

# UPMC

RESEARCH / DESIGN

# Key Headlines

SEEING THE FOREST FOR THE TREES - HUMBLING & HARDWOOD



Learn what truly transforms  
actual human experience and let that  
drive our approach to digital



# Key Headlines

Human  
Experience

Plain Talk

Wisdom of  
Crowds

Process Focus

Time Pressure

Context Rules

Design for  
Transparency

Health.ai



# Next Steps

- Instantiate the Program (PMO = Plan/Payer Solution )
- Prioritize Features and Release Plan, Assess Impact Across UPMC (Change Mgt.) & KPIs Planning
- Resource Planning for Enterprise/Mobiquity Needs (e.g. 3.0, 4.0?)
- Agree on Plan/Staff and Kickoff Initiation of Plan/Staging/Phasing
- Establish Steering & Governance Team
- \*Assess Adjacent Regs/Compliance/Environment topics etc...
- Keep the Consumer in for the duration

# What We Did

WHY WHO AND WHAT DID WE DO TO GET TO HERE

# Participants



**Stakeholders**

**13**

1 to 1



**UPMC Panelists**

**122**

Provider/Payer



**Providers**

**>5**

DOCS/APPs



**Patients, Members  
& Patient-Members**

**17**

**Consumers**



# By the Numbers

**86** INTERVIEW  
SESSIONS

**132** HOURS OF  
INTERVIEWS

**25** DAYS  
ON SITE

**5** INDIVIDUAL  
RESEARCHERS

**17** PATIENTS  
& MEMBERS

**6** DOCTORS  
& APPS

# UPMC Pillars

Health  
& Wellness

Doctors  
& Hospitals

Bills  
& Claims

Appointments

Medicines

Test Results

# Patient Themes

Wellness

Find

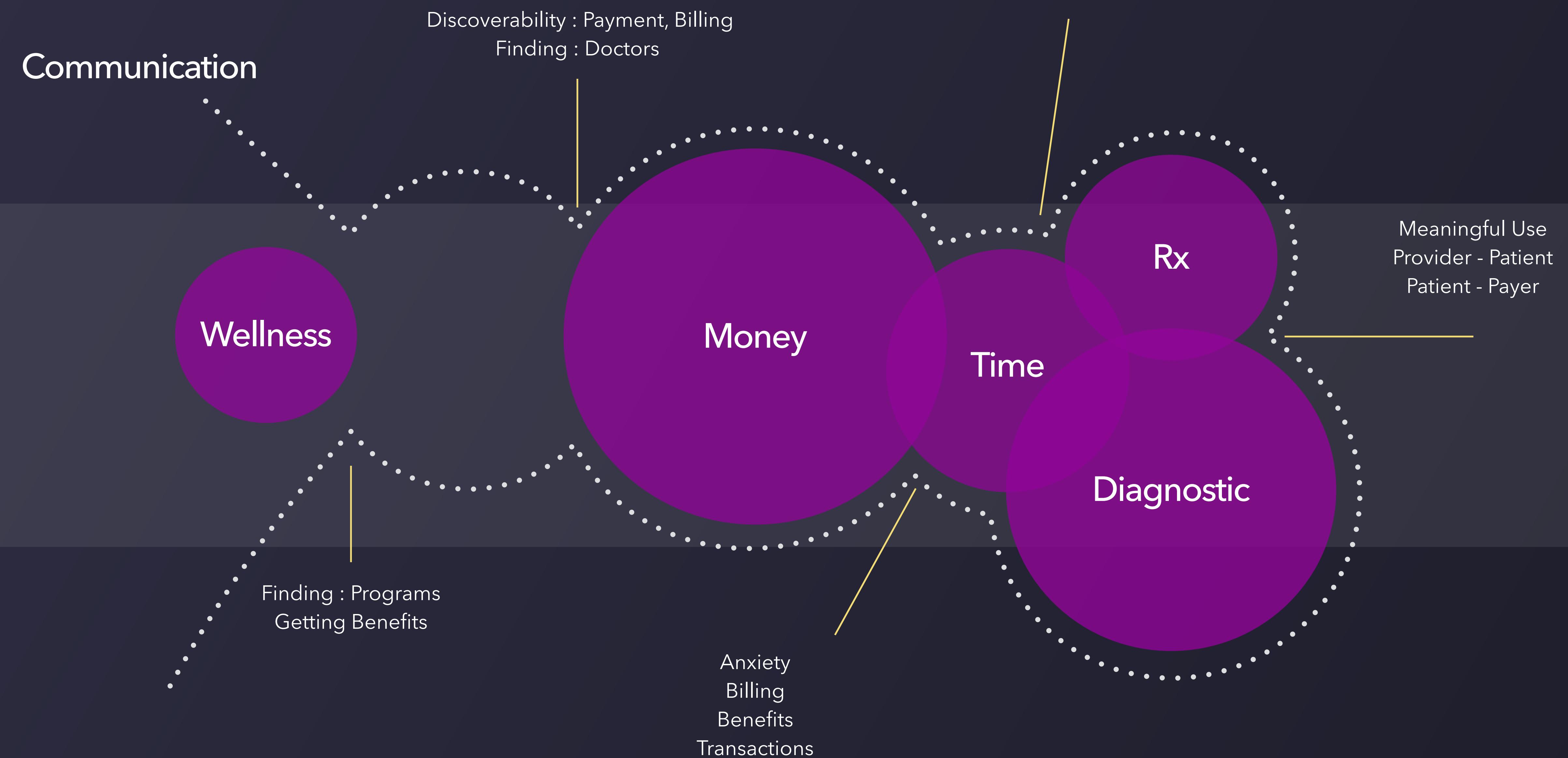
Money

Time

Rx

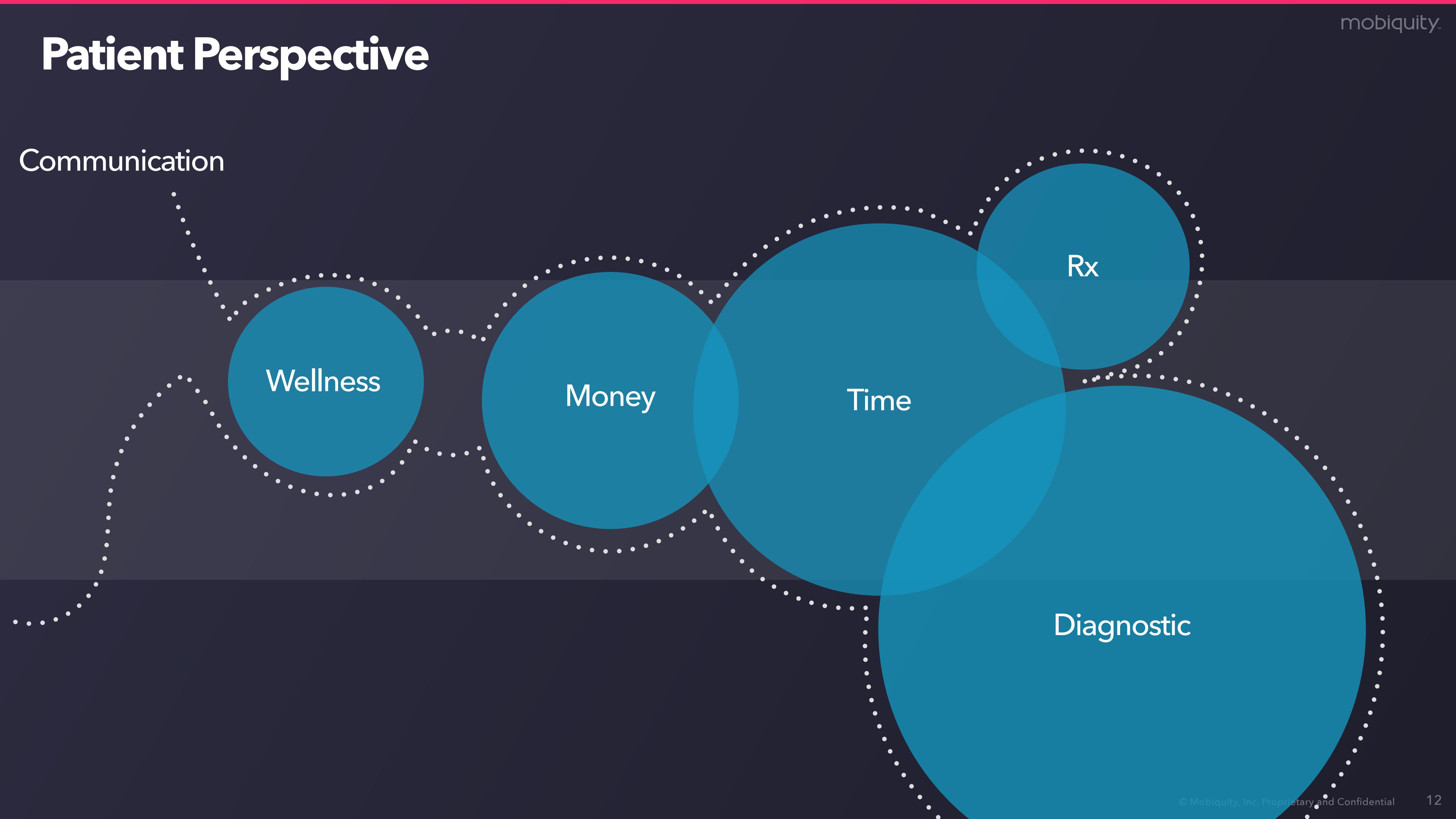
Diagnostics

# UPMC Importance



# Patient Perspective

Communication



Wellness

Money

Time

Rx

Diagnostic

# App Experiences Discussed



**Amazon**



**Snapchat**



**Capital One**



**Spark**



**Charlie**



**Turbotax**



**Facebook**



**Uber**



**Instagram**



**USAA**



**Joyable**



**Waze**



**LiveATC**



**Wells Fargo**



**Mint**



**WhatsApp**



**Paypal**



**Yelp**

MARCH 29, 2017

# Summer 1UPMC.MVP

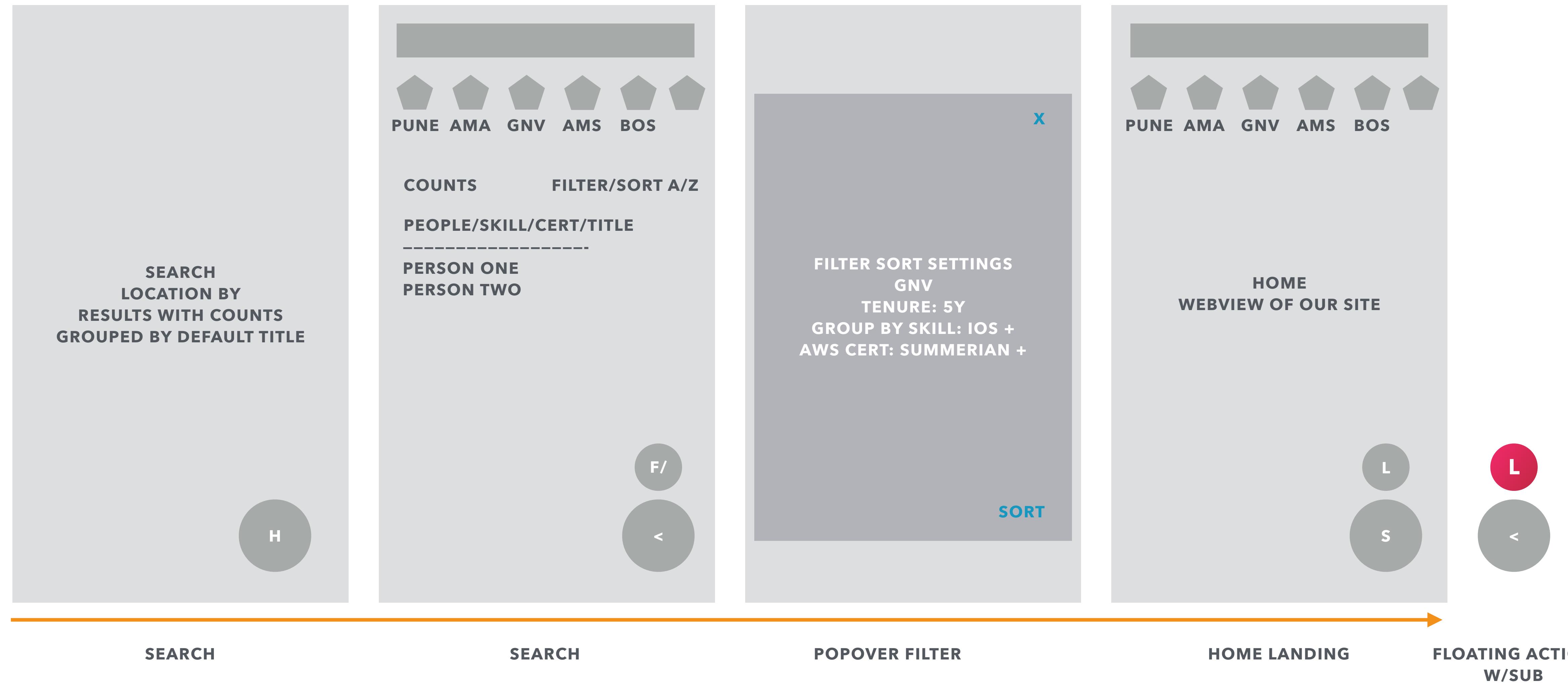
CONCEPT DISCUSSION OF POSSIBLE SCOPE FOR 1UPMC

