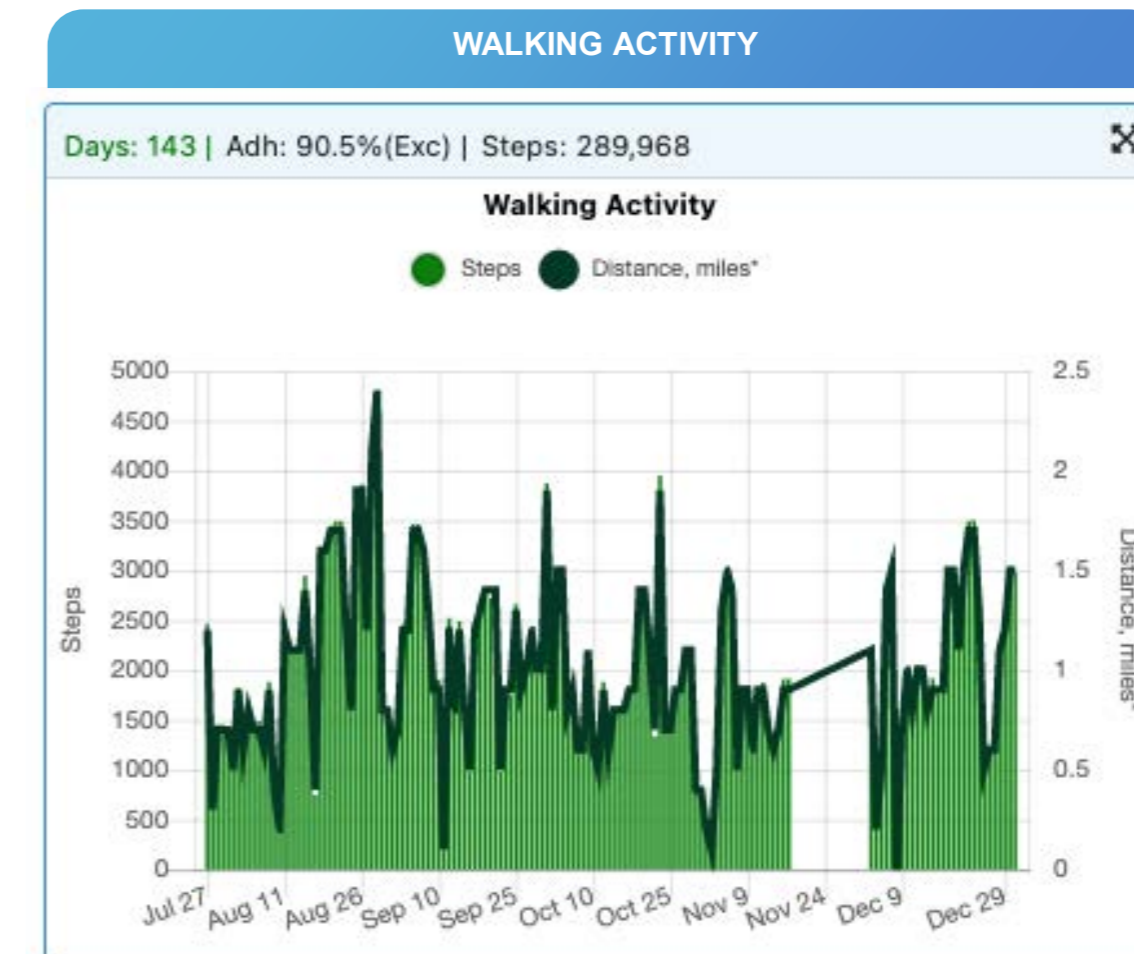
Bio-Psycho-Social Patient Engagement Model

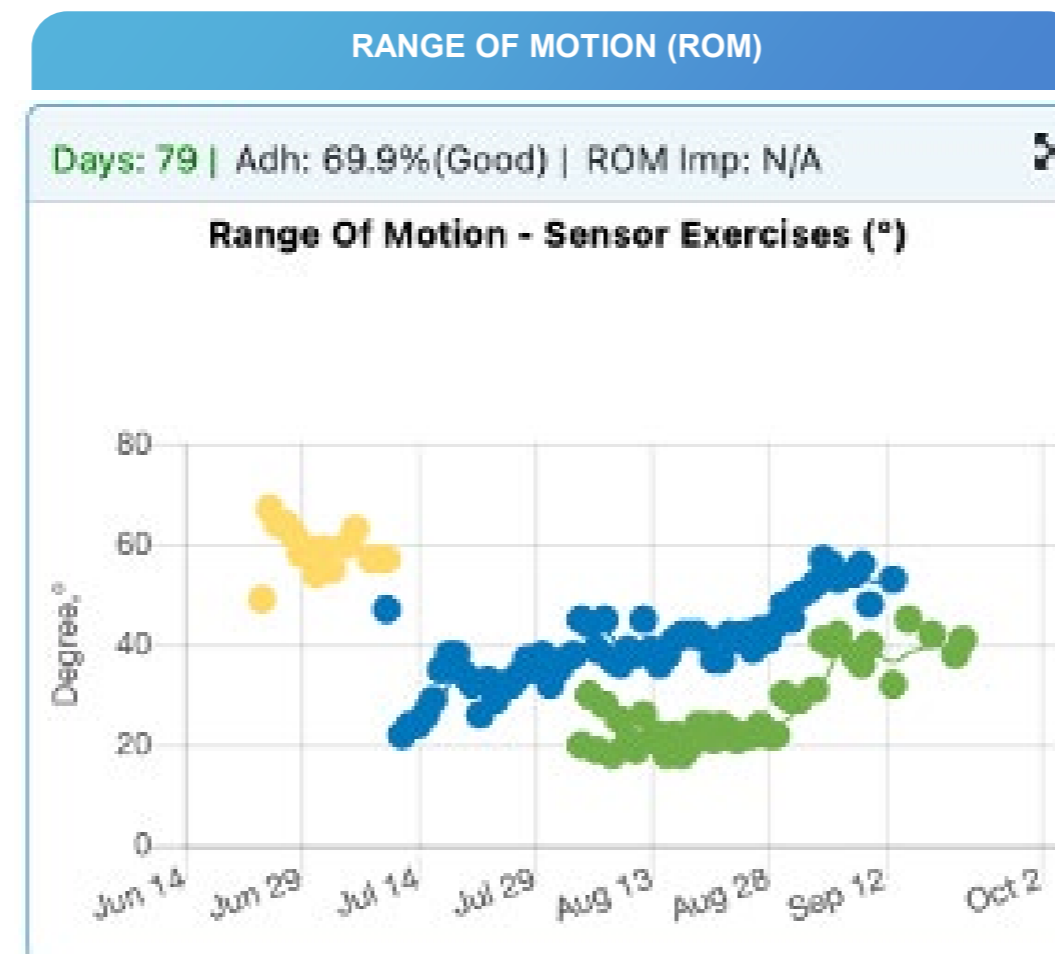|	Avg. Reps	Avg. HEP Time (minutes)
Happy	217.6	30.8
Neutral	164.9	8.24
Sad	144.59	1.49

Recovery progress

Pathway to MMI, Reduced TD and Care Costs
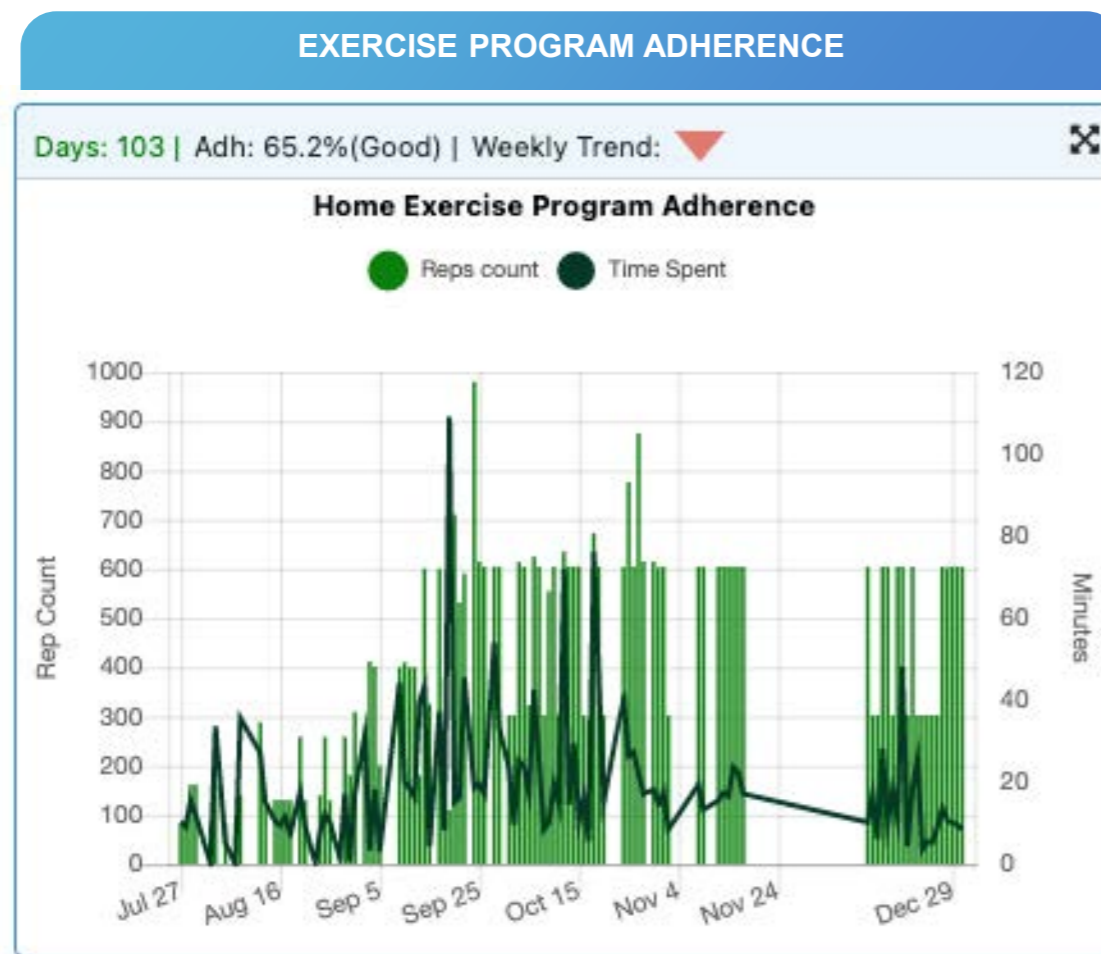
Opportunity for early intervention

