

Lisa Duffy PhD, RN, CPNP, CNRN, MSCN, Margaret McCabe PhD, RN, Mark Gorman MD, Jamshed Iqbal, Peggy Recinos, Sherri Munro, Christine Carlson, Chun Chen, Claire Kiley, Alan Dupre

Abstract/Introduction

We propose to develop a mobile application that has the potential to significantly impact the lives of adolescents and young adults living with POMS, because it will be designed by and for its users. This application will combine patient and provider education with the tracking of patient's clinical symptoms, medication adherence, sleep patterns, and daytime activity. In addition, the application will incorporate electronic reminders, a calendar for appointments, and wearable technology to help monitor and track physical activity and sleep.

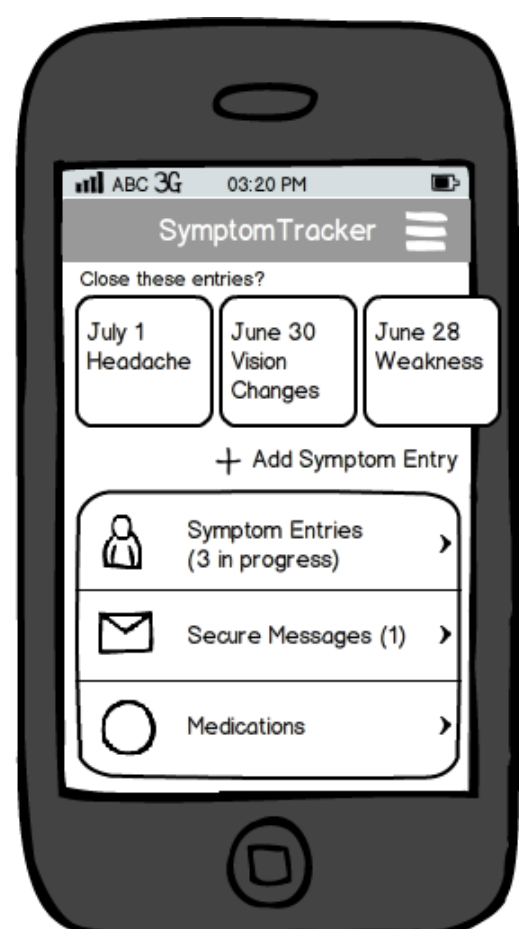
Goals/Objectives

- ❖ Improve disease management
- ❖ Improve quality of life by engaging patients in their own health management
- ❖ Shared decision making with enhanced communication
- ❖ Can be easily adapted for other chronic conditions

Goals/Objectives

- ❖ Utilize provider and patient expertise to develop, pilot and evaluate a mobile application aimed at improving the lives of adolescents and young adults with MS
- ❖ Conduct focus groups with parents and patients to develop specific aspects of the application
- ❖ Pilot the application to inform ease of use and satisfaction with the initial mobile application prototype
- ❖ Analyze measurable patient-centered outcomes

