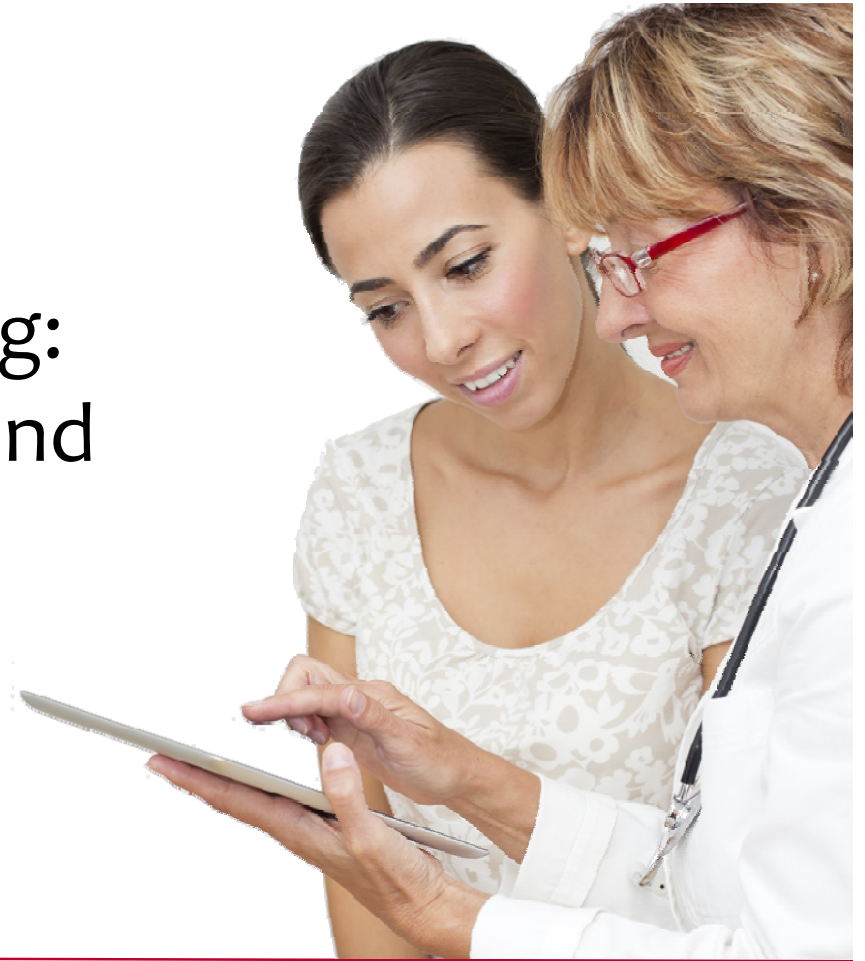


Shared Decision Making: Connecting Clinicians and Patients to Improve Patient Outcomes



Author Disclosures

- **James D. Bowen, MD (Presenter), Medical Director, Multiple Sclerosis Center, Swedish Neuroscience Institute:** Financial support for research activities from Acorda Therapeutics, Alexion, Allergan, Biogen, EMD Serono Inc, Genzyme, a Sanofi Company, Genentech, GlaxoSmithKline, Novartis, Opexa, Osmotica, Roche, sanofi-aventis U.S. LLC, and Xenoport; Consulting fees from Acorda Therapeutics, Biogen, EMD Serono Inc, Genzyme, a Sanofi Company, Genentech, Novartis, and Teva Neuroscience; Honoraria from Acorda Therapeutics, Biogen, EMD Serono Inc, Genentech, Novartis, Pfizer Inc, and Teva Neuroscience.
- **Elaine Rudell, CHCP, @Point of Care:** Has disclosed no relevant relationships.
- **Patty Peterson, CHCP, @Point of Care:** Has disclosed no relevant relationships.
- **Sandeep Pulim, MD, @Point of Care:** Has disclosed no relevant relationships.
- **Andrea L. Griffin, MSAA:** Has disclosed no relevant relationships.

MSAA/@Point of Care/SNI: About Who We Are

- The Multiple Sclerosis Association of America (MSAA)
- A leading resource for the entire MS community, MSAA is focused on Improving Lives Today through providing ongoing support to individuals with MS, their families, and their care partners
 - Developer and producer of free award-winning programs and services
 - Provider of HIPAA compliant My MS Manager™ patient app
- @Point of Care
 - Developer of innovative digital tools that connect clinicians, patients and caregivers
 - Provide a means to analyze and share data to encourage shared decision making that can improve outcomes
 - Design and develop free mobile apps, including Multiple Sclerosis @Point of Care
 - Provide peer-reviewed education (CME/CE)
- Swedish Neuroscience Institute (SNI): James Bowen, MD
 - Collaborator with @Point of Care on ongoing multiple sclerosis education (CME/CE) and surveys
 - Primary Investigator for @Point of Care Shared Decision Making Trial at Swedish Hospital

MSAA/@Point of Care/SNI: Collaboration

- The @Point of Care clinician app platform, paired with MSAA's My MS Manager patient app, are tools designed to enable shared decision making between the clinician and the patient
- James Bowen, MD, has implemented these tools into his practice at SNI
- This presentation shines a light on the impact of these tools on shared decision making, utilizing data from MSAA and @Point of Care, as well as a patient perspective on the value of these tools on shared decision making, utilizing a proprietary survey sent to users of the patient app

Background

- Healthcare is being transformed through the integration of mobile devices and health-related apps
- Among the benefits of mobile devices is increased access at point of care for both patients and clinicians, supporting shared/collaborative decision making
- The Multiple Sclerosis @Point of Care clinician app provides clinicians with
 - Access to evidence-based data/guidelines/quality measures information, among other information
 - Access to their patients' data, e.g. fatigue scale, cognitive function scores, depression/mood, quality of life and daily activity scores
- My MS Manager, a HIPAA compliant MSAA patient app, empowers patients to
 - Collect and track data in real time
 - Organize data for follow-up discussions with their clinicians

Background

- In shared decision making, the clinician, through discussion with the patient, determines the patient's values/preferences, discusses evidence-based treatment options, and then both patient and clinician arrive at an optimal treatment decision
- Shared decision making is an important but often underutilized tool in patient-centered care
- Health-related apps, such as Multiple Sclerosis @Point of Care clinician app and My MS Manager patient app, are bridging this gap and facilitating shared decision making

Learning Objectives

- Evaluate how clinicians use Multiple Sclerosis @Point of Care, utilize our trained IBM Watson corpus, and how the clinician benefits.
- Assess how patients use and benefit from the My MS Manager app for tracking and discussions with their clinicians.
- Integrating both apps into the practice setting to support shared decision making to improve patient care.