SYMPTOMS FOR INTERVENTION

Days: 26 | Adh: 81.3%(Exc) | +ve Days: 3

Symptoms - Reported

PAIN REPORTED

Days: 104 | Adh: 65.8%(Good) | Trend: ▼

Pain Scale - Reported

— Pain Trend

MEDICATION ADHERENCE

Days: 26 | Adh: 92.9%(Exc) | Max # Med: 8

Medication - Reported

● Oxycodone 5 mg ● Celebrex 100mg ● Aspirin 81mg

IT HURTS! STOP DOING HEP UNTIL NEXT CLINIC VISIT

Supine heel slides
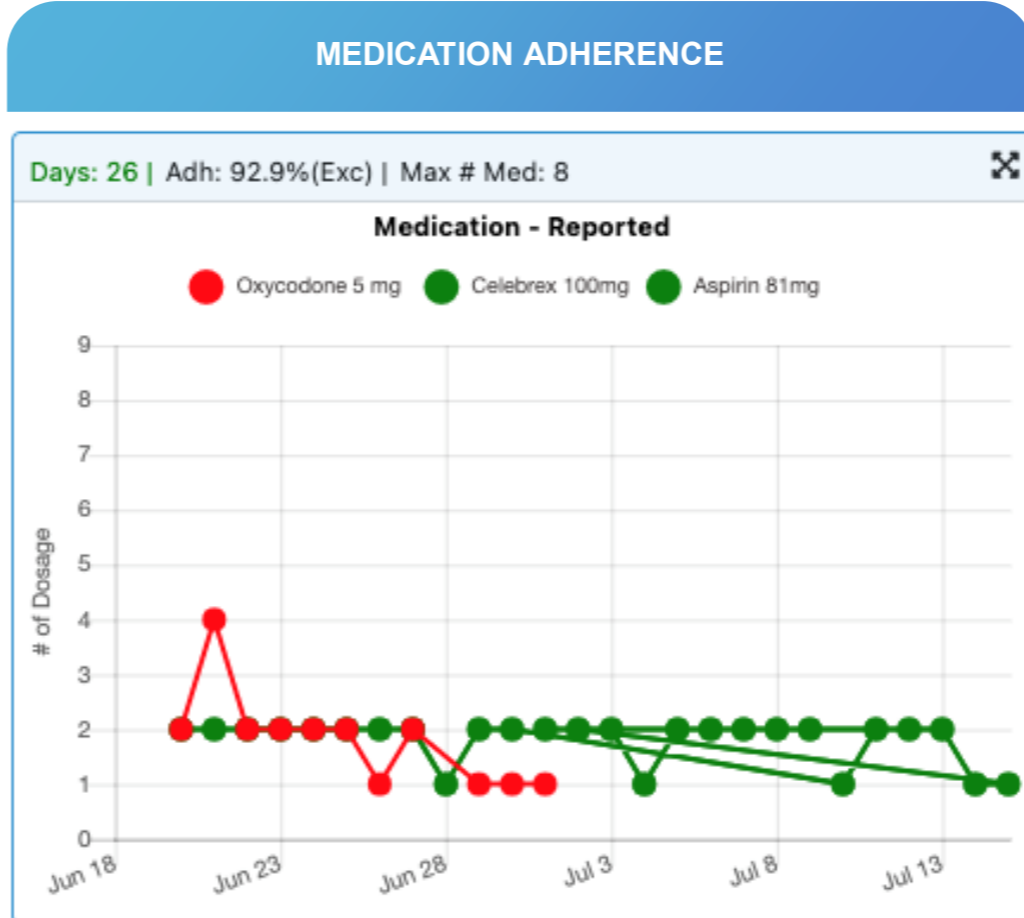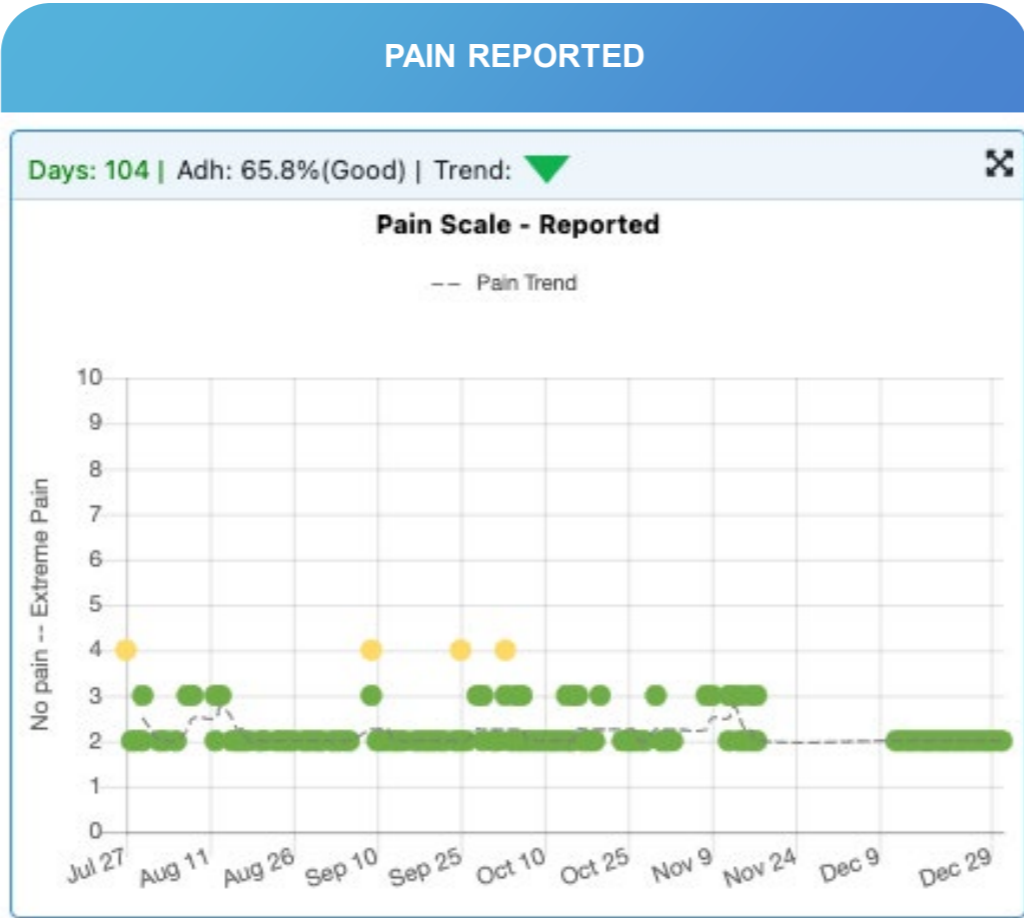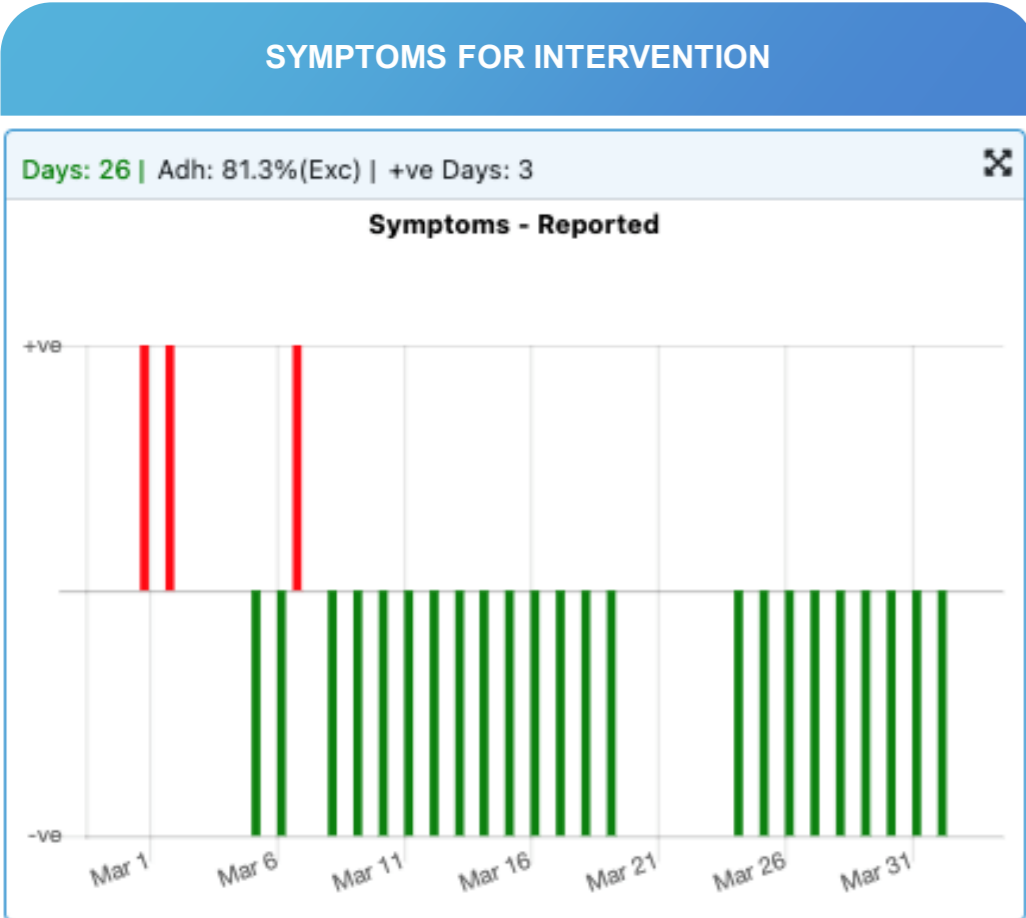
Prevent unnecessary clinic visits, ER visits and second surgeries
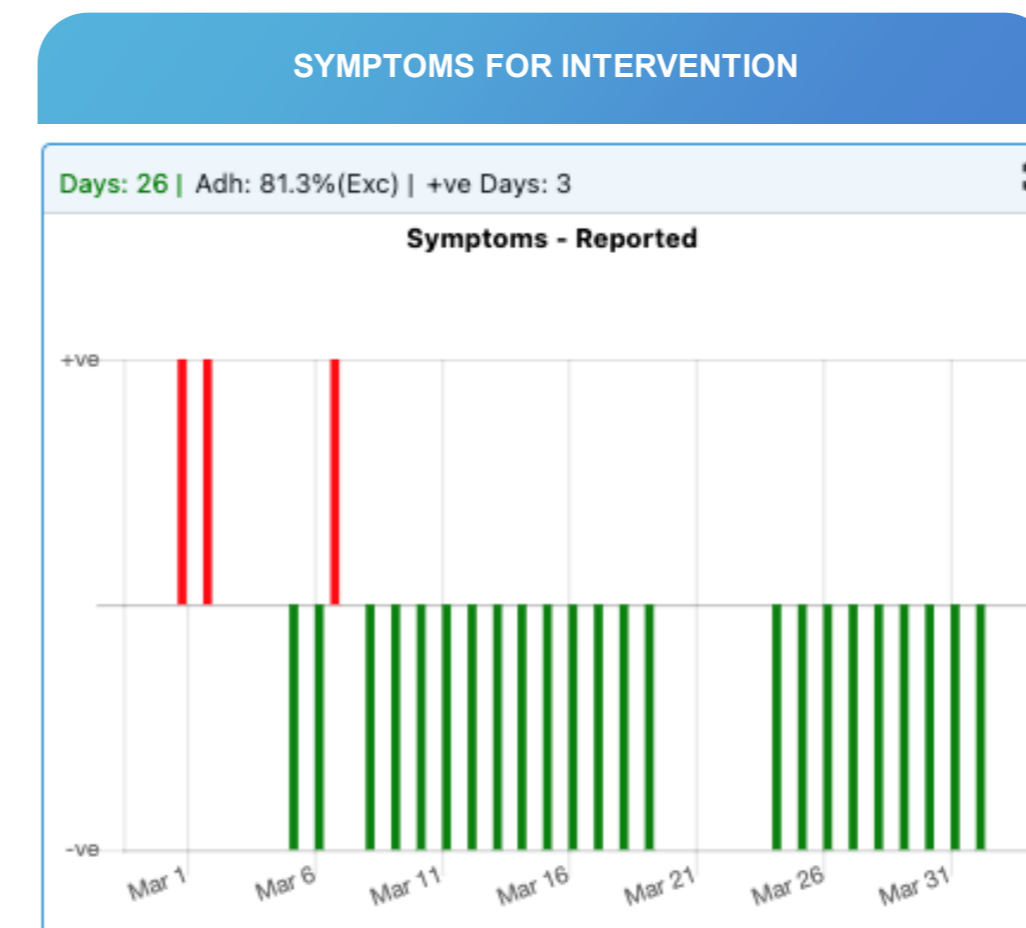
Non-Surgical Case
(Ankle)

Reporting Period: 12/27/2022 – 01/24/2023

History

Patient is a **30 year old female** who presented with right ankle pain after a right fibular fracture in 9/22. Ankle was treated non-operatively.