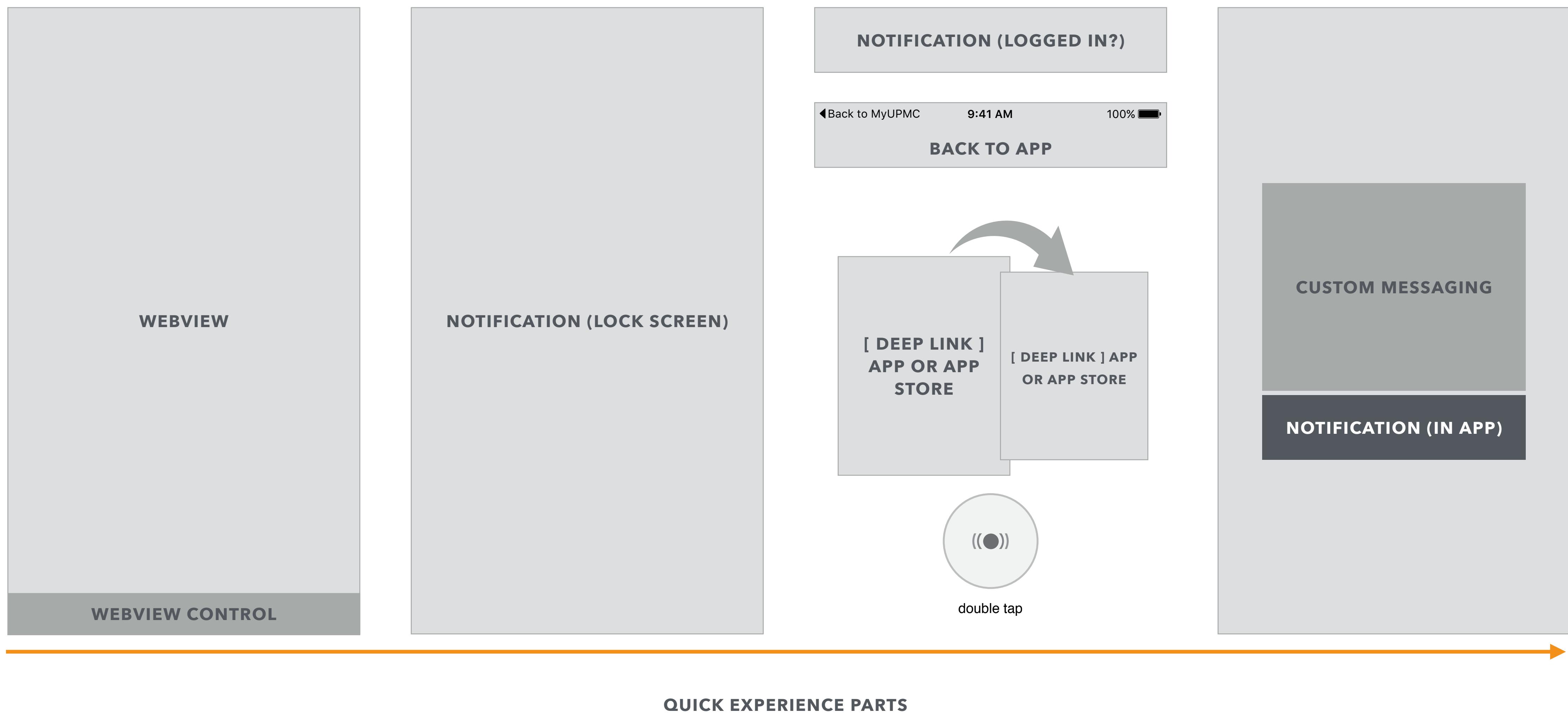
mobiuity™

1UPMC



QUICK OPTIONAL ONBOARDING

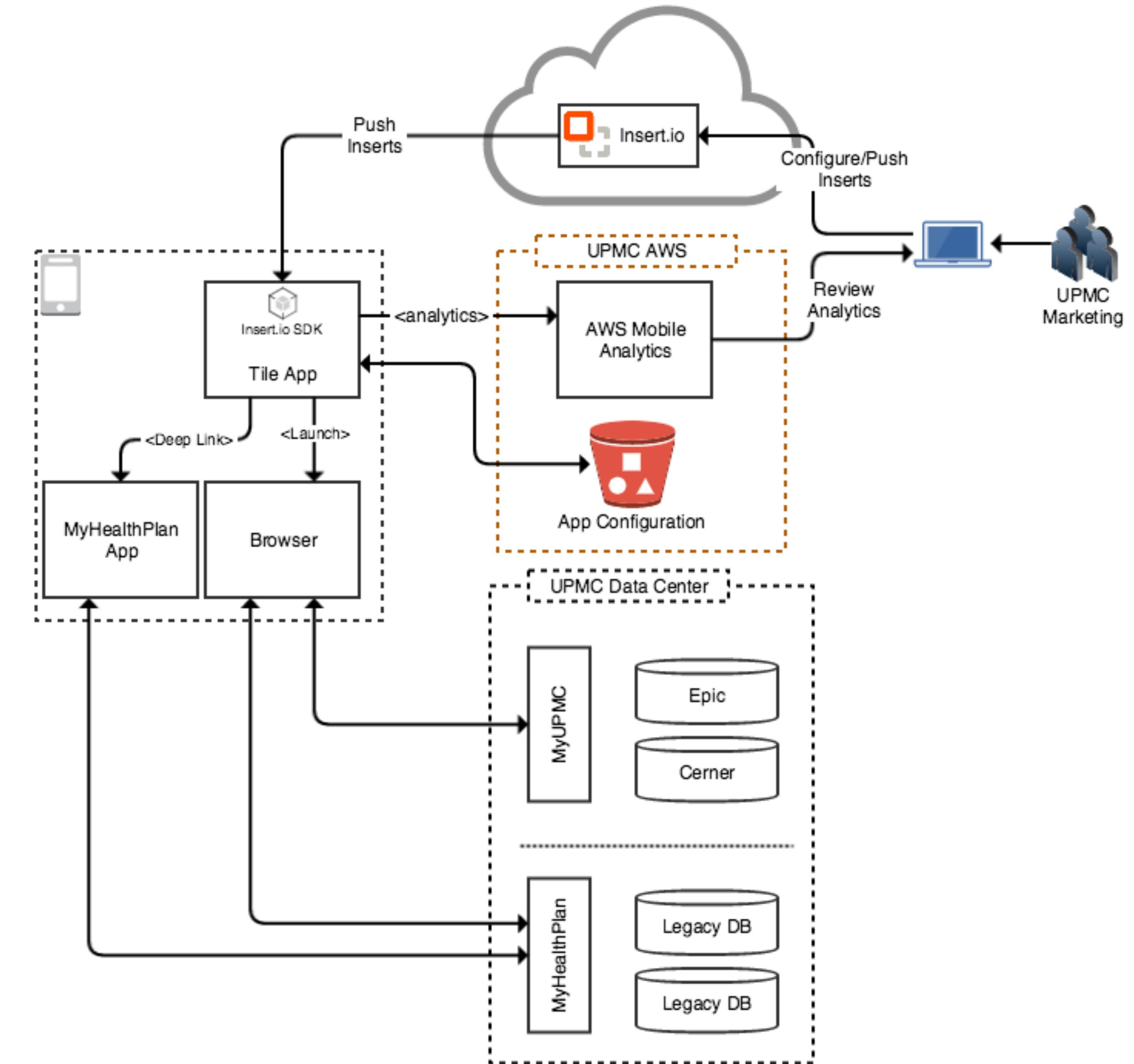






# Conceptual Architecture

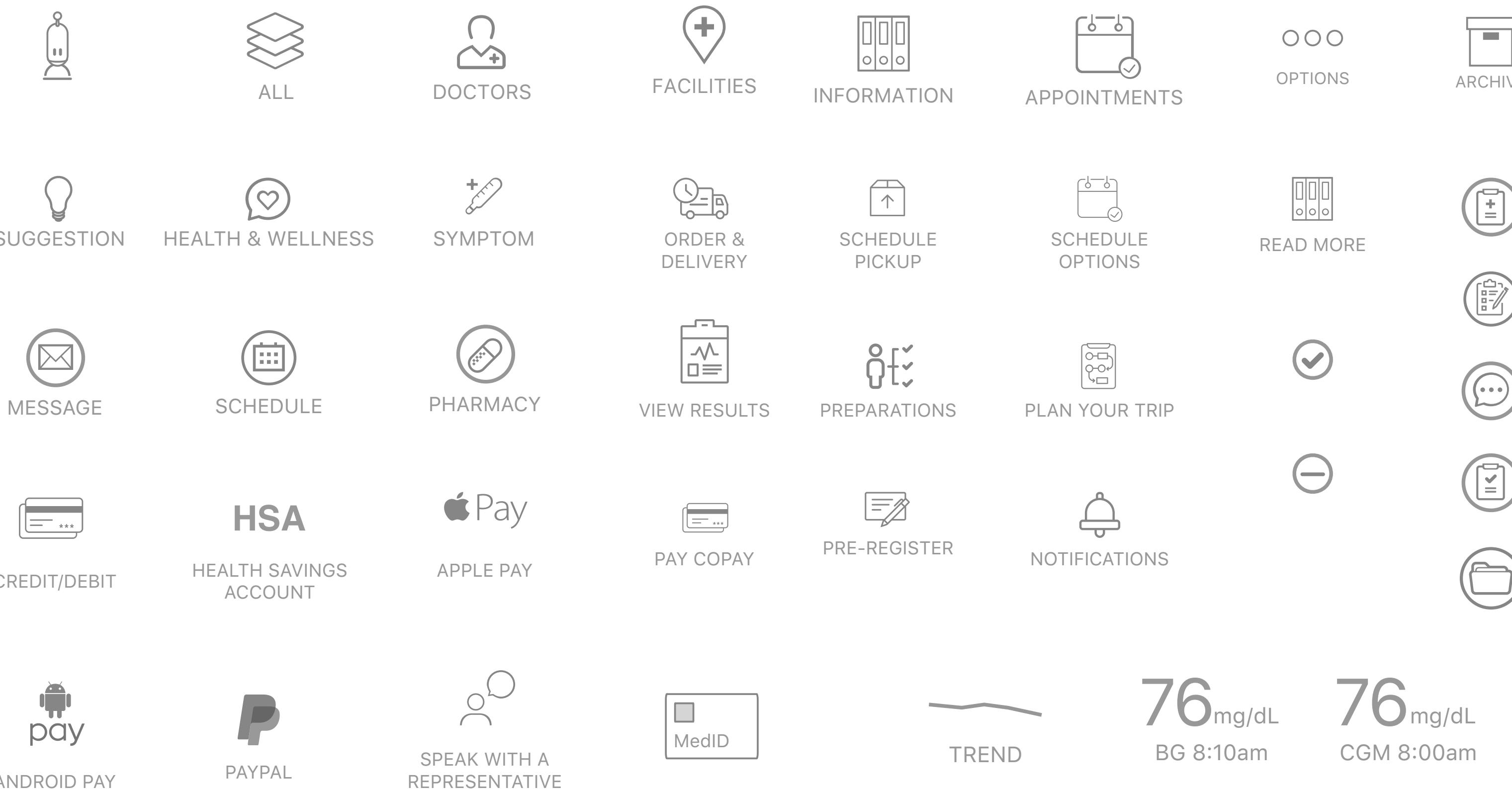
- Hybrid or Native Mobile Application with optimized user interface for launching into existing applications/properties
- Integration w/ Insert.io to enable marketing content delivery post deployment
- Reuse of existing UPMC AWS infrastructure for Analytics Data collection and Configuration file management
- Marketing Users access AWS Mobile Analytics dashboards for review
- Marketing Users push content through Insert.io console to deliver targeted marketing data
- Foundational application delivery through App Store and Play Store allows future "upgrade in place" without user downloading a "new" app