Methods

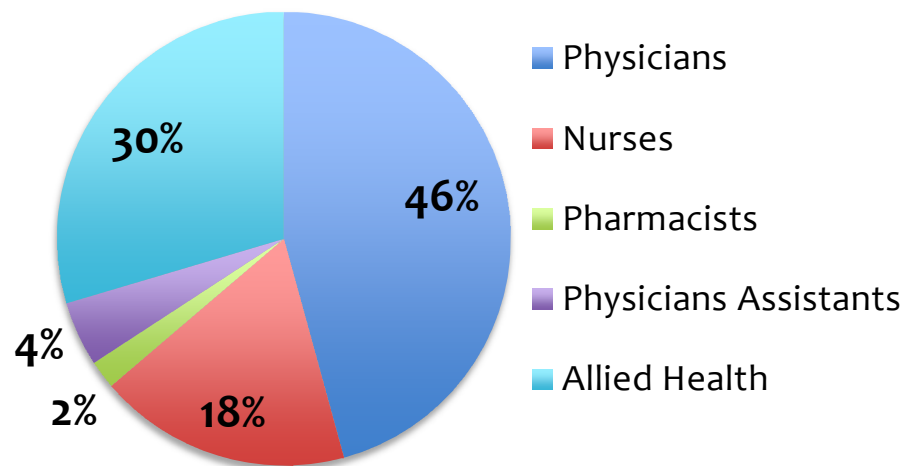
- Assess how clinicians and patients utilize/value the Multiple Sclerosis @Point of Care app and My MS Manager app, respectively, to connect/interact for shared decision making
- Data was collected from Multiple Sclerosis @Point of Care clinician learners caring for MS patients
 - Demographic information
 - Content interactions/learner
 - Repeat learners
- Data was collected from My MS Manager patients
 - Number of registered patients for the app
 - Frequency of patient access/entries to their app
 - Proprietary My MS Manager survey to 4,174 patients

Clinician Engagement in Multiple Sclerosis @Point of Care

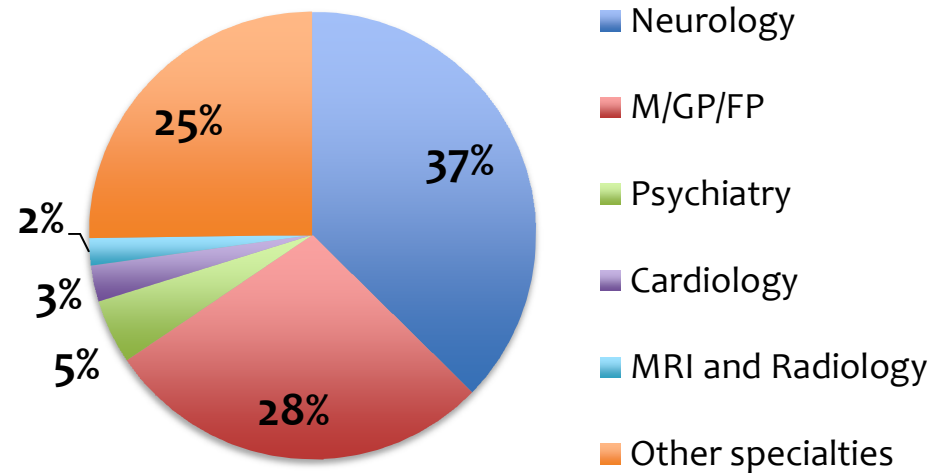
- Clinicians actively participating in the Multiple Sclerosis @Point of Care app: 18,898 (unique learners)
- Average of 18:24 on the treatment chapter
- Average of 10.76 content interactions per learner
- 64% of these users are repeat learners, indicating they are interacting with this platform

Multiple Sclerosis @Point of Care Clinician Learners

By Profession



By Specialty



MS Patient Engagement in My MS Manager

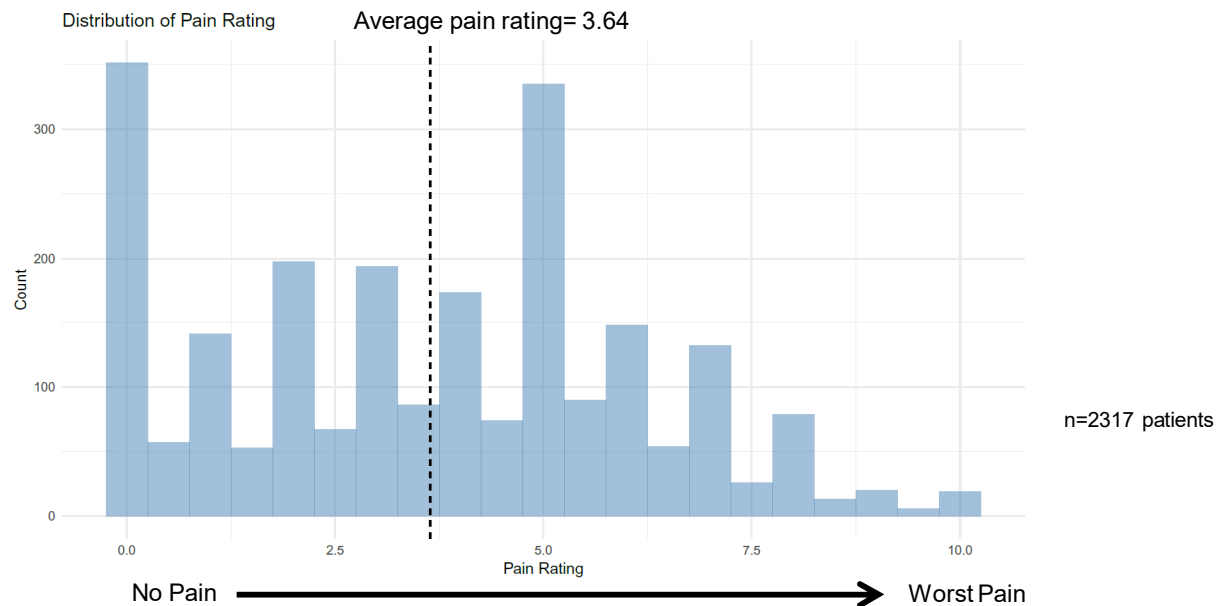
- Track MS-specific disease-related information
 - Activities of daily living
 - Fatigue scale records
 - Cognitive dysfunction
 - Other relevant information
- Many of these patients find the app to be a valuable tool to organize and track their data in a format that they can later share with their clinicians

MS Patient Engagement: What Do Our Data Say?

- 10,985 Registered My MS Manager patients
- 38,188 Daily Journal Records
 - Pain
 - Day/QOL
 - Disability
 - Physical Activity
 - Mood
 - Symptoms
- 5,279 Adherence Records
- 323,233 patient interactions to date