Current Status

- Over her treatment plan, patient's pain has decreased from 3/10 to 0-1/10.
- Range of motion has stayed consistent throughout.
- Patient continues using Recupe for her recovery, and has progressed from resisted activity to full weight-bearing functional activities, showing good progress.
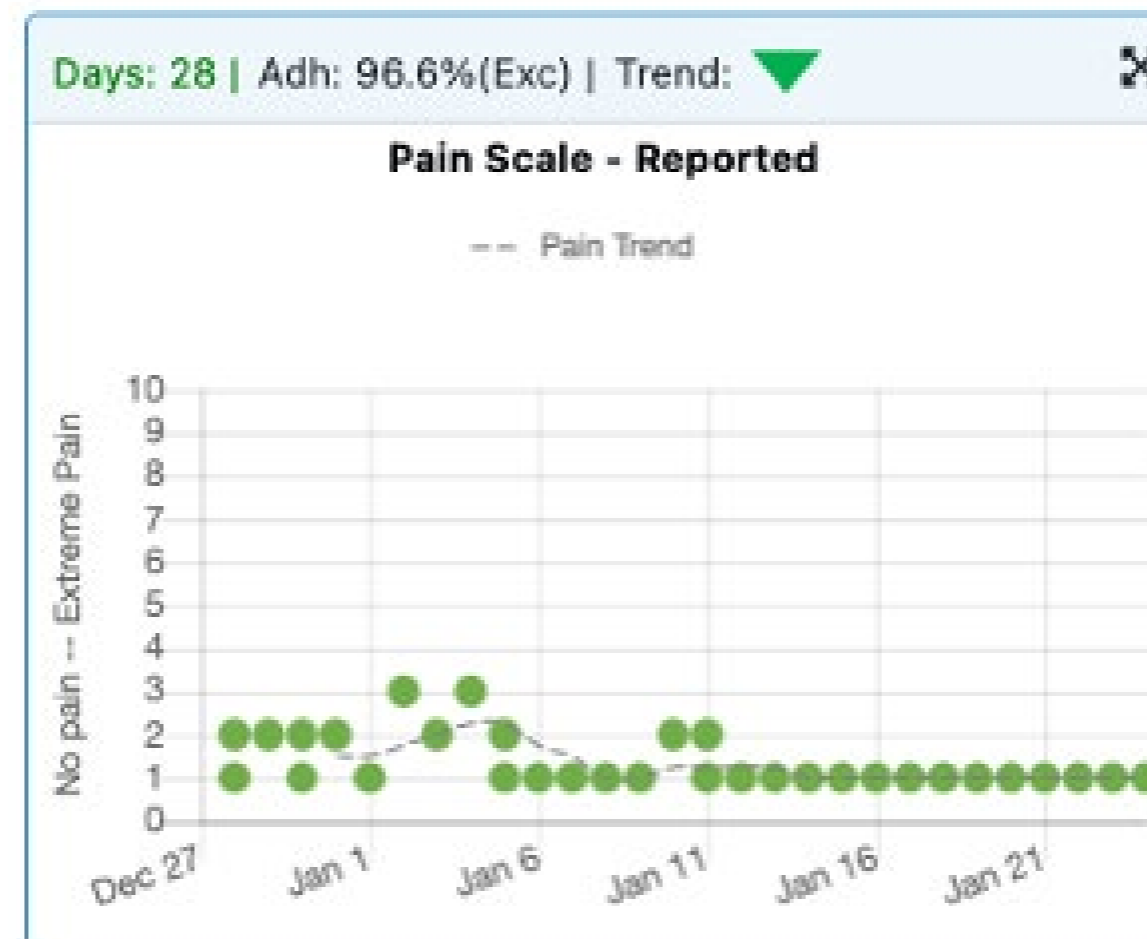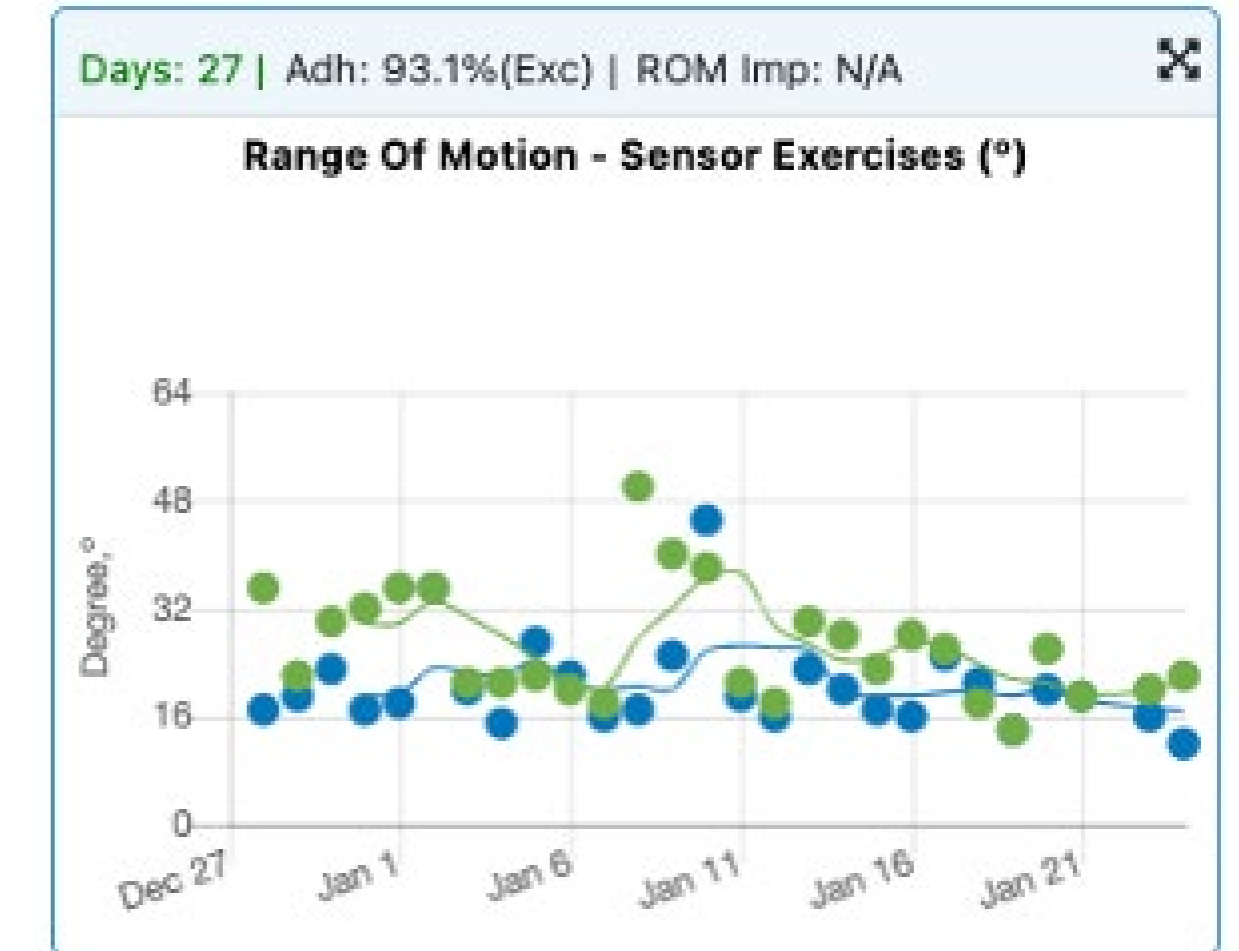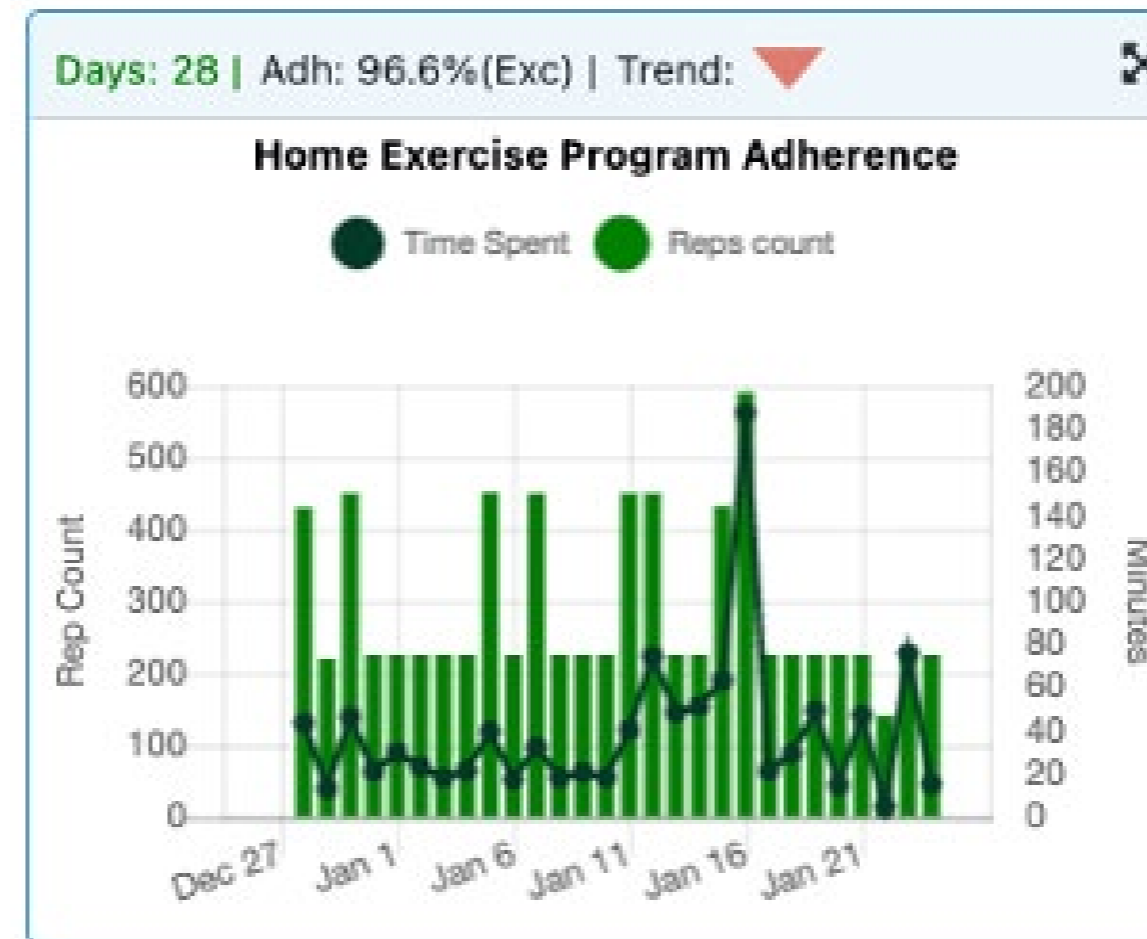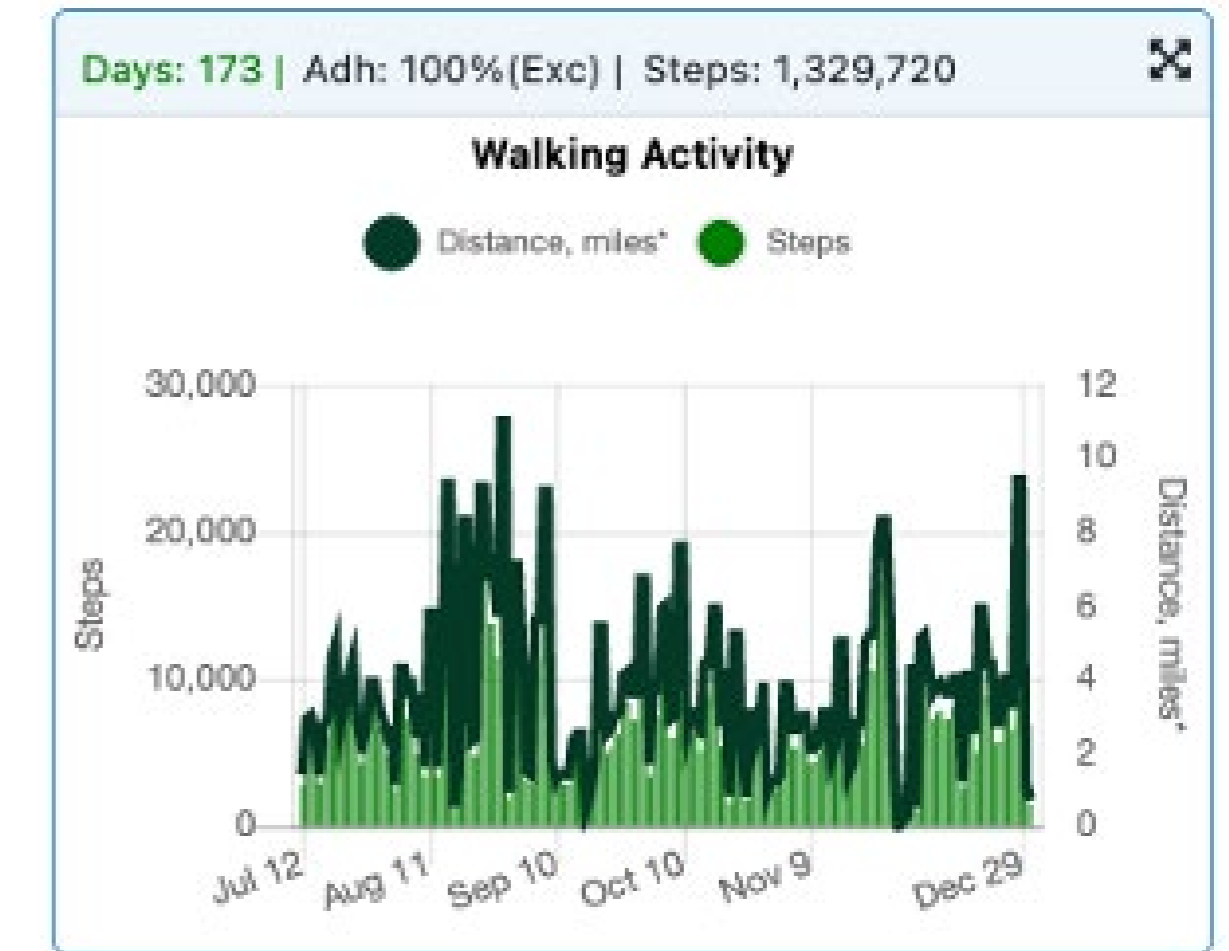
Non-Surgical Case
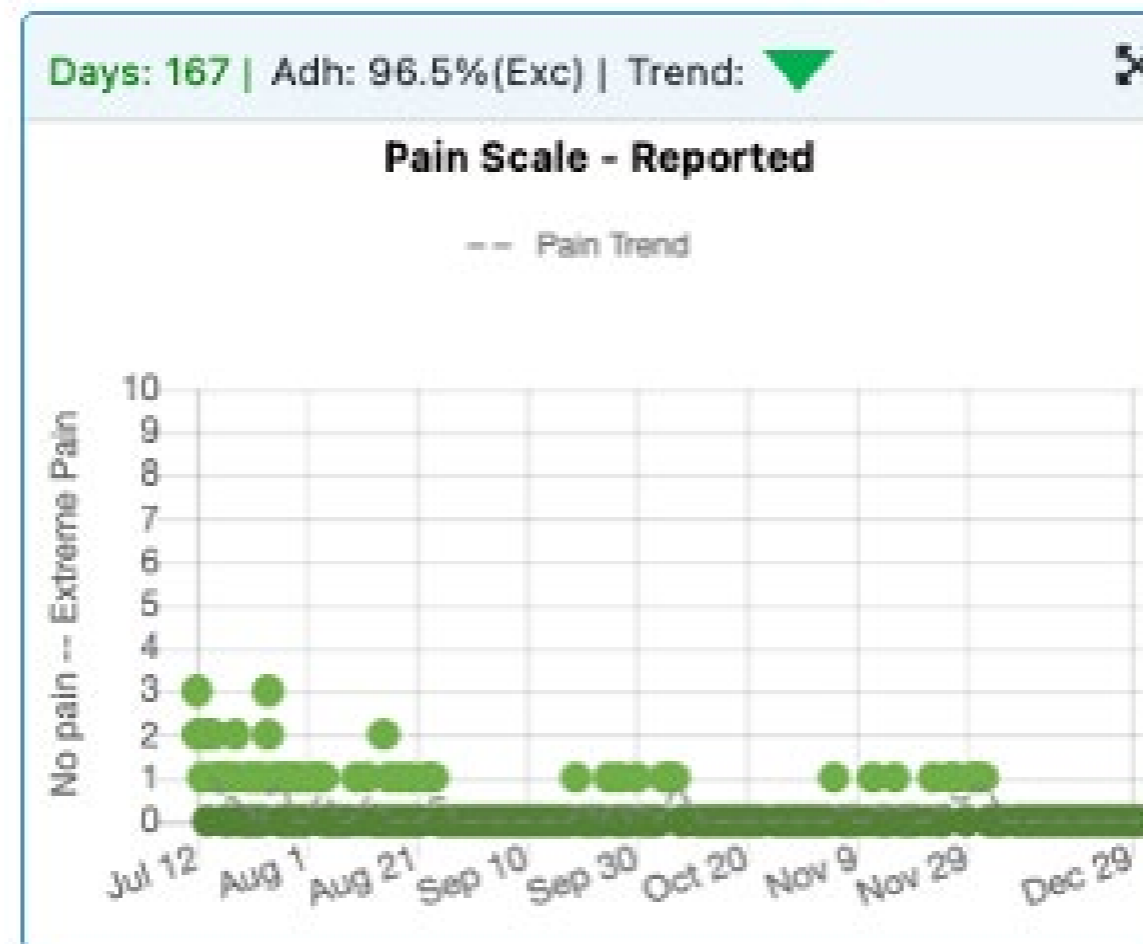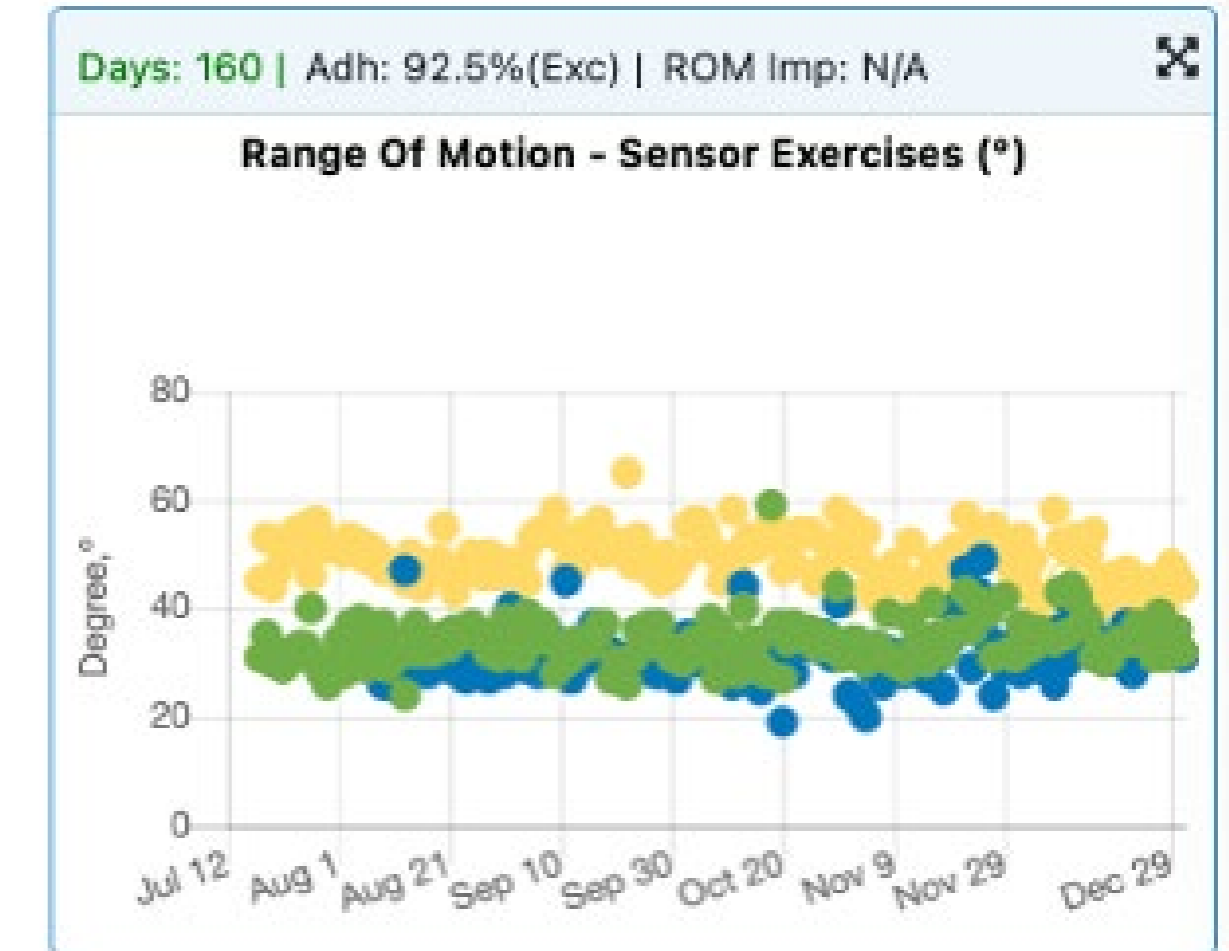## (Lower back and osteoarthritis)