Wireframes - Communication

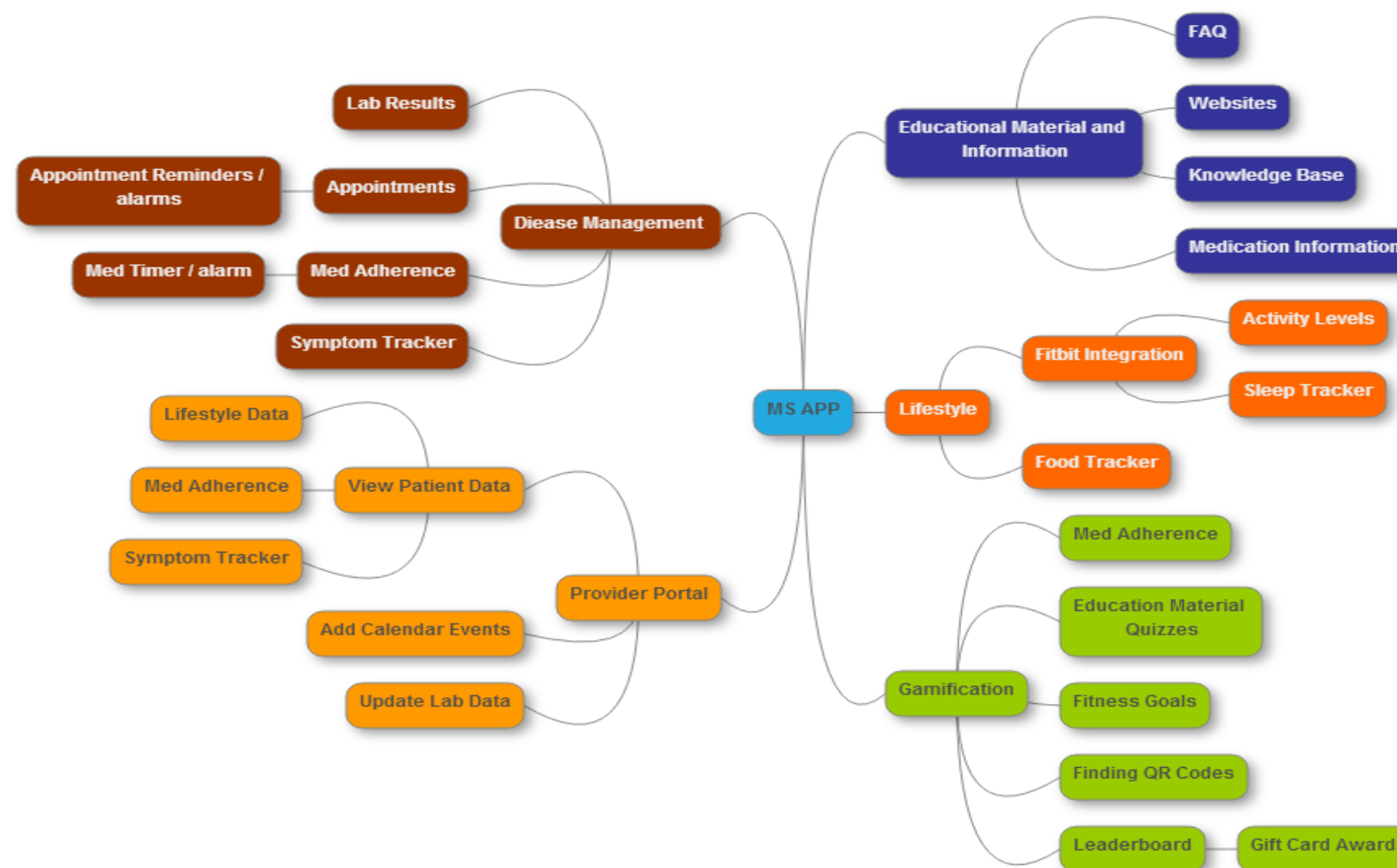


- ❖ Reminders
 - ❖ Automatic for medication and symptom entry
- ❖ Messaging from application
 - ❖ Secure messaging to healthcare team from app
- ❖ Patient portal
 - ❖ Streamlined log on process with hospital system to link to EMR
- ❖ Administrative view
 - ❖ Allows provider "real-time" access to patient reported data

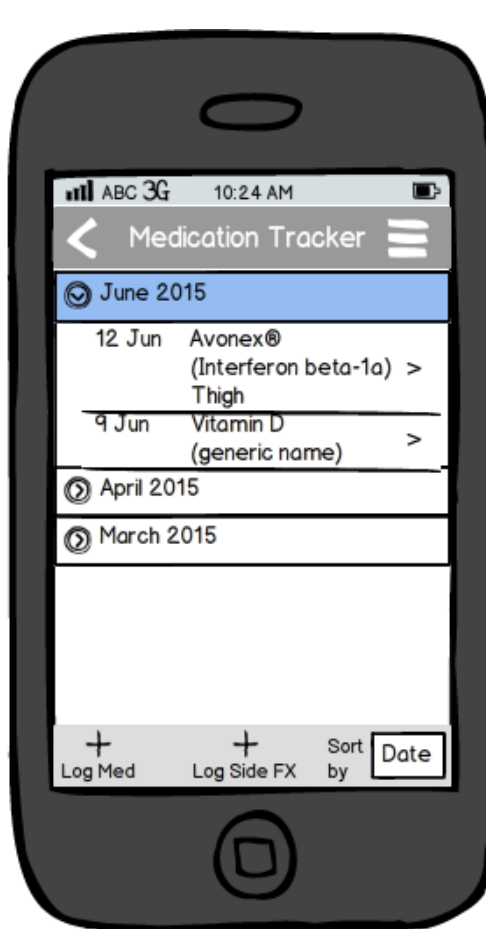
Why Mobile?

- ❖ Social media and interactive technology platform are increasingly part of our healthcare environment
- ❖ Patients are given more responsibility to manage their own conditions
- ❖ Providers, third party payers and high-tech companies are progressively relying on technology as an important additional resource for patient management
- ❖ Adolescents, a population especially proficient in the use of technology