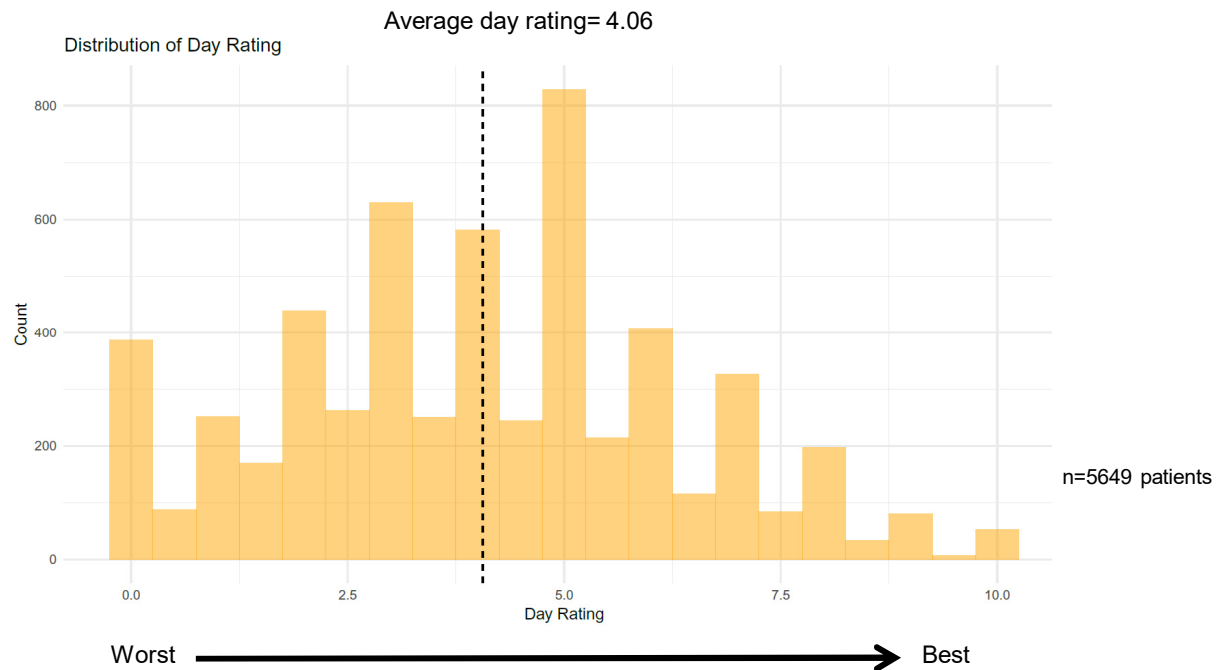
My MS Manager: Daily Journal Records

- App enables patients to track their pain levels (pain ratings), overall well-being (day rating, mood and ability level)
- For the MS patient population that journal their daily activities we observe pain levels to be:



My MS Manager: Daily Journal Records

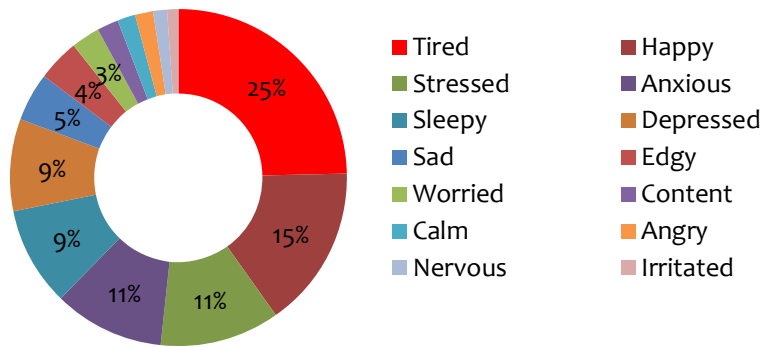
- For the MS patient population that journal their daily activities we observe day ratings to be:



My MS Manager: Daily Journal Records

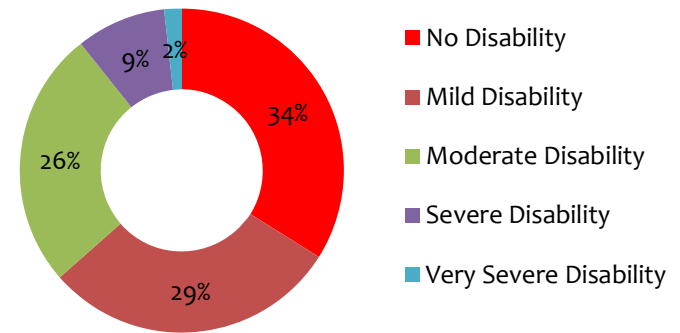
- Perceived mood and ability distribution to be:

Mood Distribution of MS Patients



n= 11940 records

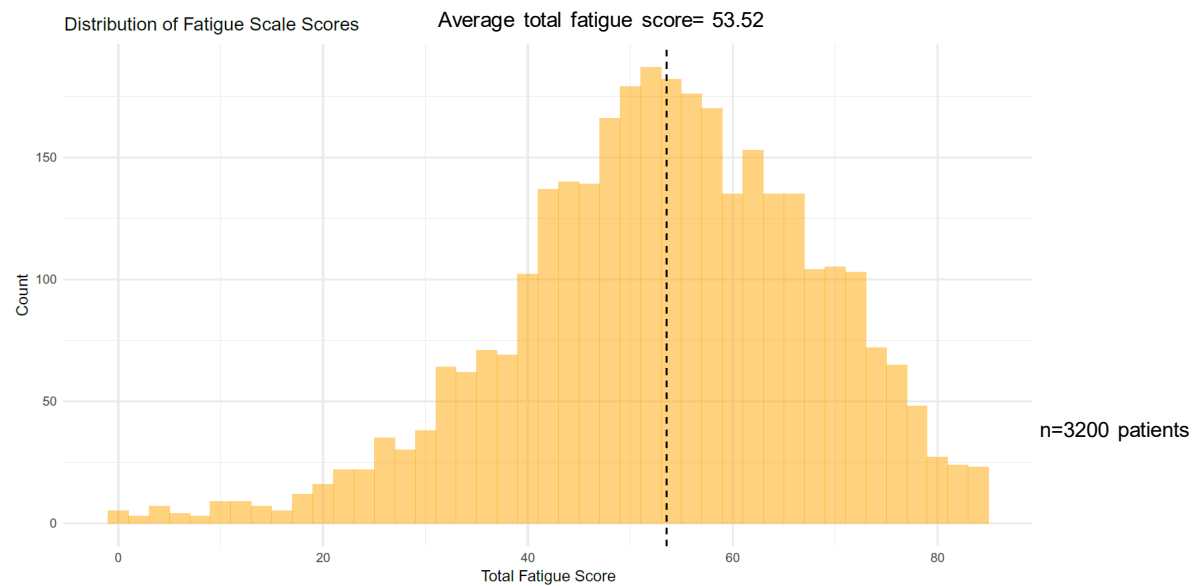
Ability Distribution of MS Patients



n= 3250 records

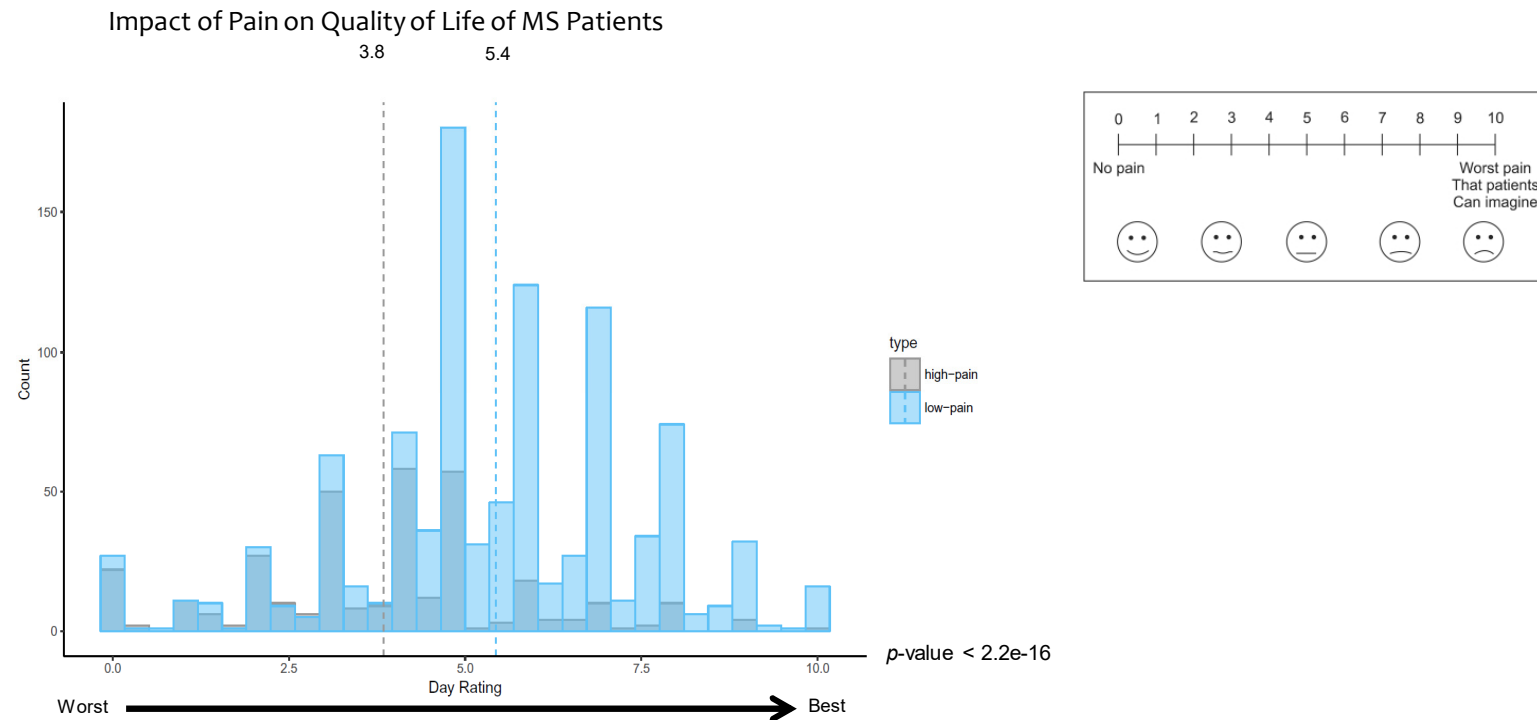
My MS Manager: Fatigue Scale Records

- Tiredness is the most perceived mood by MS patients and fatigue is a common symptom of the disease that can impact quality of life. Patient app also allows for patients to track impact of fatigue on their daily activities. Data from the app shows that:



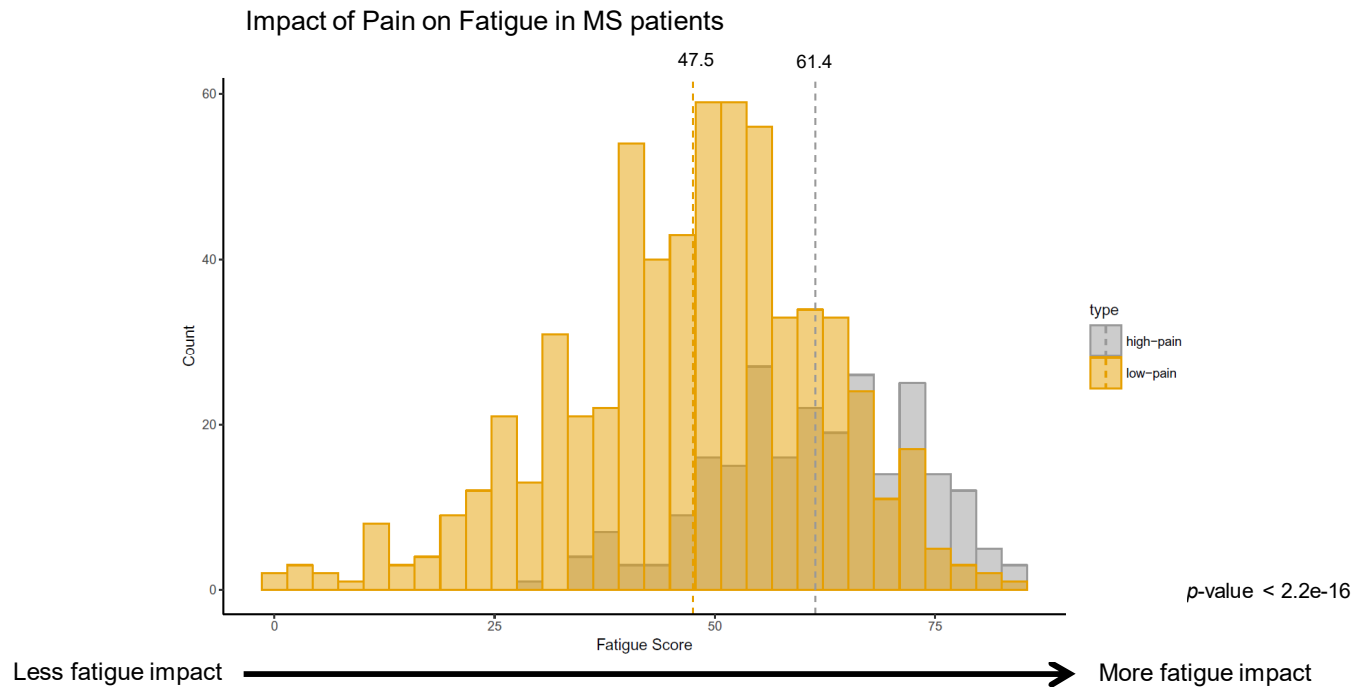
My MS Manager: Observed Correlations

- With pain being a symptom that can affect quality of life, data analyses revealed patients with high pain scores (pain rating >6, n=338) reported significantly lower day ratings than those with low pain (pain rating <4, n=1017)



My MS Manager: Observed Correlations

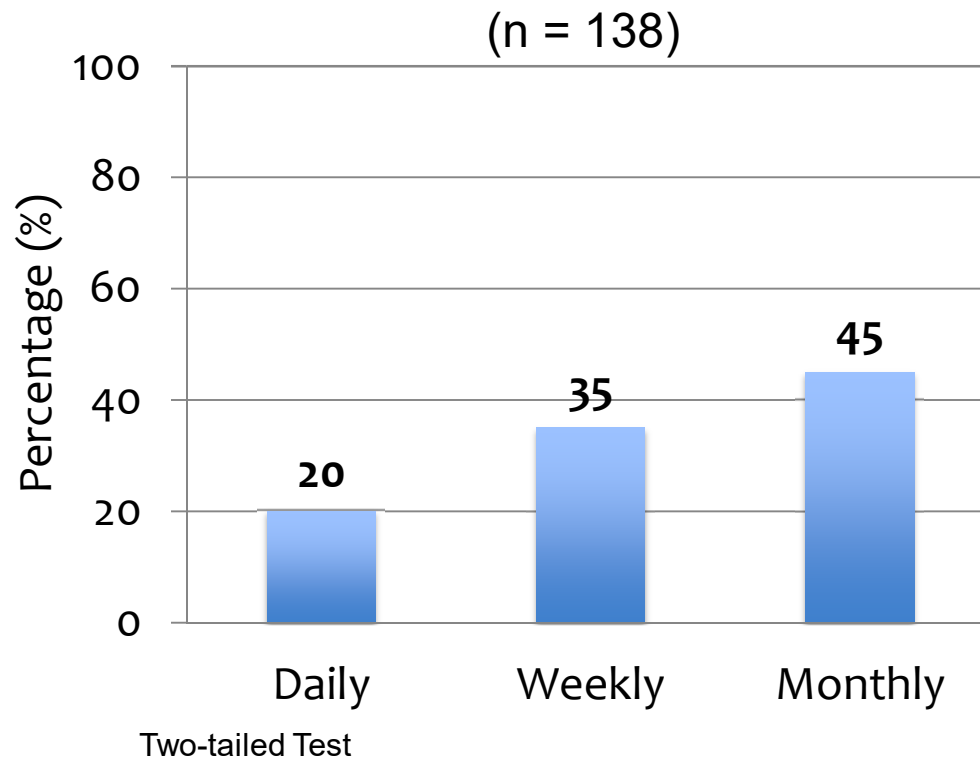
- Patients with high pain scores also reported higher levels of fatigue (n=241) than those with lower pain scores (n=626) demonstrating pain correlates with higher levels of fatigue that impacts negatively on patients' activities and quality of life.