Reporting Period: 07/12/2022 – 12/31/2022

History

Patient is a **70 year old female** who presented with lower back pain and osteoarthritis in the lumbar spine and left hip. Previous treatments included outpatient physical therapy and SI joint injections.

Current Status

- Over course of treatment, pain decreased from 3/10 to 0/10, no pain.
- Range of motion has been consistent throughout treatment.

Days: 167 | Adh: 96.5%(Exc) | Trend: ▼
Home Exercise Program Adherence
● Time Spent ● Reps count

Days: 160 | Adh: 92.5%(Exc) | ROM Imp: N/A
Range Of Motion – Sensor Exercises (°)

Days: 167 | Adh: 96.5%(Exc) | Trend: ▼
Pain Scale - Reported
-- Pain Trend

Days: 173 | Adh: 100%(Exc) | Steps: 1,329,720
Walking Activity
● Distance, miles* ● Steps
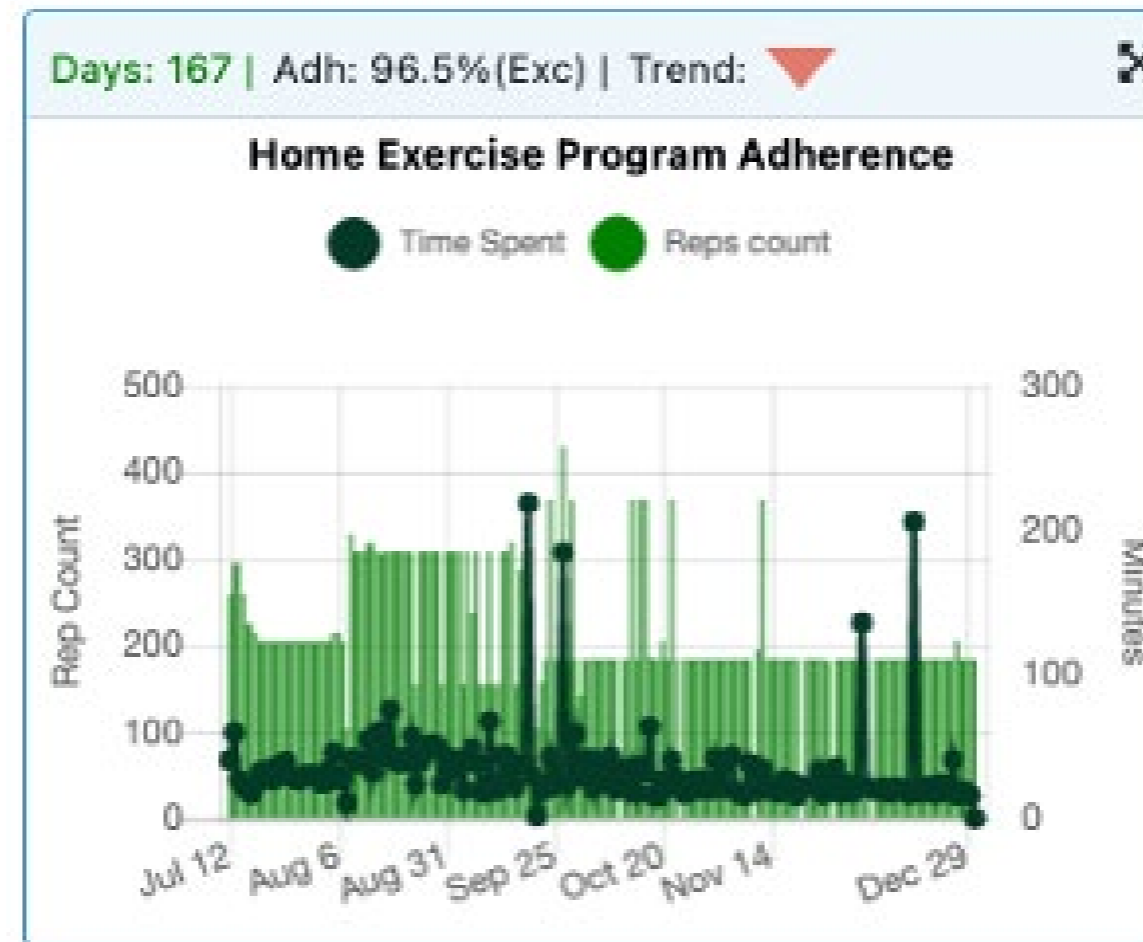
Surgical Case
(Knee)

Reporting Period: 07/16/2021 – 12/20/2021
Date of Surgery: 08/27/2021

History

Patient is a **25 year old female** who underwent a left knee medial patellofemoral ligament reconstruction on 8/27/21. She was onboarded on 7/12/21 for pre-surgical exercises.