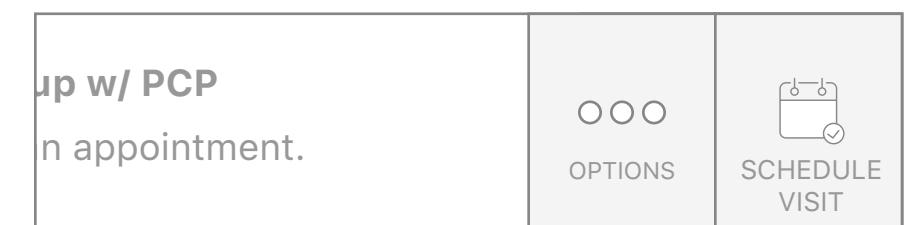
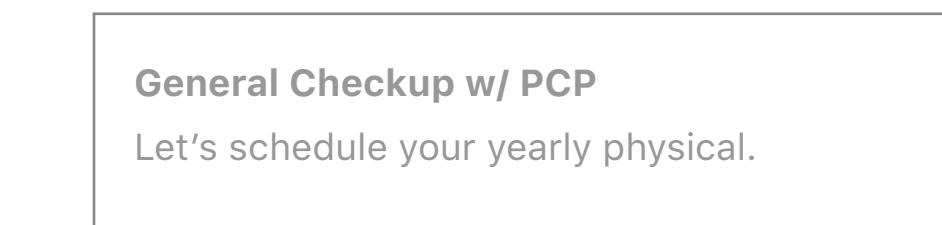
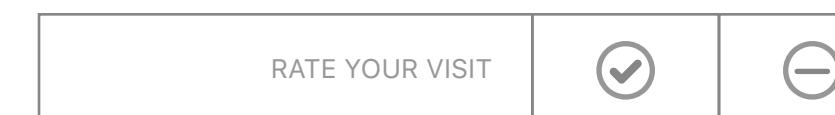
# Thought Starters

1 UPMC

# Wireframe Components



# Wireframe Components



The home page displays medical history and nearby doctors. It includes sections for "BASED ON MEDICAL HISTORY" (Dr. Charlize Ayodele) and "CLOSEST TO YOU" (Dr. William Abraham). Navigation icons for DOCTORS, FACILITIES, READINGS, and APPOINTMENTS are at the top.

A timeline card showing medical events from January to June. Events include: FOLLOW-UP (Primary Care, ADVANCE CONSULTANTS, INC., JUN 6TH); TEST RESULTS (X-Ray, JUN 6TH); PROCEDURE (Surgery on ACL, DIAGNOSIS: ACL, JUN 6TH); FACILITY (ER Visit, SYMPTOM: KNEE PAIN, MAY 16TH); MEDICATION REFILL (Lipitor, FEB 2ND); TEST RESULTS (Lab Test, 1 TEST OUT OF RANGE, JAN 18TH); and APPOINTMENT (Primary Care, ADVANCE CONSULTANTS, INC., JAN 17TH).

A search dropdown menu with categories: MOST RECENT, BY CONDITION, HEALTH & WELLNESS, DIAGNOSIS, SEARCH RESULT, ACTIVITY, TYPE, and COMMUNITY. A vertical calendar on the right shows months from JUL to APR.

A message feed showing recent notifications: "A Message from Dr. Jones" (6/12/17), "Appointment Scheduled" (6/12/17), "Prescription Feedback" (6/12/17), "Insurance Information Update Request" (6/12/17), "Doctor Visit Questionnaire" (6/12/17), "Prescription Refill" (6/12/17), "Customer Service Request" (6/12/17), and "Test Results" (6/12/17). A "RECENT" button and a "New" icon are at the top.

# Wireframe Components

 Choose a Payment Method X

STEP 1 > STEP 2 > STEP 3

Please select a payment method listed below.

 CREDIT/DEBIT	 HSA	 APPLE PAY
 ANDROID PAY	 PAYPAL	 SPEAK WITH A REPRESENTATIVE
<b>NEXT: ACCOUNT INFORMATION</b>		

AMOUNT BILLED	
\$7,850.00	
DISCOUNTS, REDUCTIONS & PAYMENTS	
-\$6,149.00	
YOU OWE 1 OF 2 PAYERS RECEIVED	
\$1,701.00	

AMOUNT BILLED	
\$7,850.00	
DISCOUNTS, REDUCTIONS & PAYMENTS	
-\$6,149.00	
YOU OWE 1 OF 2 PAYERS RECEIVED	
\$1,701.00	

SERVICE DESCRIPTION	AMOUNT BILLED
Item	\$00.00
Item	\$00.00
Item	\$00.00

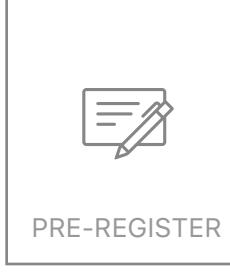
PLAN PROVISIONS	
DISCOUNTS & REDUCTIONS	AMOUNT COVERED (ALLOWED)*
\$00.00	\$00.00
\$00.00	\$00.00
\$00.00	\$00.00

YOUR RESPONSIBILITY		
DEDUCTIBLE & COPAY AMOUNT	COINSURANCE	AMOUNT NOT COVERED
\$00.00	\$00.00	\$00.00
\$00.00	\$00.00	\$00.00
\$00.00	\$00.00	\$00.00

# Wireframe Components

**Follow-up Appointment**  
TOMORROW ×

Let's get ready for your appointment.



PRE-REGISTER



PAY COPAY



PLAN YOUR TRIP

STEP 1 → STEP 2 → STEP 3

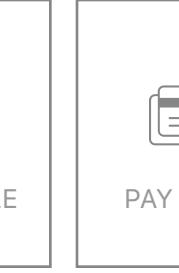
DISMISS

**Follow-up Appointment**  
IN 2 DAYS ×

Let's get ready for your appointment.



RESCHEDULE



PAY COPAY



PLAN YOUR TRIP

DISMISS

**Feeling Alright?** VIEW

You recently searched for the following:

- Fever (2 days ago)
- Tick

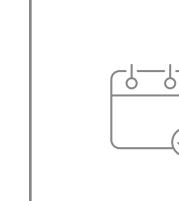
Individuals have also found the following topics of interest:

- Lyme disease

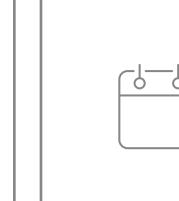
SCHEDULE AN APPOINTMENT READ MORE

**Appointment Scheduling**

There's an opportunity to move these upcoming appointments to the same day.



JUNE 26TH



JULY 29TH

Would you like to move your upcoming appointment?

YES NO

# Wireframe Components

**Appointment Summary**  
JUNE 12TH

**Doctor Summary**

Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

mollit anim id est laborum.

**Next Steps**

- VIEW RESULTS
- SCHEDULE APPOINTMENT
- VIEW BILLING

RATE YOUR VISIT

**Follow-up Appointment**

Let's schedule your next appointment while you're here.

**Follow-up Appointment**

Let's schedule your next appointment while you're here.