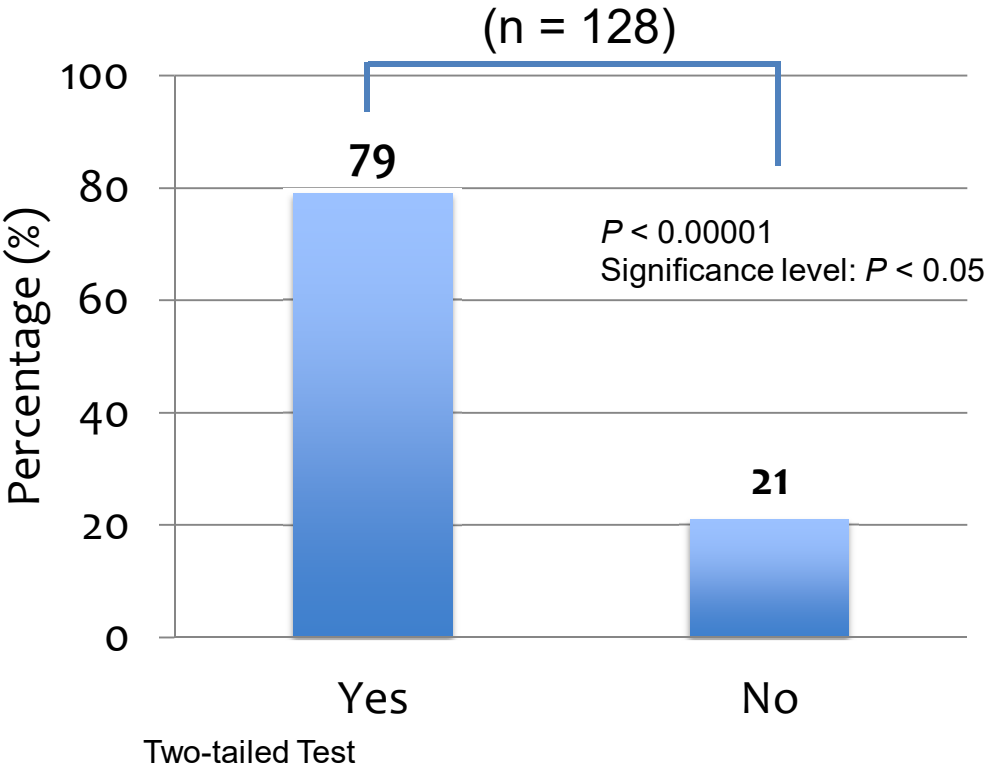
My MS Manager Survey Findings

- A proprietary survey was sent to patients registered on the My MS Manager patient app
- Patients' perspectives showing the value of the app are reflected in the survey responses
 - Frequency of use
 - Benefit of tracking
 - Improved ability to discuss and manage their MS
 - Improved patient-clinician communication regarding MS
 - Improved adherence to therapy
 - Improved sense of well-being
 - Facilitating discussion of fatigue with clinician/improving fatigue management
 - Improved management of fatigue-related cognitive function
 - Changes made to their treatment regimen
 - Other positive effects on their QOL/MS management

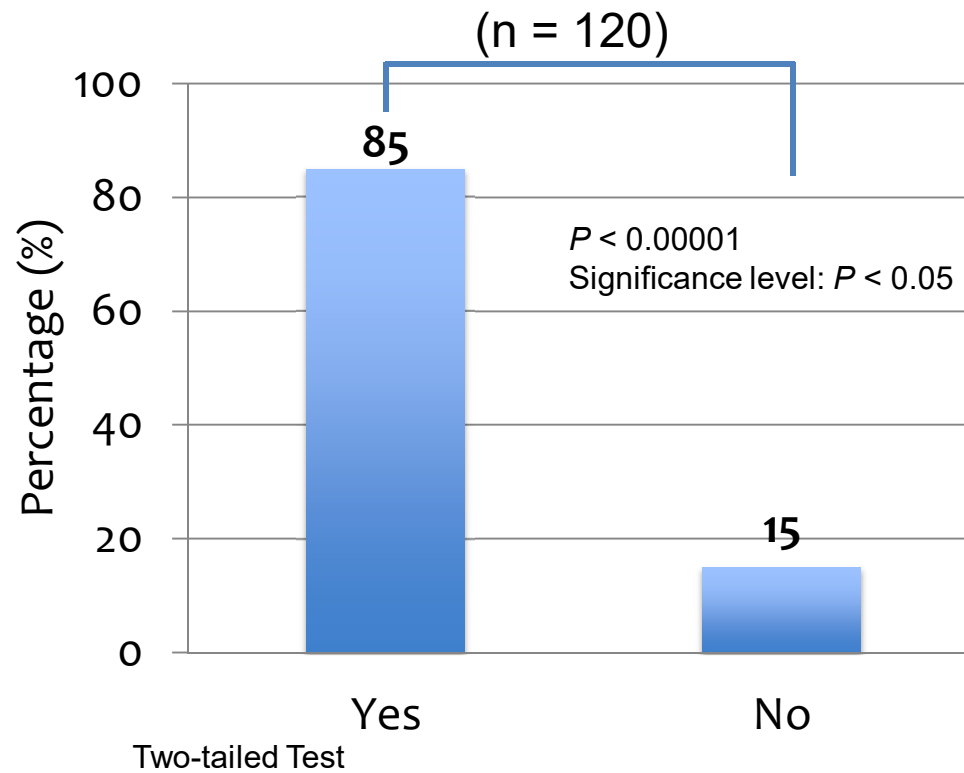
How Frequently Do Patients Use the My MS Manager Patient App?