Current Status

- Over her post-surgical recovery, her pain decreased from 9/10 to 3/10.
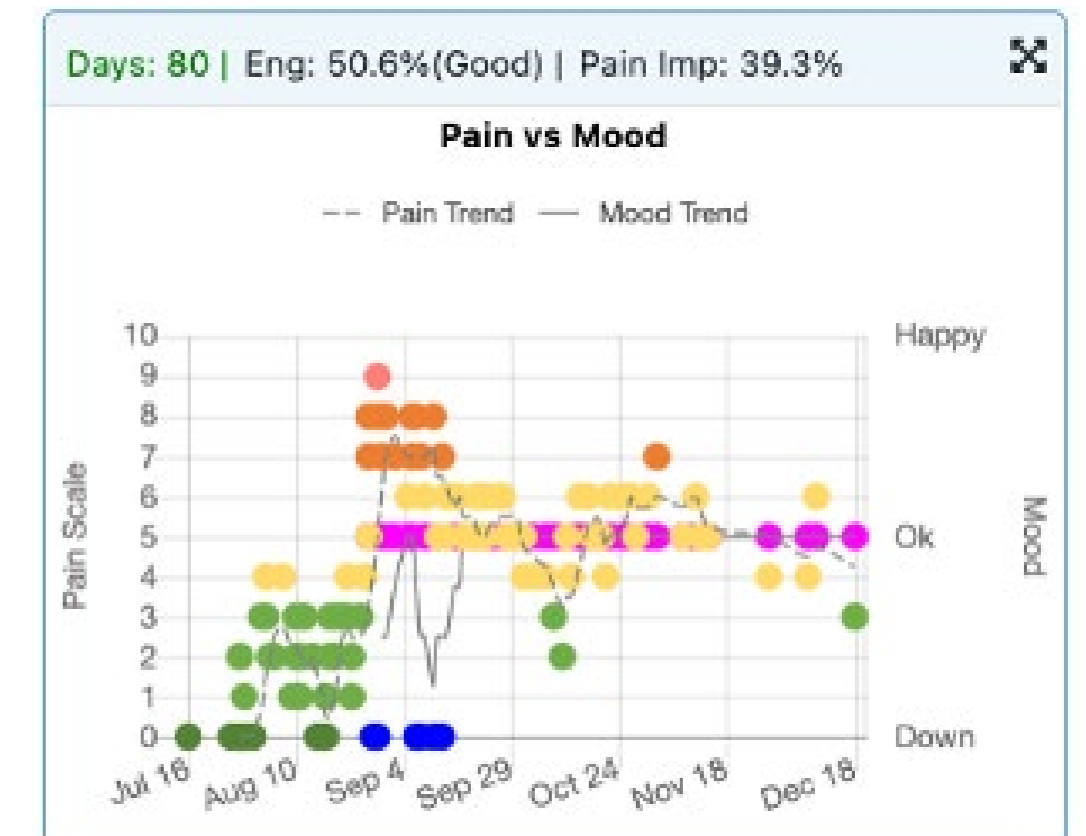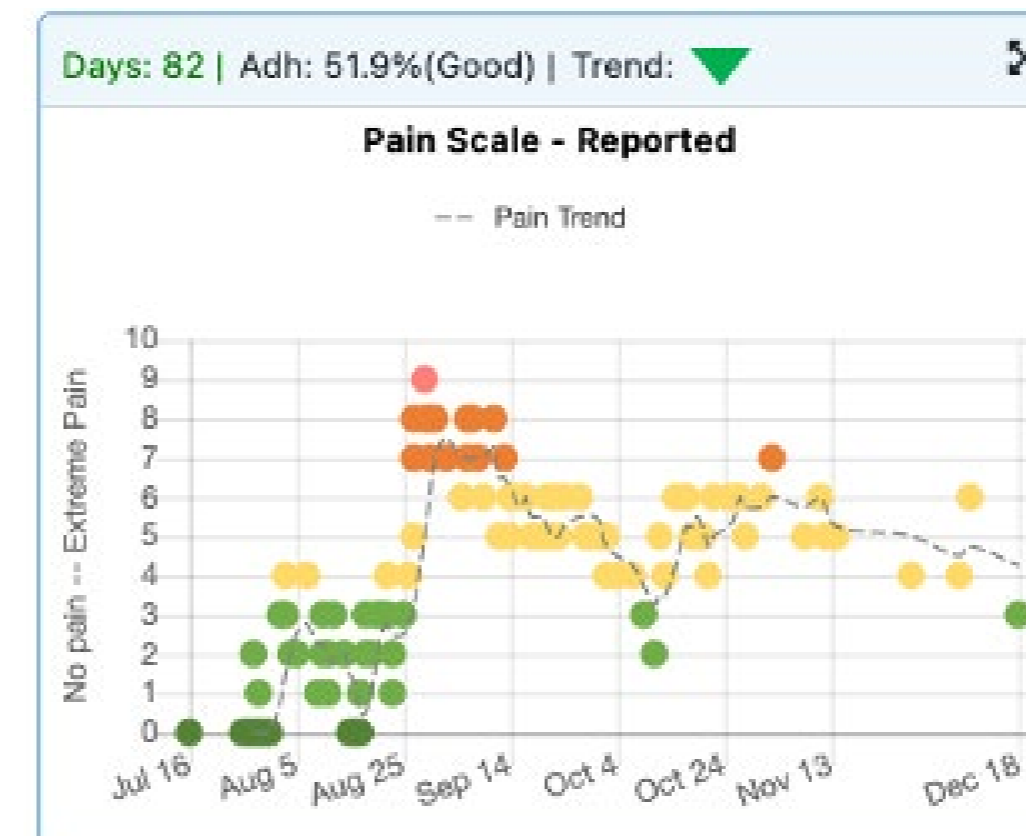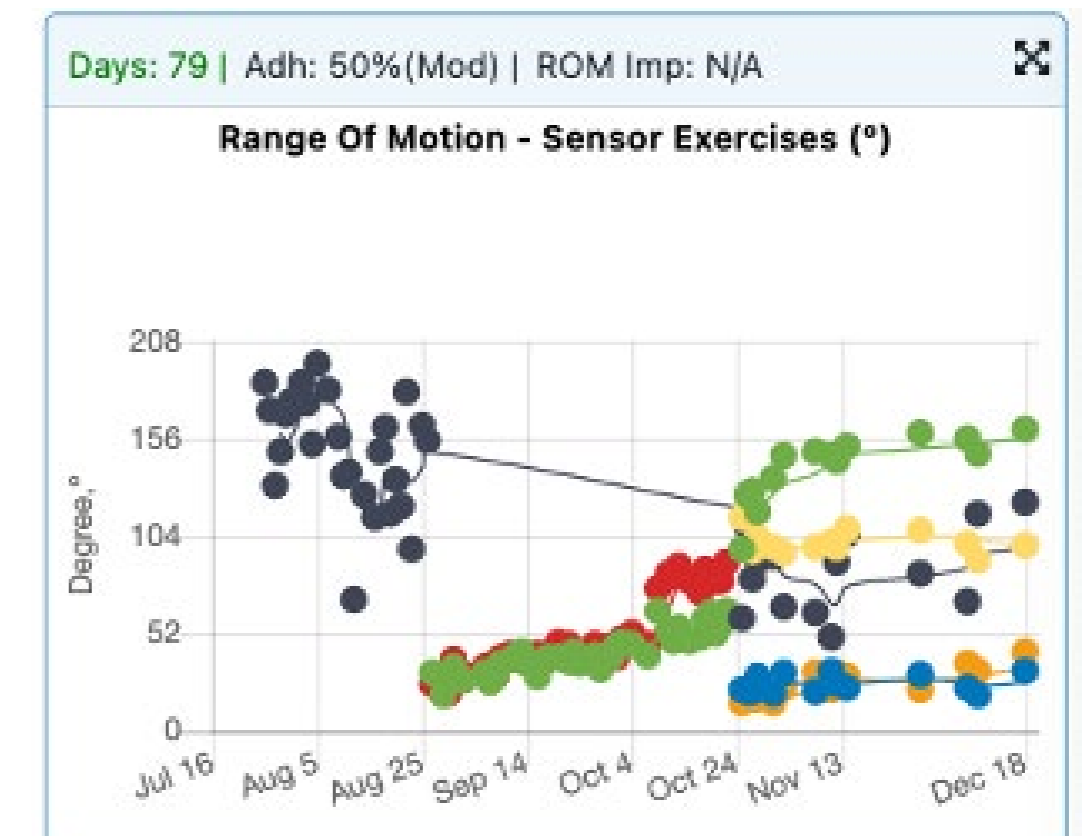- Her exercises progressed from active-assisted range of motion to functional resisted activities, showing good progress.
  - Pre-op = 42 days
  - Post-op = 115 days
  - Pain trend decreasing
  - Pain improvement = 39.3%
  - Mood trend increasing
  - ROM progression increasing
- Due to her progress, her program ended on 12/20/21.
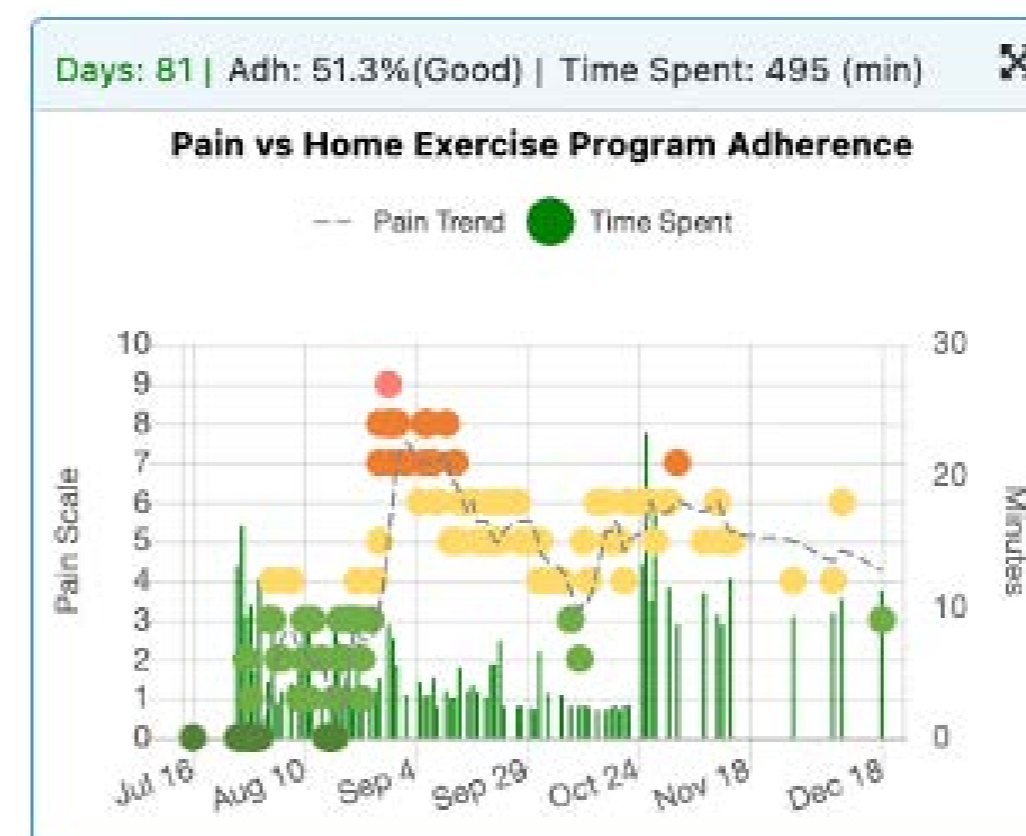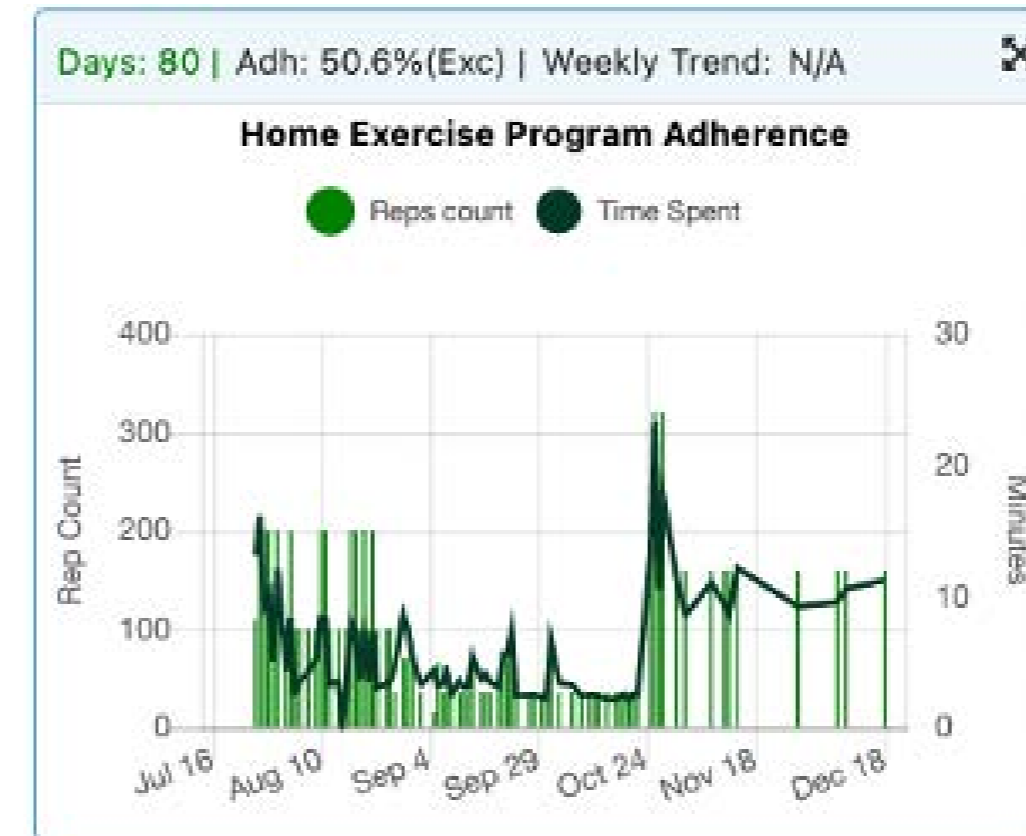
Surgical Case
(Shoulder)

Reporting Period: 11/08/2022 – 12/31/2022
Date of Surgery: 10/28/22

History

Patient is a **50 year old bakery technician** who was onboarded for rehabilitation after a left rotator cuff repair (supraspinatus).