SCHEDULE VISIT

**Appointment Summary**  
JUNE 12TH

**A Message from Dr. Jones**

Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

**Send a Response**

**Next Steps**

- VIEW RESULTS
- SCHEDULE APPOINTMENT
- VIEW BILLING

**SEND**

**Appointment Scheduling**

SELECT A DAY TO CONSOLIDATE YOUR VISITS

CURRENT APPOINTMENTS  AVAILABLE DAYS

JUNE 2017						
<					>	
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

**Update Your Appointment**

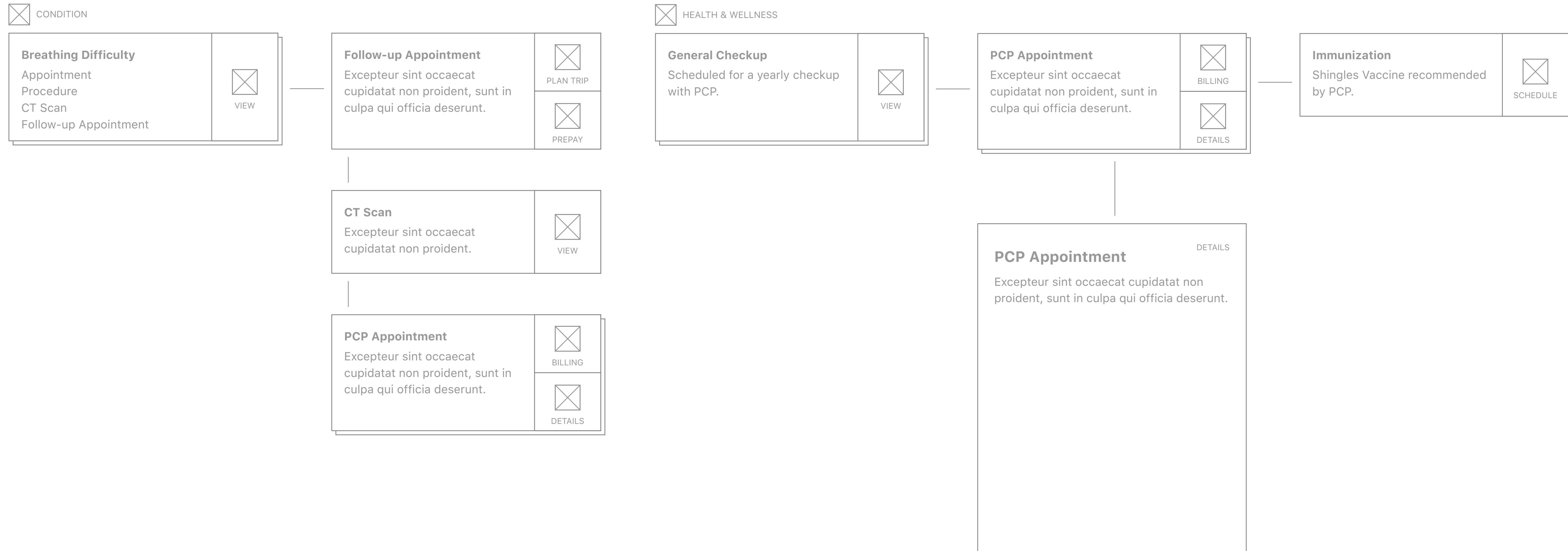
- QUESTIONS & OBSERVATIONS >
- ALLERGIES >
- RECENT MEDICAL CONDITIONS >
- ACTIVE MEDICATIONS >
- MEDICAL HISTORY >
- SPECIALISTS VISITED >

**Diabetes Screen**  
JUNE 12TH

78 mg/dL BG 8:10am TREND

72 mg/dL CGM

# Wireframe Components



# UPMC Mobile & Digital Strategy Discussion

IMPROVING THE PATIENT EXPERIENCE

# Agenda

- Digital Health Trends
- Digital strategy Vision and Direction
- Opportunities around the Patient Experience
- Discussion

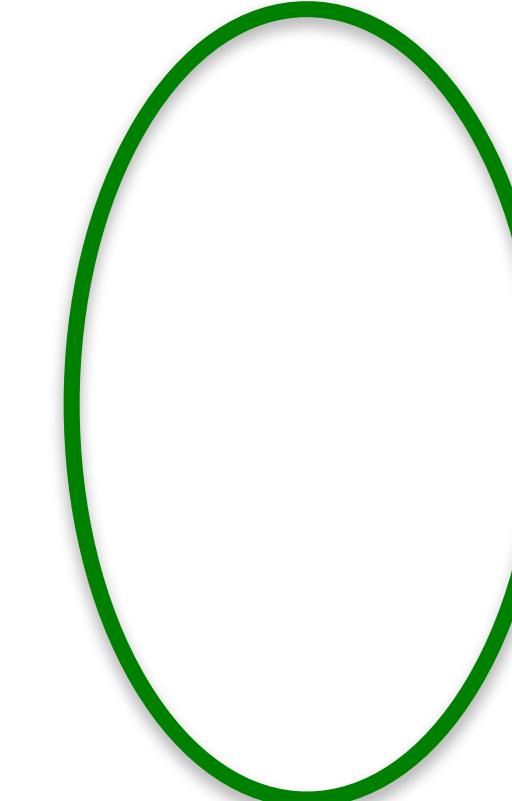
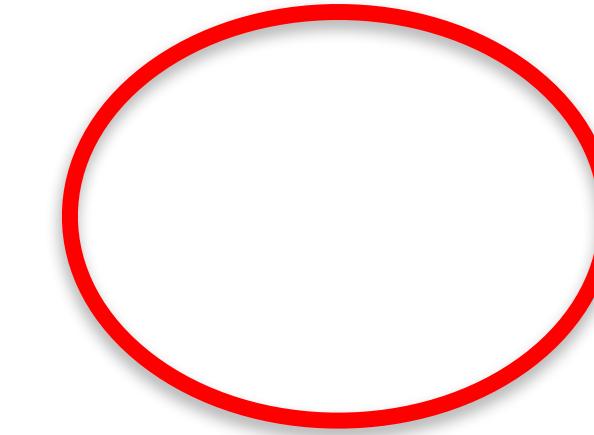
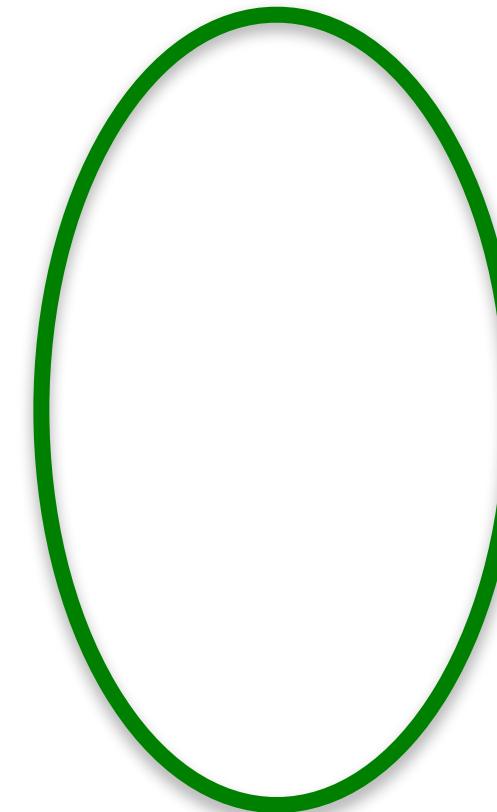
# Why Should UPMC Have A Digital Strategy?