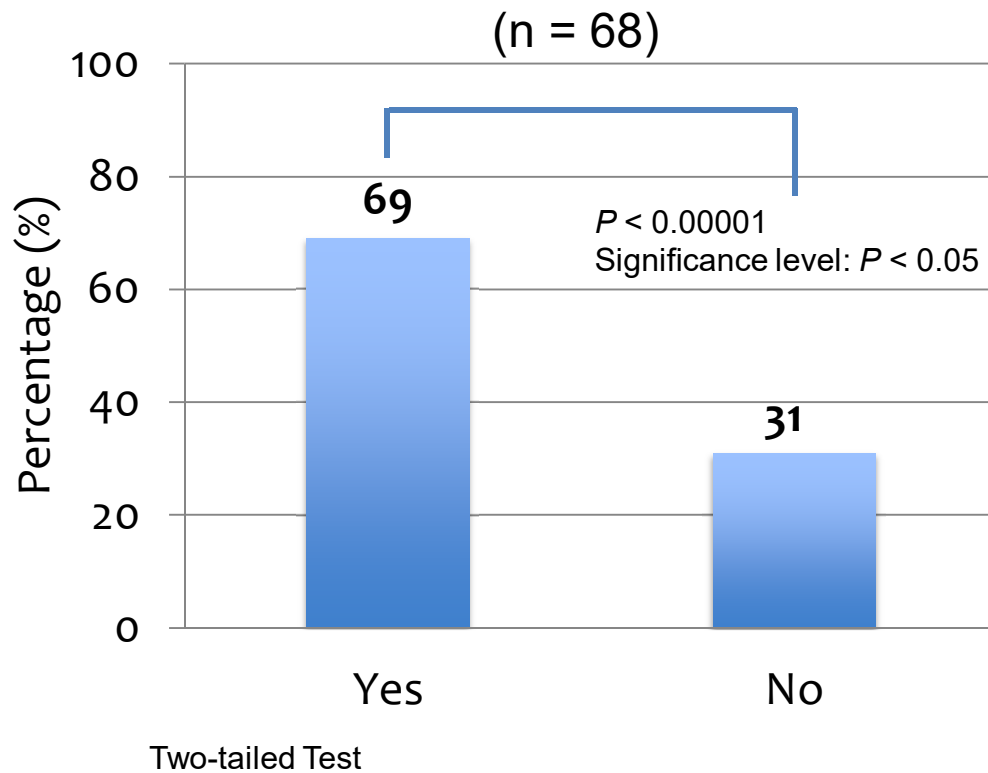
Does the Patient App Help Patients Better Track How They Are Doing?



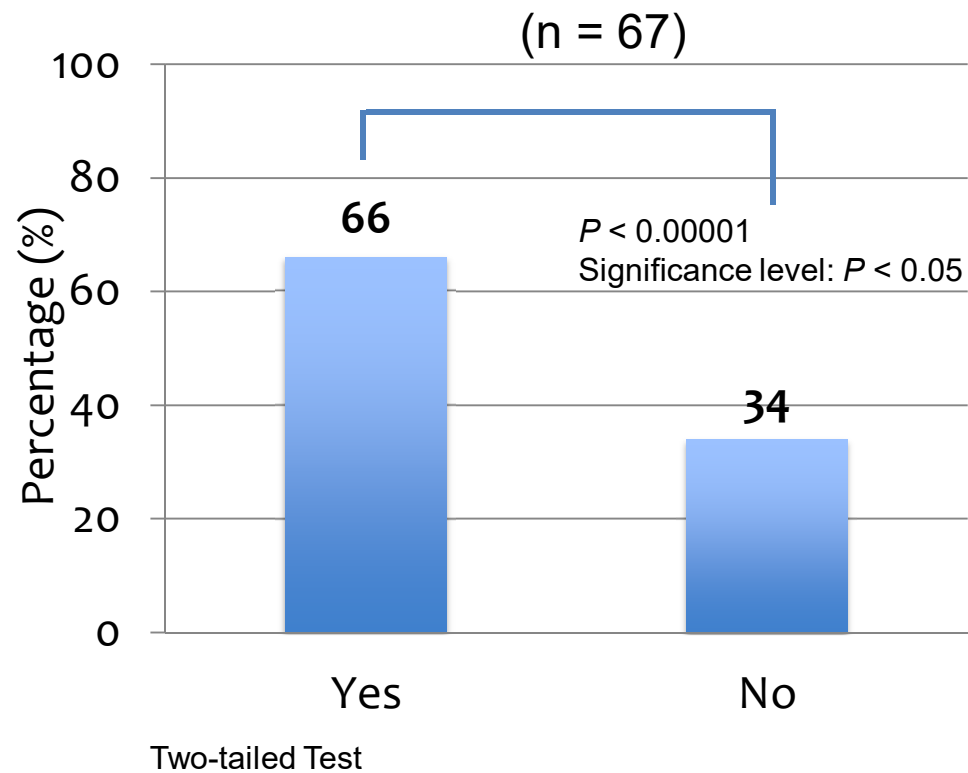
Does Regular Use of the Patient App Improve Patients' Ability to Discuss and Manage Their MS?



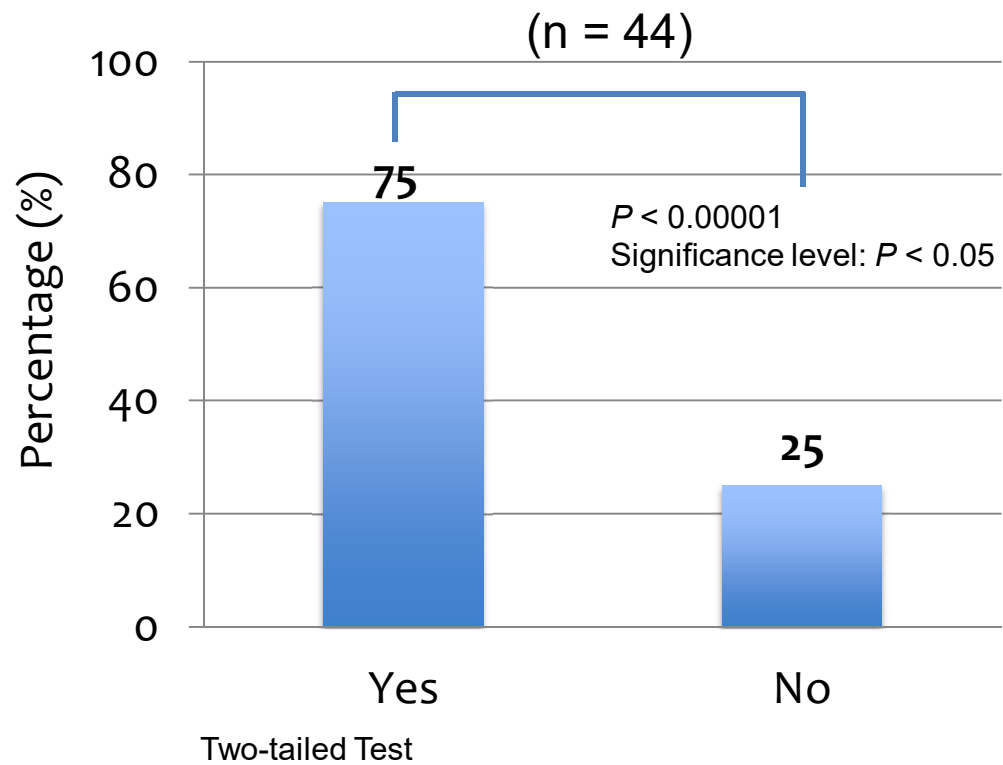
Has Using the Patient App Motivated Patients to Talk to Their Clinician About MS Management?