Current Status

- Patient's exercise plan has progressed well, from active-assisted range of motion exercises to resisted exercises. This shows good functional gain.
- Pain has decreased from 8/10 to 5/10.
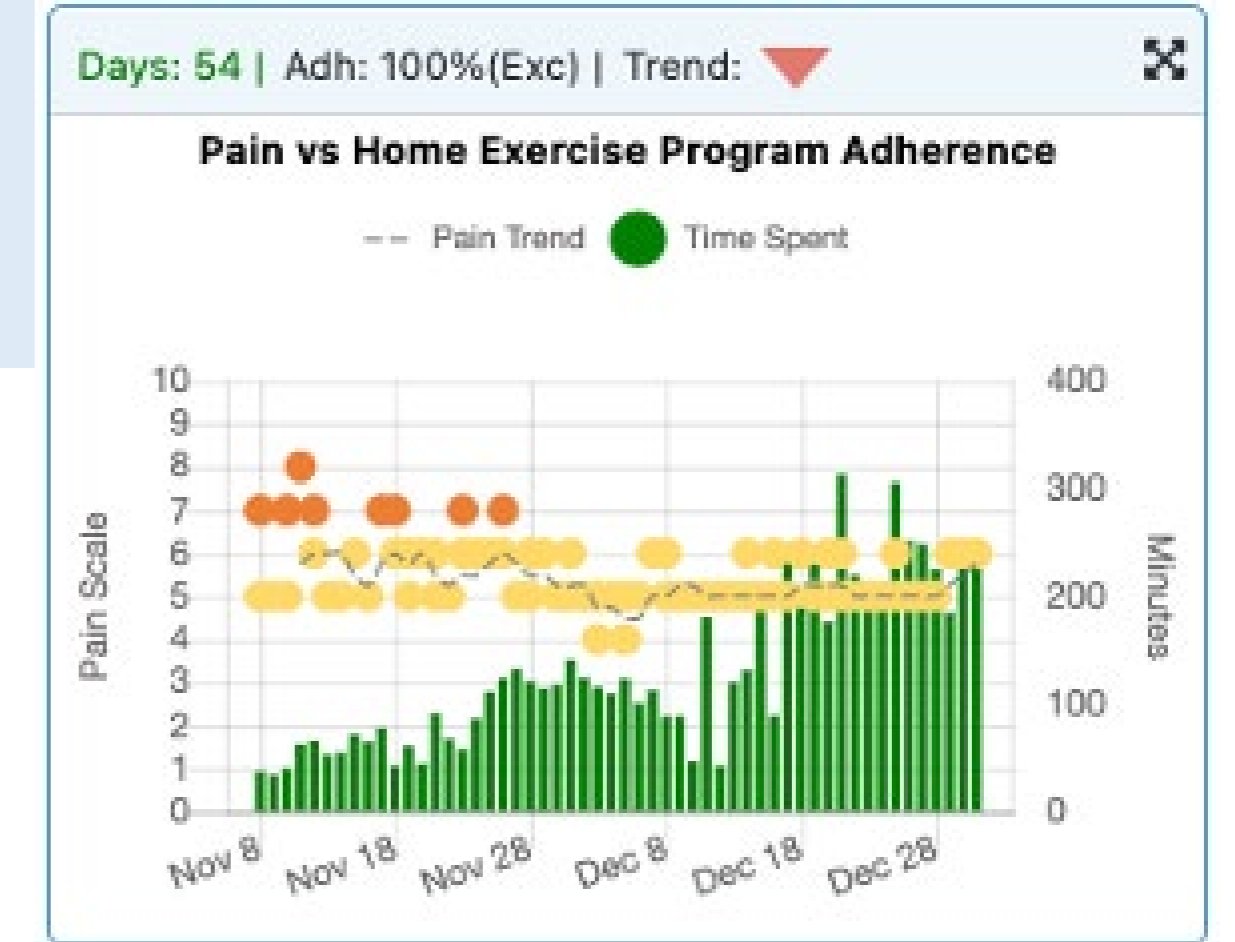- Patient continues to use Recupe for full functional recovery.
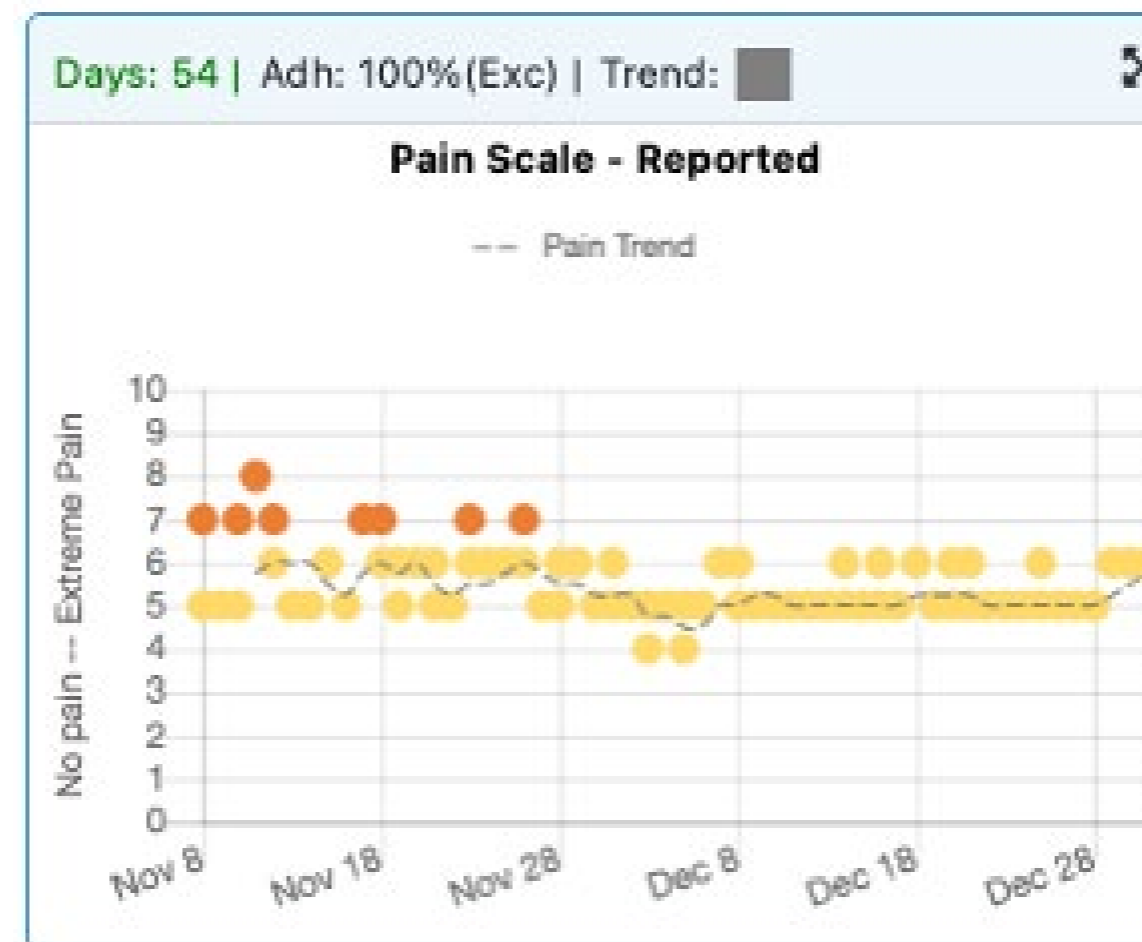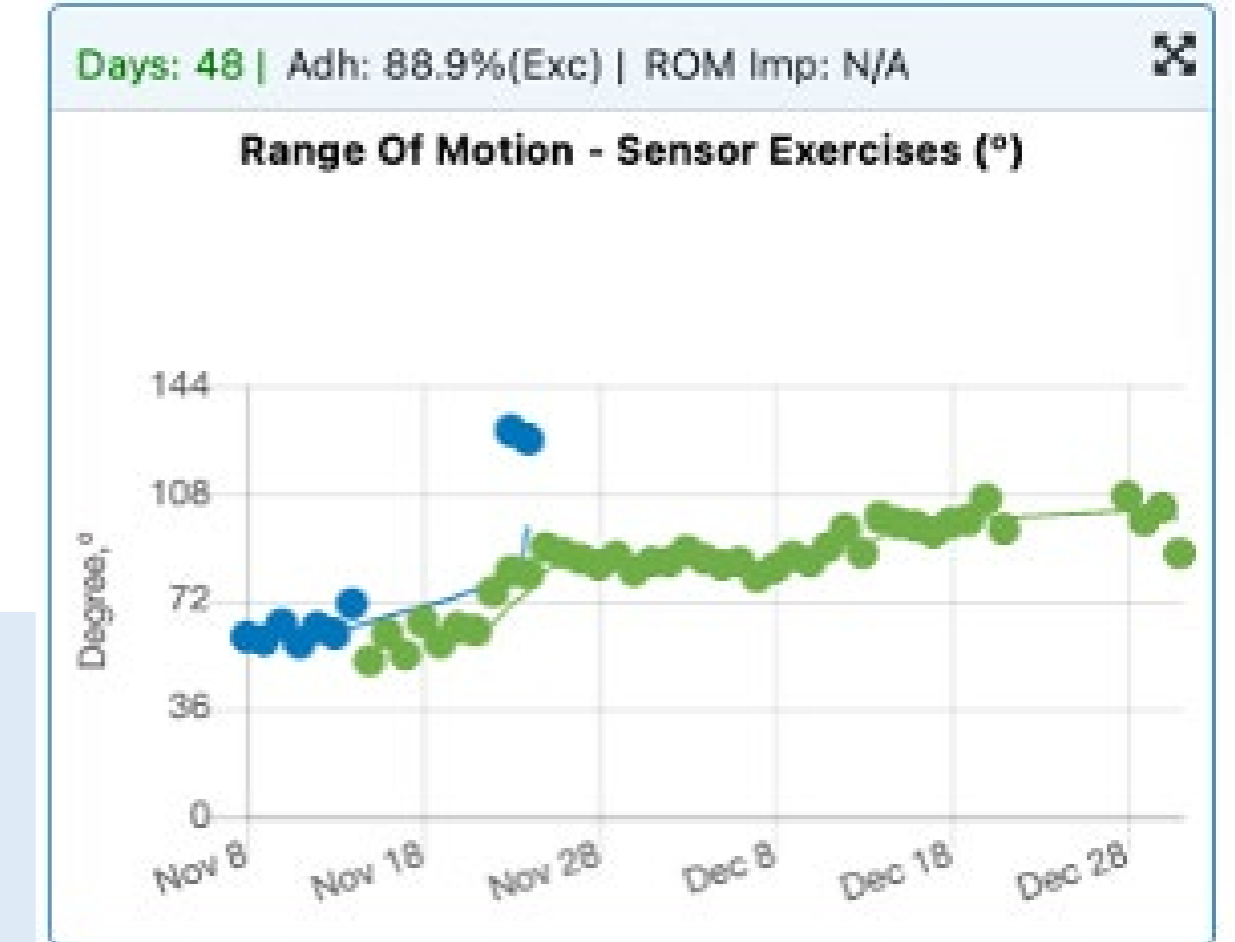
Old Claims Case
(Tear in rotator cuff)

Reporting Period: 07/27/2022 – 12/29/2022
Date of Surgery: 05/25/22

History

Patient is a **67 year old female** with multiple injury episodes for the past 5+ years. She injured her right shoulder 3/20/2020 while cleaning. She had surgery on 5/25/22 - right shoulder rotator cuff repair, open biceps tenodesis, subacromial decompression, debridement. She had major restrictions - no overhead work, lifting limited to 5lbs.