Changing dynamics in Healthcare are creating both pressure and opportunity to innovate with mobile / digital

## Pressure to Innovate with Digital

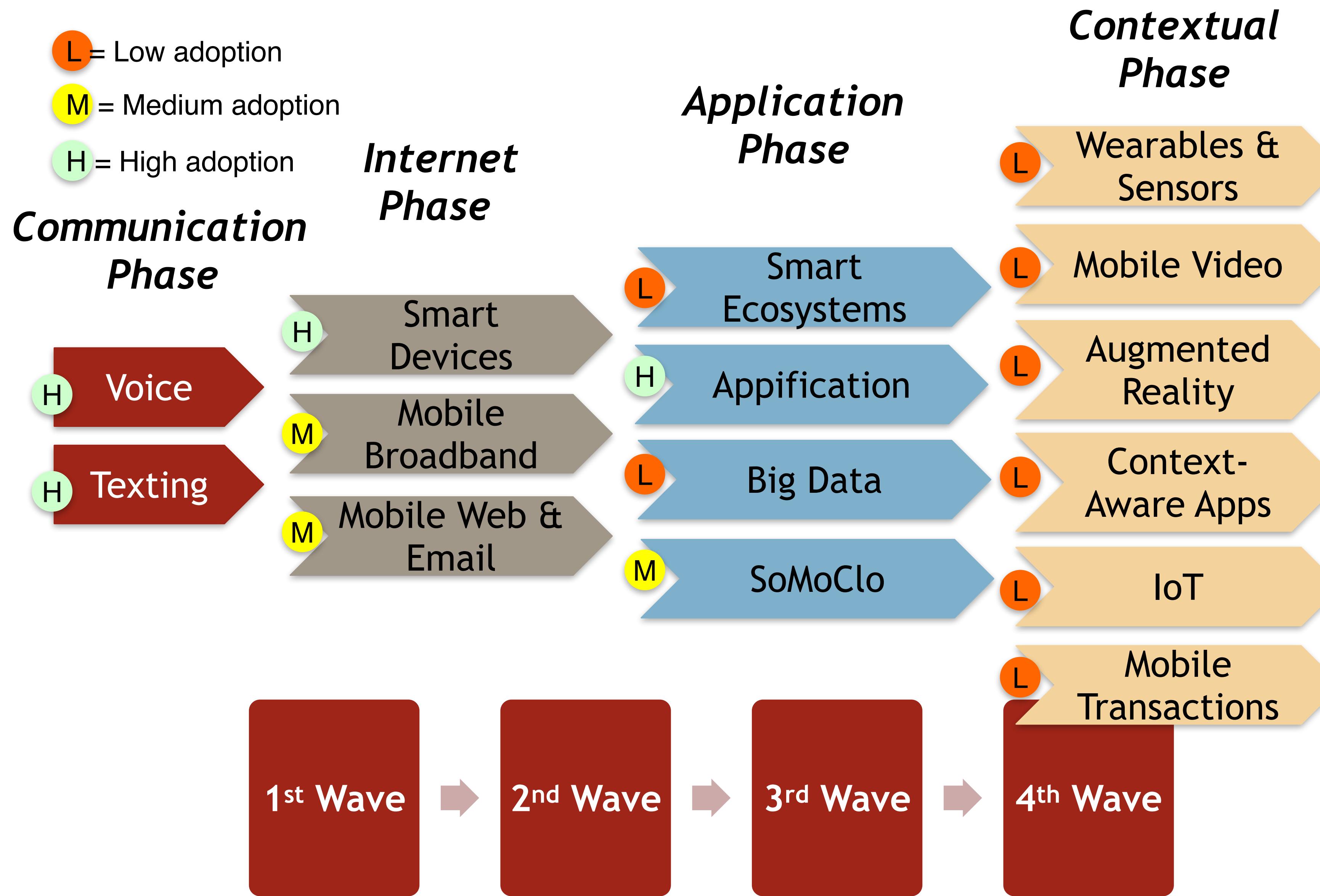
HC reform and Increasing emphasis on outcomes	Traditional competitors moving in to digital	Non-traditional competitors creating digital solutions	High consumer engagement with smart devices	Increasing affordability and accessibility of wearables & sensors	Increasing emphasis on “health” care vs. “sick” care	Self-management tools are more viable	Decline in inpatient volumes to most acute patients
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# Optimal care sites are changing



- Telehealth & Digital Health enable communications and relationship development with patients outside of the hospital
- Opportunity to improve the experience of inpatient and acute care so patients choose UPMC over other options