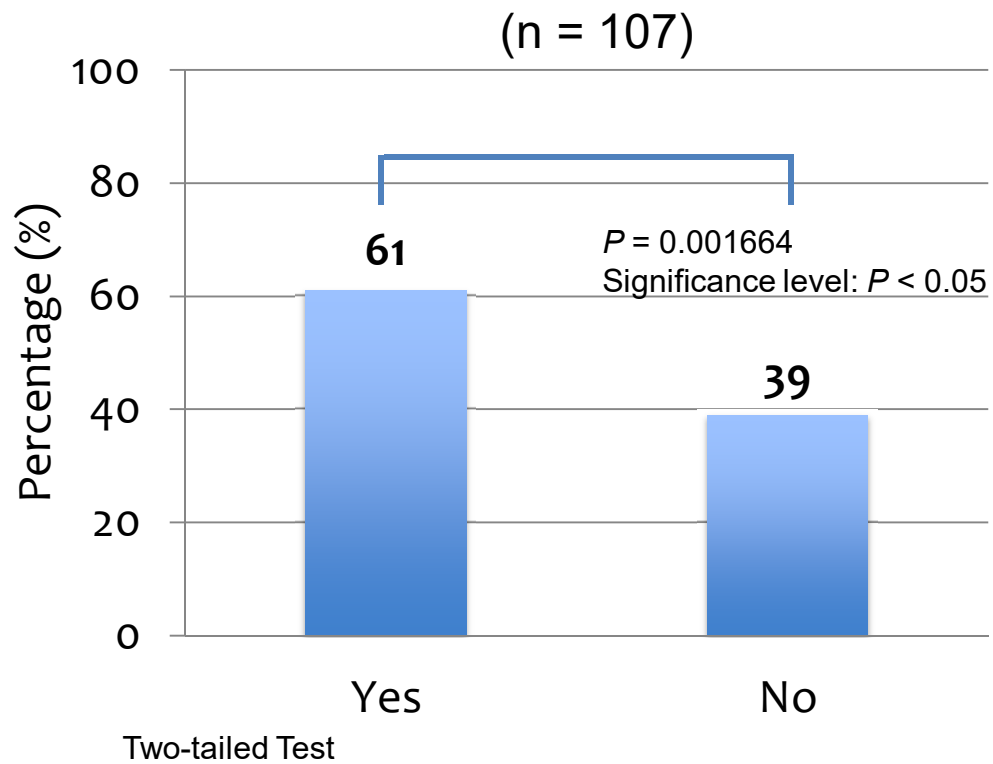
Has Using the Patient App Encouraged Conversations About Treatment Choices and/or Treatment Decisions With Their Clinician?



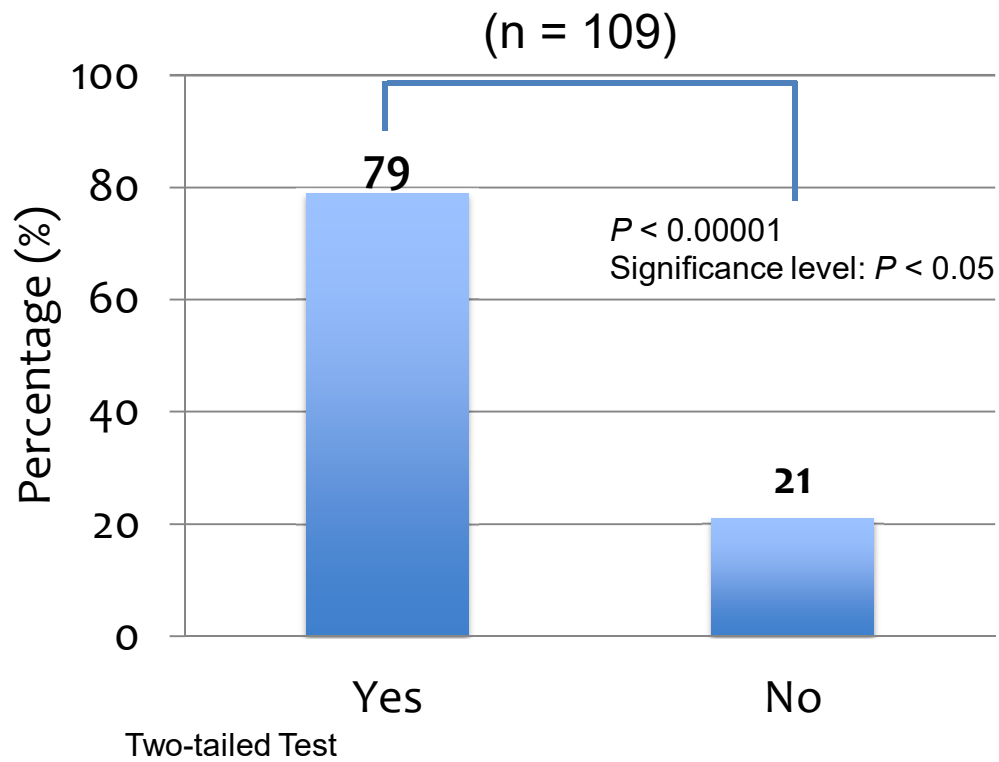
Have Discussions/Sharing of App Records With Their Clinician Improved Patients' MS Management?



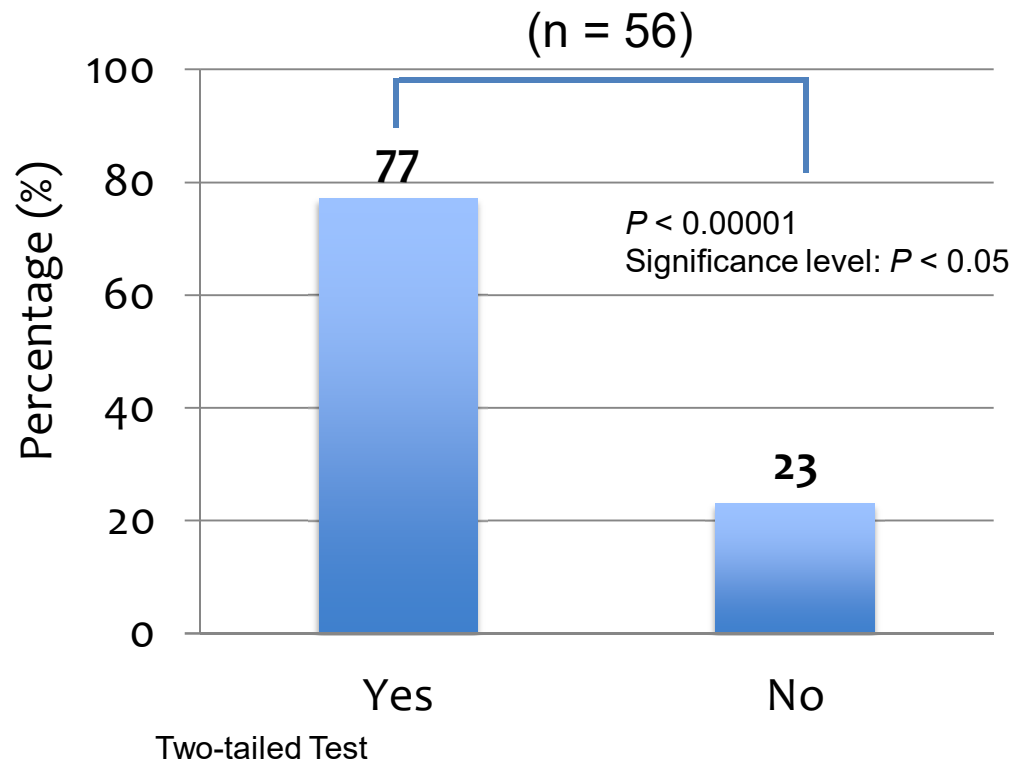
Does the Patient App Help Patients Take Their Medications as Prescribed?