Current Status

- She started using Recupe on 7/21/22 and has been consistent with her exercises.
- Her range of motion improved and her exercises have progressed from active assisted range of motion to resisted activities.
- She returned to work as of 10/4/22 and her pain has improved to 2/10.
- She continues to use Recupe for full recovery.
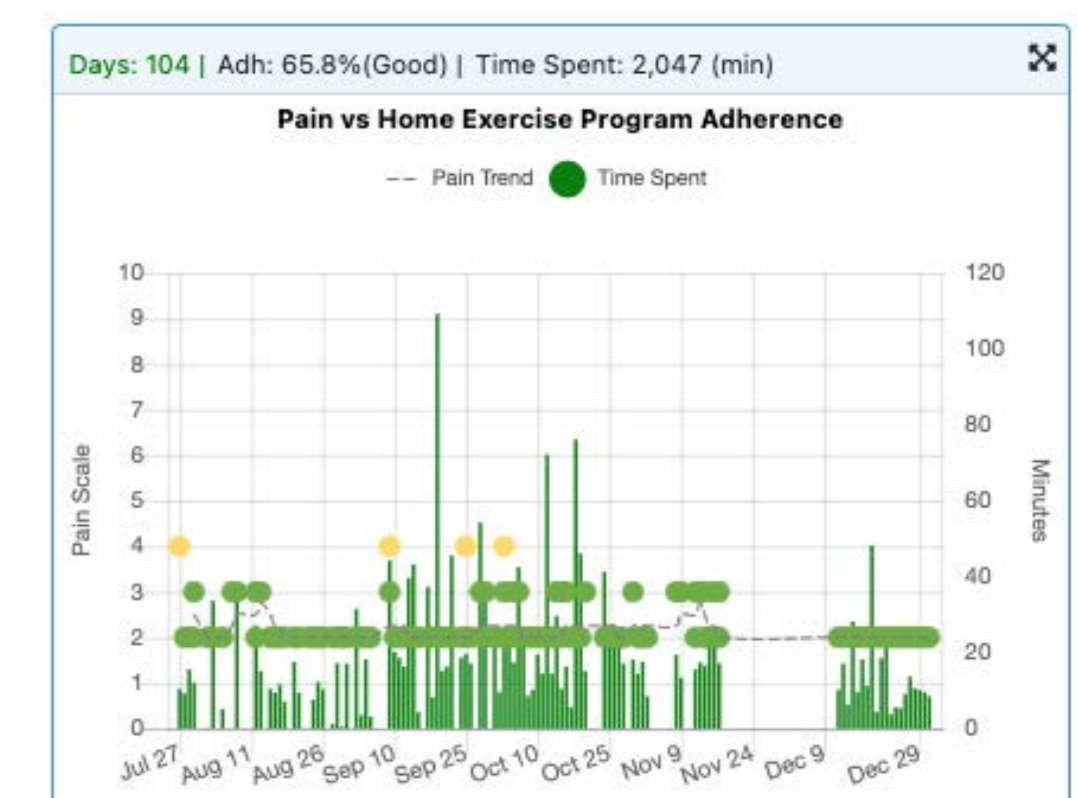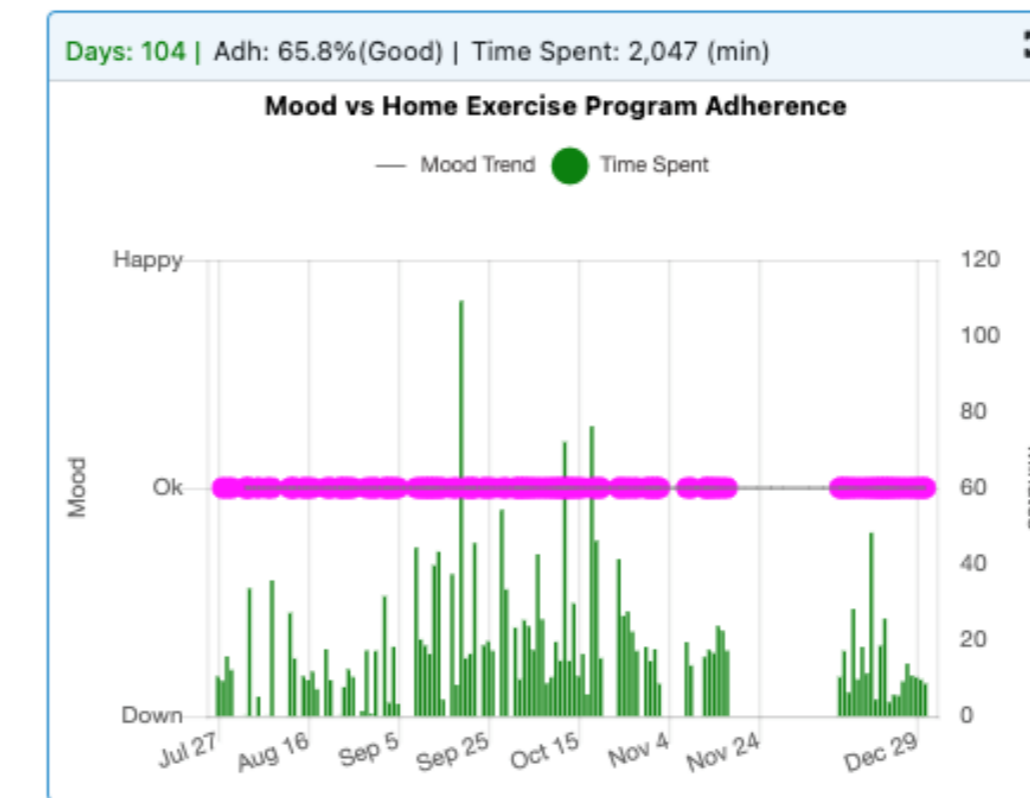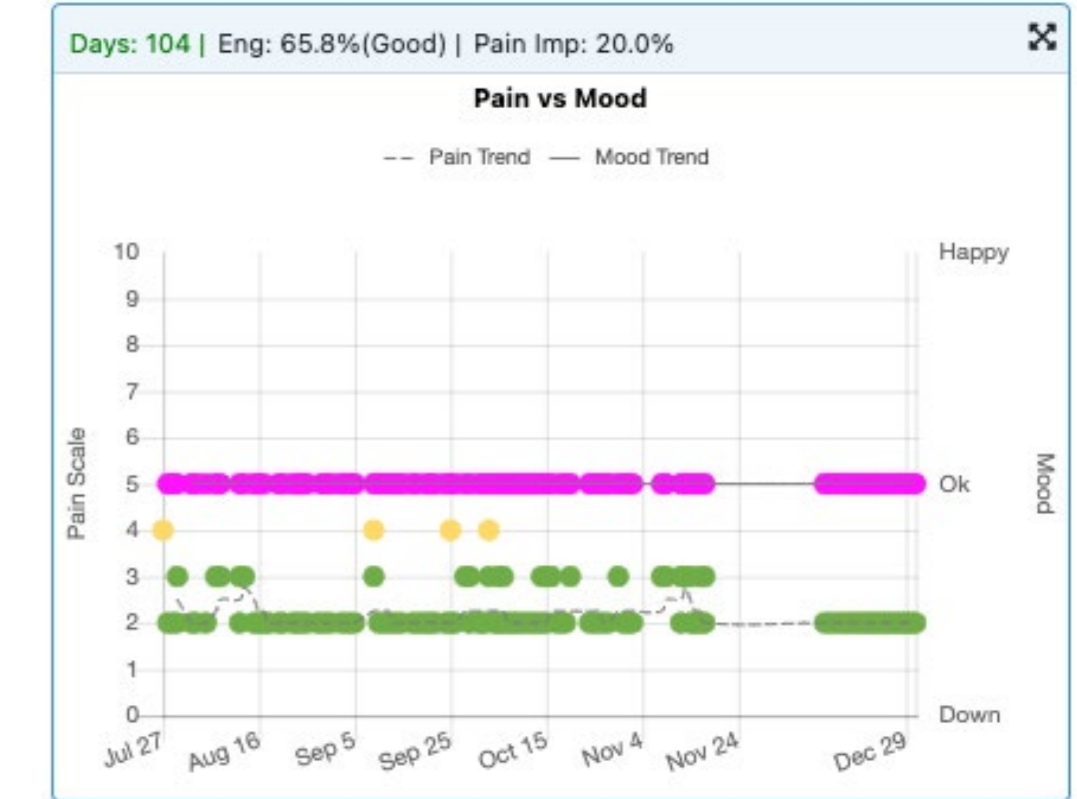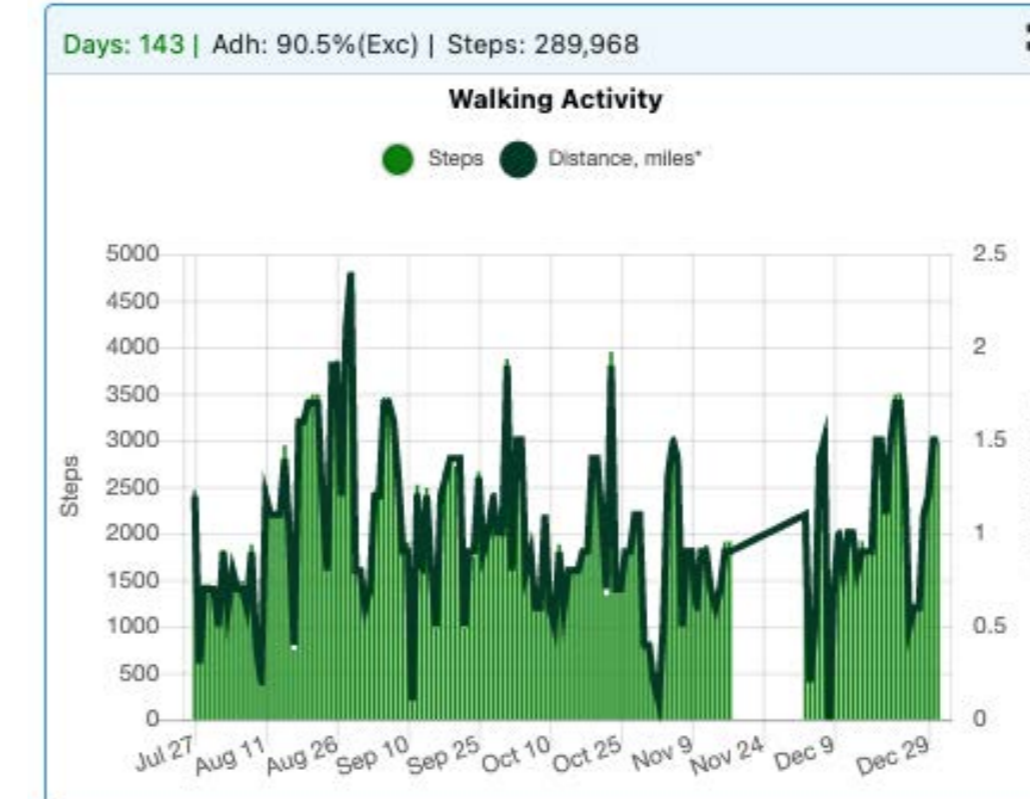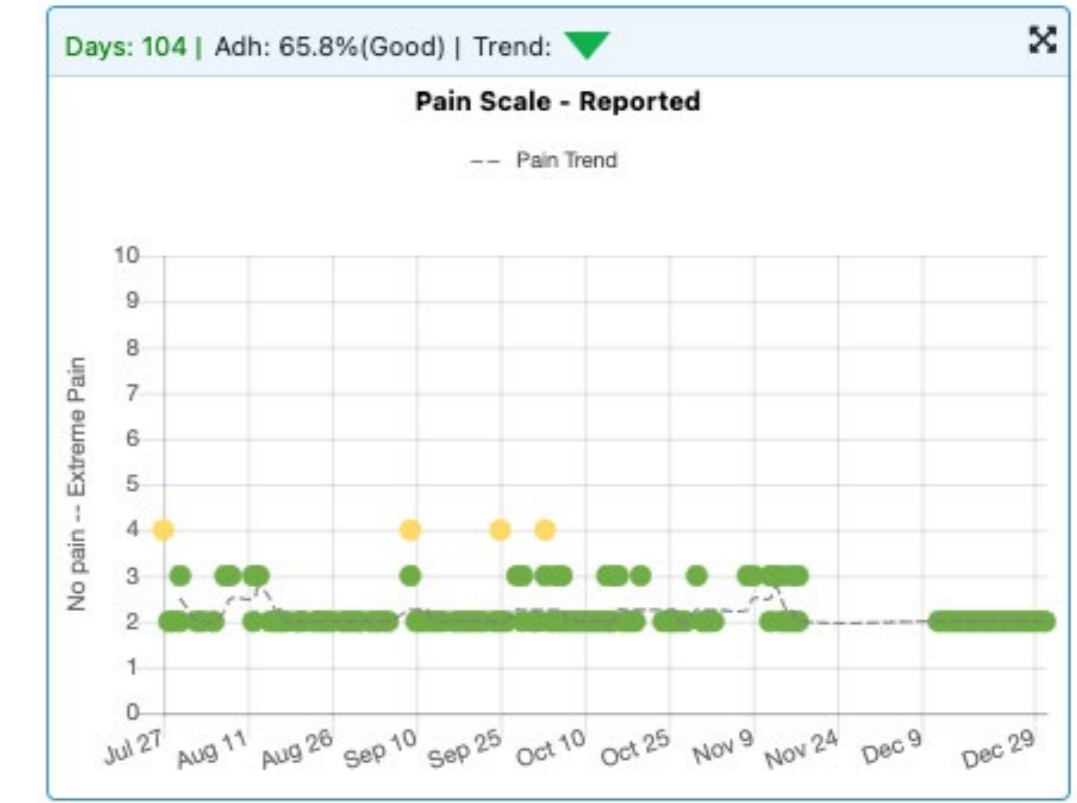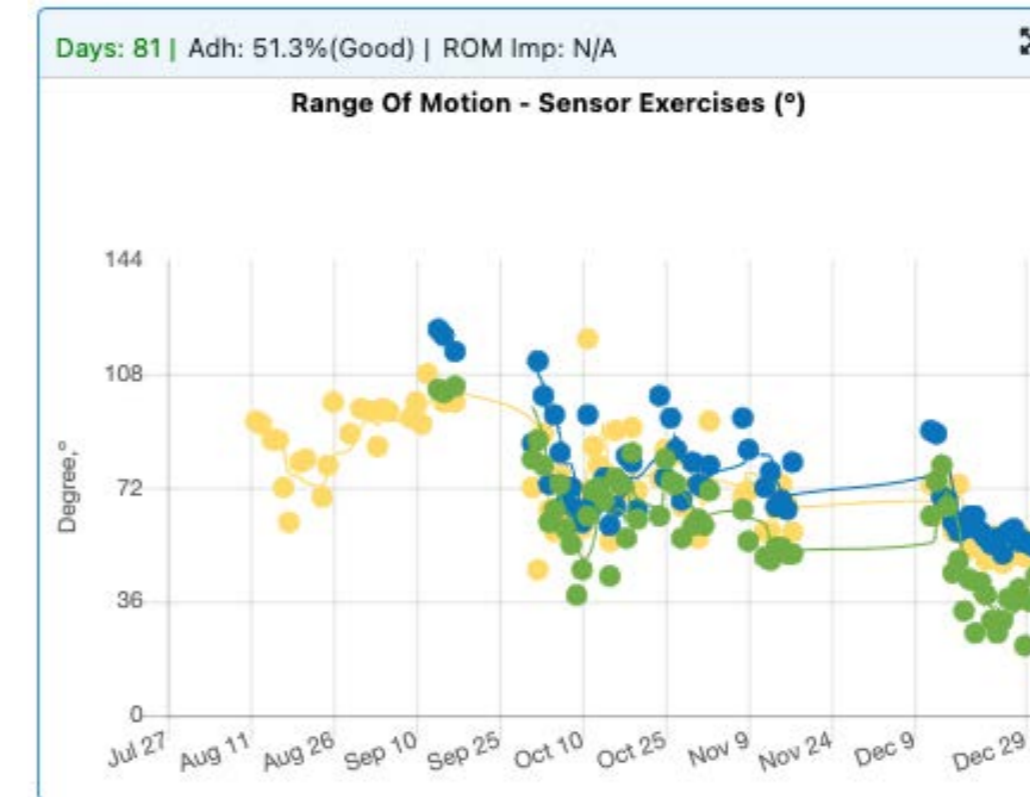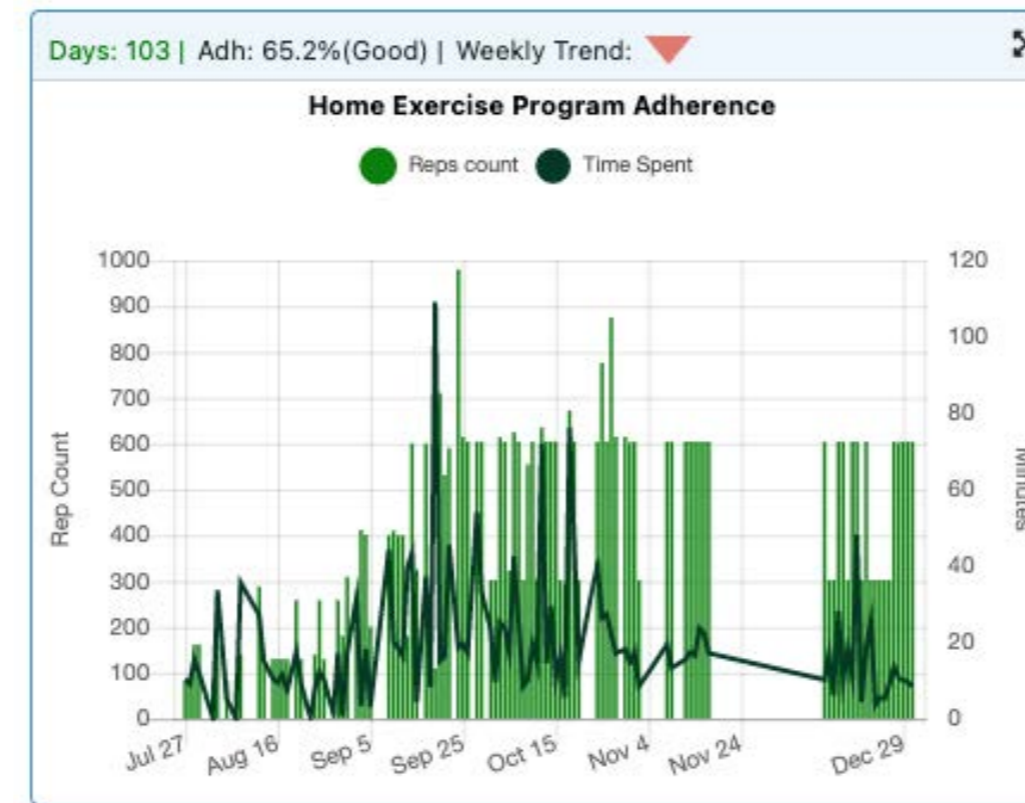
CAT Case