Informational Layout of Smartphone Application

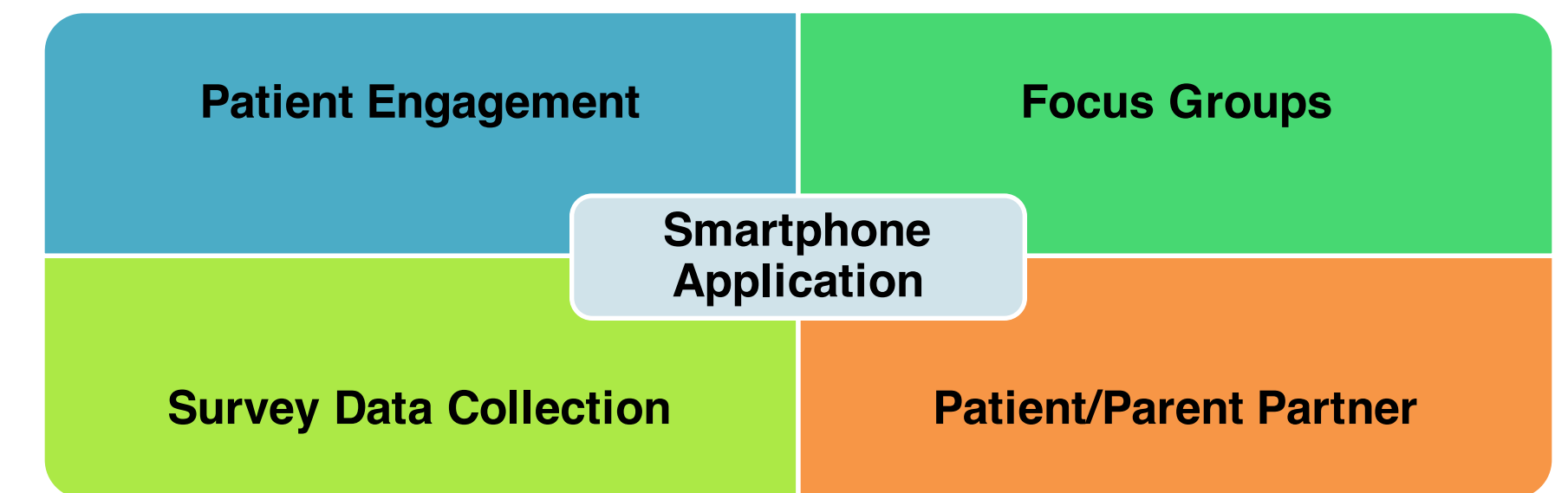


Wireframes – Medication Tracking



- ❖ Adherence
 - ❖ Med tracking and reminders
 - ❖ Med list updated from EMR
- ❖ Side effects
 - ❖ Pre-populated list
 - ❖ Ad hoc ability for new symptom
- ❖ Lab monitoring
 - ❖ Data stored in app
- ❖ Education
 - ❖ Link to education website
- ❖ Decision support
 - ❖ Integration with online decision support tool

Patient Engagement in Development Process



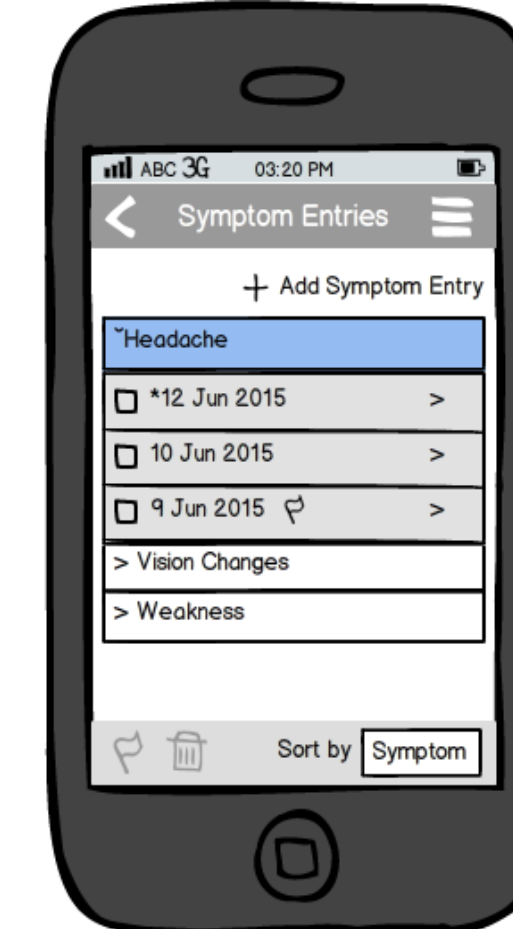
Patient-Centered Outcomes

- ❖ Patients who utilize the application will demonstrate improved medication adherence and a decrease in disease burden as evidenced by self-report data, and the number of clinical attacks and disease burden on MRI
- ❖ Patients who utilize the application will report an improved quality of life as evidenced by the PedsQL™
- ❖ Patients who utilize this application will demonstrate increased levels of physical activity as evidenced by wearable data and weight tracking

Acknowledgements

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- ❖ PCORI/AHRQ

Wireframes – Symptom Tracking



- ❖ Numbness
 - ❖ Tingling
 - ❖ Weakness
 - ❖ Vision changes
 - ❖ Bowel/bladder
 - ❖ Ataxia
 - ❖ Headache
 - ❖ Sleep
 - ❖ Miscellaneous
- ❖ Visual analog/ILikert scale for each symptom
 - ❖ Prepopulated responses for user ease
 - ❖ Can add, modify, and view symptoms
 - ❖ Can flag as important to discuss with provider