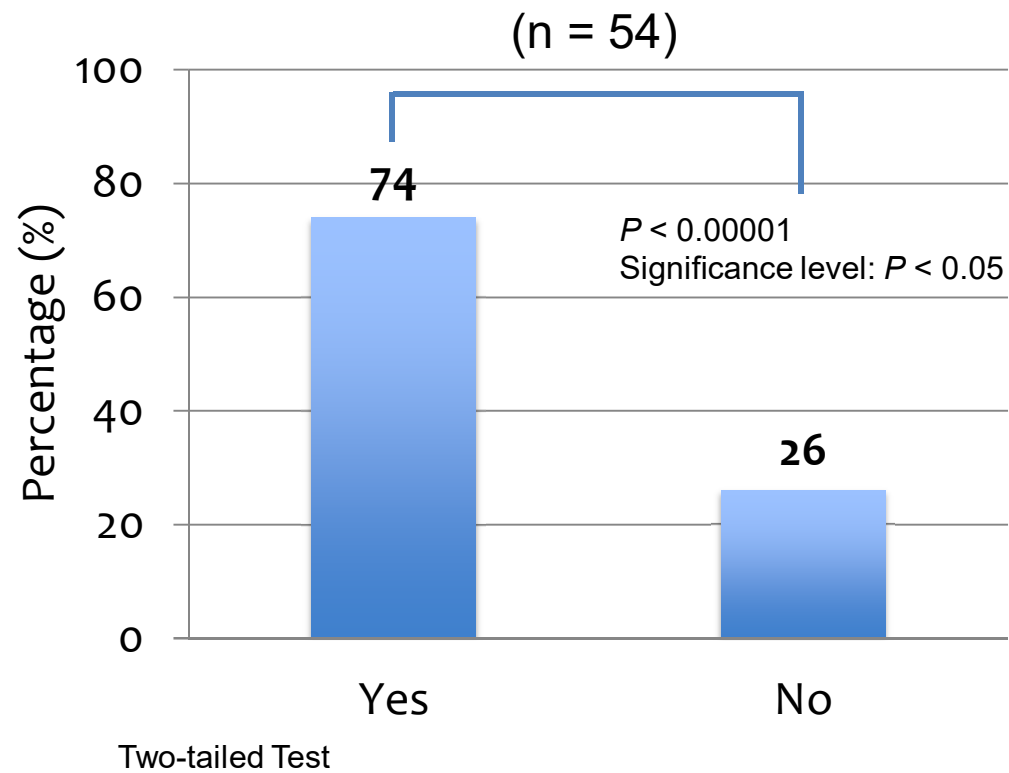
Has Use of the Patient App Improved the Patients' Sense of Well-Being?



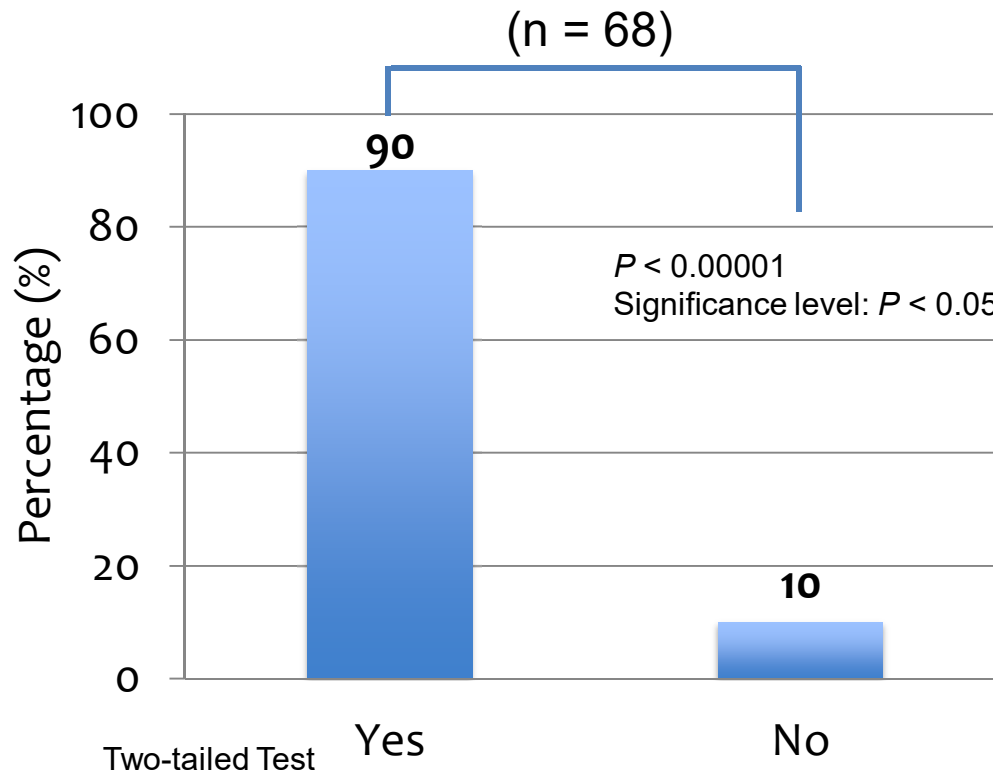
Has Use of the Patient App Provided Better Fatigue Management?



Has Use of the Patient App Provided Better Depression Management?



Has Use of the Patient App Provided Better Management of Patients' Fatigue-Related Memory, Judgment, Reasoning, and Understanding (Cognitive Function Related)?



After Discussing Patient App Records/Charts With Their Clinician, the Following Changes Were Made

(n=78)

Changes to medications	9%
Changes to other parts of treatment	12%
Suggestion for lifestyle changes	14%
Requested more tests	4%
No changes were made; doctor felt treatment plan was on track	61%

How Has the Patient App Positively Affected the Patient's Daily Life and Management of MS (Sampling of patient survey write-ins)

- Using the app, daily, gives structure to the data collection process which helps to set a routine for me
- Helps me record symptoms and relapses as they happen. I have a real problem with fatigue and this app helps me to better inform my doctor.
- The My MS Manager app makes it easier to share what is happening on a daily basis with my doctor
- I have cognition problems and the app helps me keep track of my symptoms
- It helps me keep a record of how my MS is affecting different aspects of my life.
- Tracking of medications helps me be certain to take my meds
- It allows me to track my MS without having to put more burden on my family
- It allows for me to track things that I want to share with my doctor
- Just knowing it is there comforts me
- It's a great tracking tool!

Conclusions

- A growing number of patients are using the My MS Manager app to enter their data, track their MS management, and share this data with their clinicians
- The My MS Manager app is
 - Improving patient-clinician communication regarding MS
 - Facilitating discussion of fatigue
 - Enabling patients to track their symptoms and medications
 - Providing patients with the sense that their clinician is more invested in their MS management
- This analysis shows the Multiple Sclerosis @Point of Care clinician app and the My MS Manager patient app facilitate the interface of clinicians and MS patients for shared decision making that supports, through point-of-care accessibility
 - Strategies for practice change
 - Improved patient outcomes