Reporting Period: 06/28/2022 – 12/31/2022

History

Patient is a **43 year old male** presenting with paraplegia from a complete spinal cord lesion at T2-6 from MVA in 2018. Comorbidities include morbid obesity, depressive episodes, MRSA infection, and multiple pressure wounds, managed by medical. Patient reports significant pain, co-managed with medical pain management.

Current Status

Injured Worker is currently active on Recupe and his home exercise plan continues. Range of motion has been consistent throughout treatment.

Power of Recupe Coach Coordination

- The injured worker (Cat Case) has been admitted to the hospital several times, such as for a UTI.
- Coach maintained contact with injured worker while admitted.
- Coach is the one who informs the case manager, claims adjuster, and care team about hospitalization.
- Once the injured worker was released, coach and physical therapist communicated with SNF staff and injured worker to ensure that injured worker returned to his Home Exercise Plan
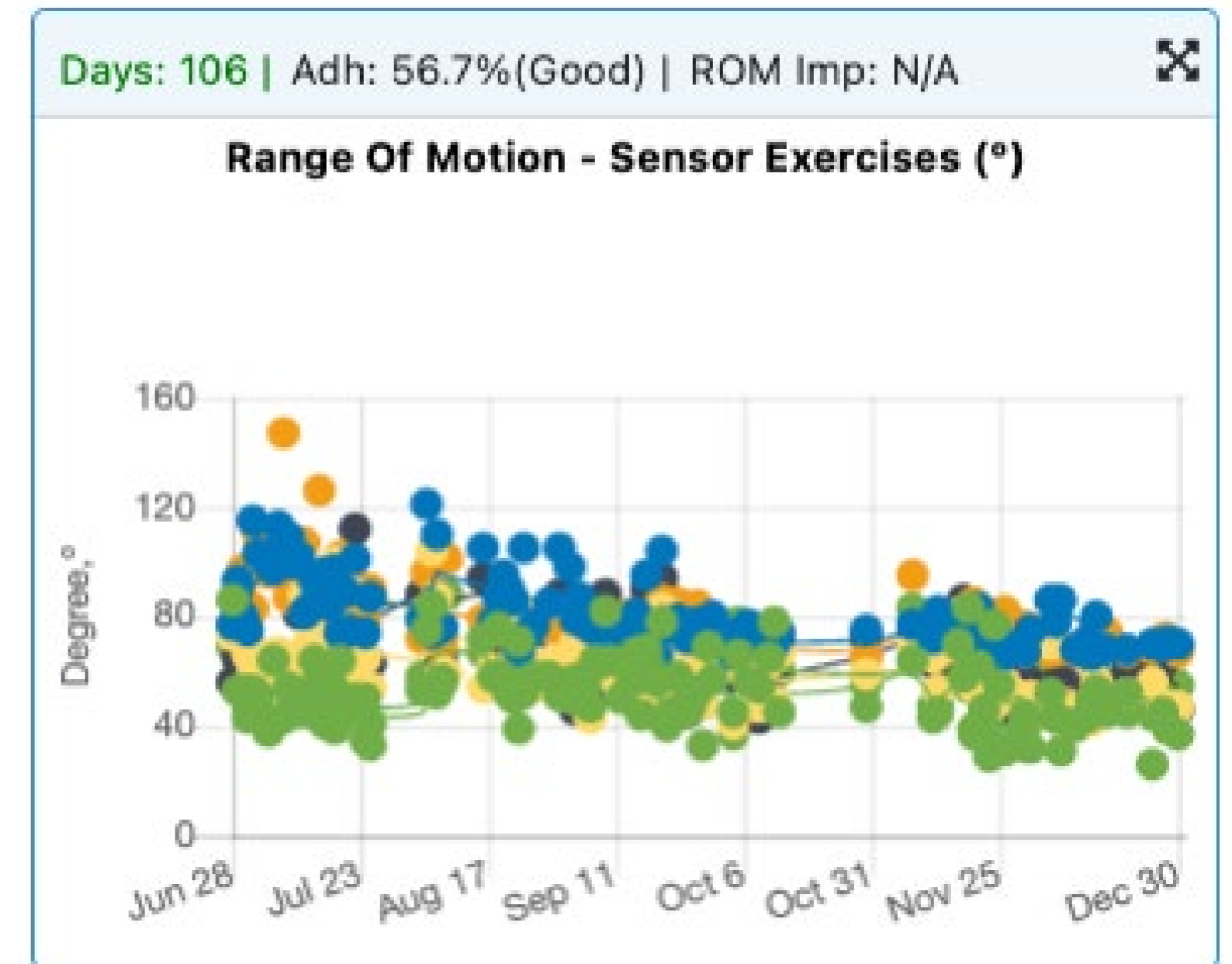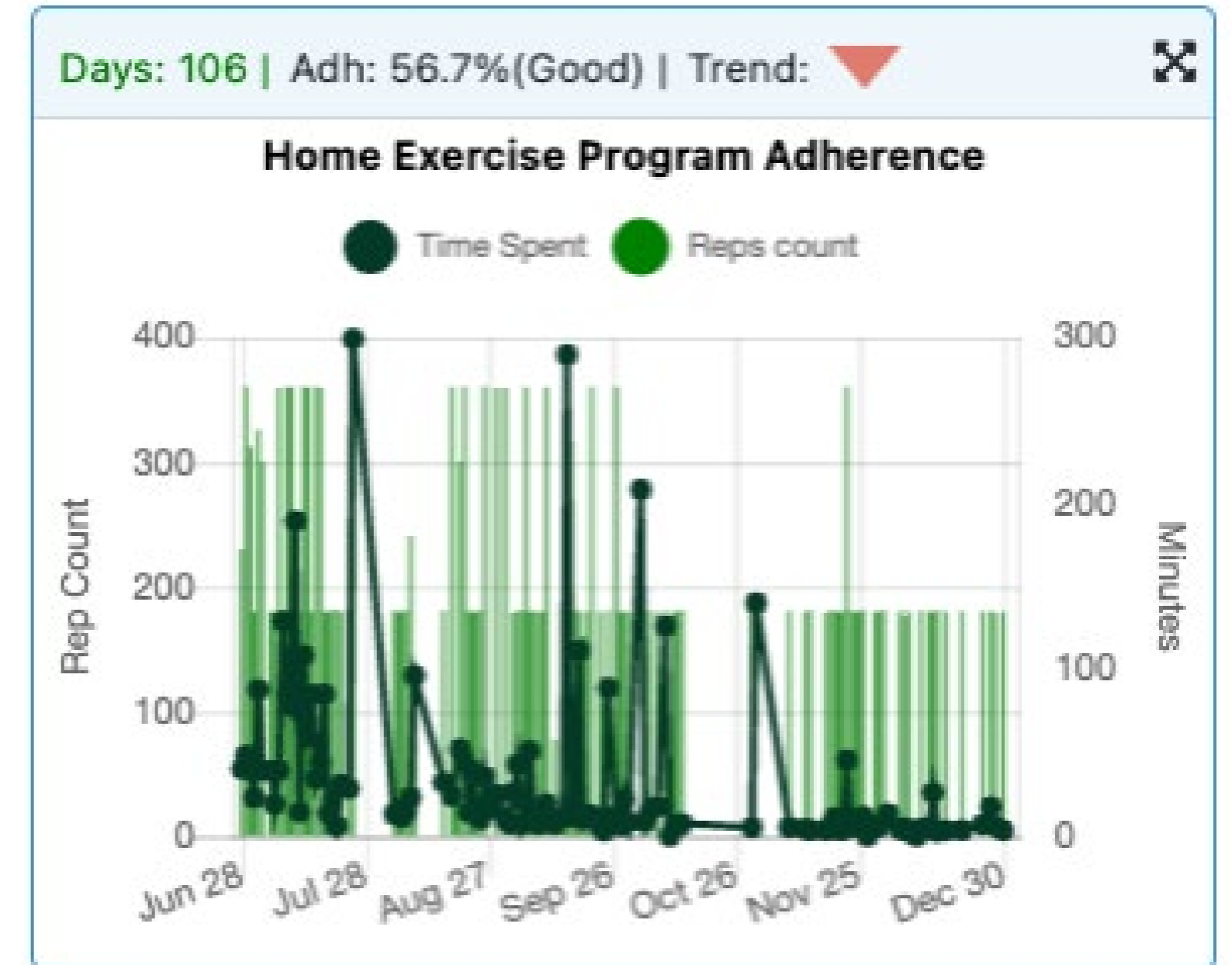
About Plethy

Easy to follow musculoskeletal care programs for patients to follow at-home or on-the-go, between clinic visits

Clinically validated complete solution
for all MSK conditions, for all joints

Delivers bio-psycho-social
patient engagement

Analytics for quicker intervention
and healthier recovery

Non-Surgical Patients | Conservative Care | Surgical Patients | Chronic Pain | Catastrophic Cases | Old Claim Cases

Question & Answers

Raja Sundaram, CEO | raja@plethy.com

CBS NEWS Segment on Plethy

UCSF Digital Health Awards - Oscars in Digital Health

Workers Comp writeup on Plethy. Click to read