# Digital Trends and HCP Adoption



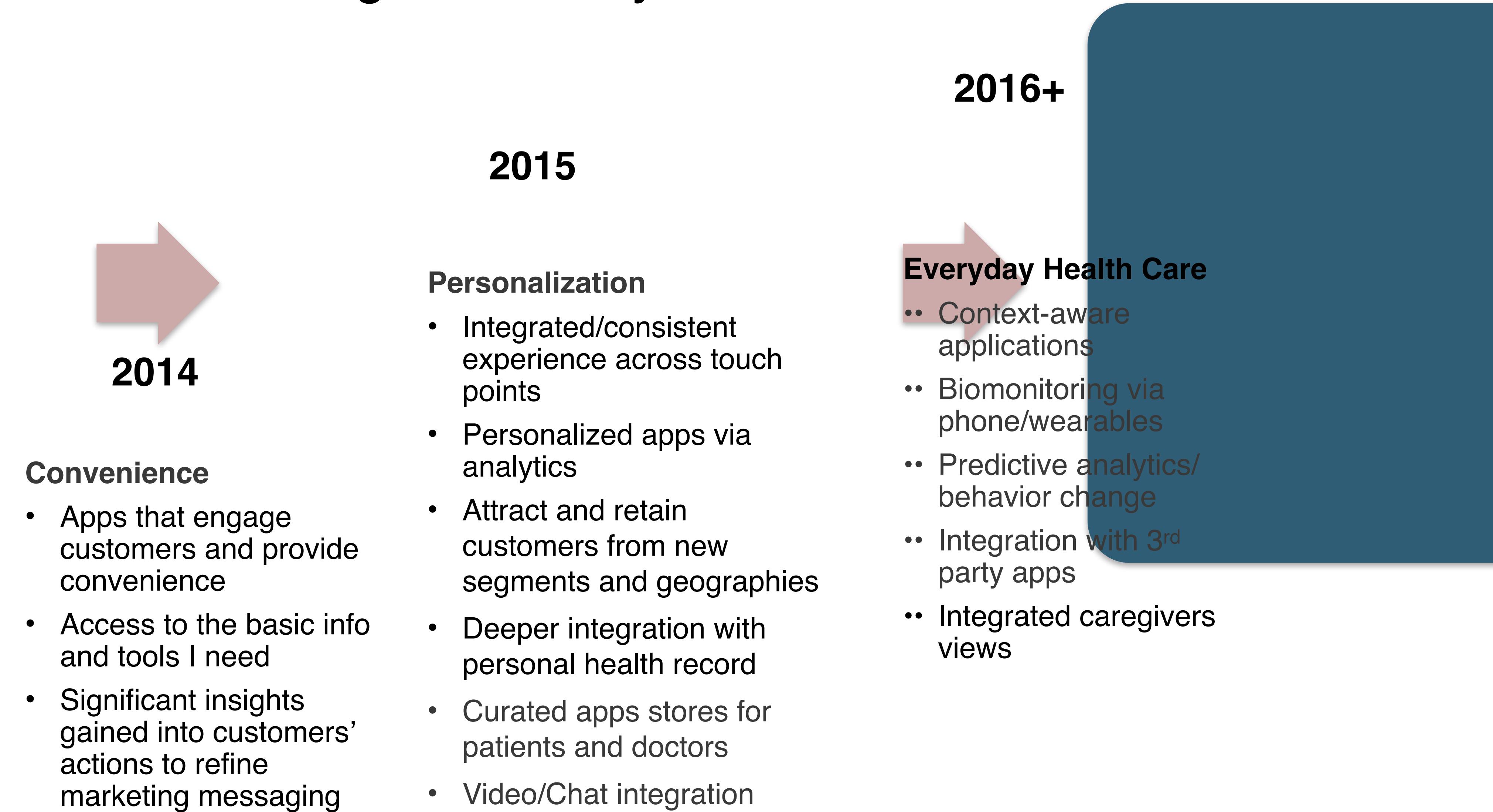
# Digital Vision in support of the Mission

UPMC's Mission is to serve our community by providing outstanding patient care and to shape tomorrow's health system through clinical and technological innovation, research, and education.



Digital Vision	<p>UPMC will leverage the power of mobile and digital technologies to accelerate growth into new patient segments, and transform the healthcare experience to empower patients and their caregivers to achieve better outcomes.</p>
Vision Benefits	<ul style="list-style-type: none"><li>• Develop powerful experiences and stronger relationships with prospective and existing patients at various stages of their care journey</li><li>• Help shift the corporate image to "patient-centric" by empowering patients and their families to get more out of their healthcare services</li><li>• Differentiate nationally &amp; globally from the digital strategies of other health systems to acquire and retain patients</li><li>• Develop partnerships and investment opportunities in digital health areas that accelerate UPMC's digital strategy and reach</li></ul>

# UPMC's Future Digital/Mobility Path



# Top 5 Mobile / Digital Opportunities Value

	Care Genius	Care Concierge	Medical Boarding Pass
<b>Summary</b>	Convenient triage and access to care services	Simplify making appointments, and getting information about and to the care site	Simplify check-in at facilities and sharing of relevant health information
<b>Digital Value Proposition</b>	Empowering anywhere care  “UPMC makes it convenient for me”	Empowering preparation for on-site care  “UPMC makes it easy for me”	Empowering experience of on-site care  “UPMC knows me”
<b>Benefits for Patients</b>	<ul style="list-style-type: none"><li>Avoid hospital visits</li><li>Convenience (esp. for those in rural areas)</li><li>Manage costs</li></ul>	<ul style="list-style-type: none"><li>Get appropriate care (self, virtual, on-site)</li><li>Lower stress of making and keeping appointments</li></ul>	<ul style="list-style-type: none"><li>Don't have to re-provide health info over and over</li><li>Feel like UPMC knows you</li></ul>
<b>Benefits for UPMC</b>	<ul style="list-style-type: none"><li>Attract new patients</li><li>Reduce costs</li><li>Improves wait times</li></ul>	<ul style="list-style-type: none"><li>Ongoing relationship</li><li>Improve experience of care</li><li>Optimizing care sites for patients</li><li>Patient retention / keep appointments</li></ul>	<ul style="list-style-type: none"><li>Augment brand with digital innovation</li><li>Enhance patient experience</li><li>Increase MyUPMC utilization</li></ul>

# Top 5 Mobile / Digital Opportunities Value cont...

	UPMC Community	Curated App Store
<b>Summary</b>	Connect patients and families around similar conditions/symptoms, and have clinicians hold virtual office hours with community.	A UPMC branded app store that provides the latest and most relevant apps for patients and healthcare providers
<b>Digital Value Proposition</b>	Empowering patient care and connections  “UPMC connects me to those like me”	Empowering patients with the right apps  “ I trust UPMC to evaluate and select the best apps for me”
<b>Benefits for Patients</b>	<ul style="list-style-type: none"><li>Provides sense of community for UPMC patients</li><li>Connect with physicians/specialists</li></ul>	<ul style="list-style-type: none"><li>Provides highly qualified health information to patients</li></ul>
<b>Benefits for UPMC</b>	<ul style="list-style-type: none"><li>Attract new patients and retains existing patients</li><li>Showcase content</li><li>See trends in diseases/symptoms</li></ul>	<ul style="list-style-type: none"><li>Enhances patient experience and creates stickiness to UPMC resources</li><li>Increases brand credibility</li><li>Potential to attract new patients</li></ul>

# Medical Boarding Pass- Opportunity Detail

Description - Ability to store all pertinent information in the boarding pass, like medical record info, emergency contacts, allergies, etc. to have this data readily at hand to be able to share and download as needed.

## **Features/functionality:**

- Allows users to store their medical information on their iOS Passbook or Android Passbook app.
- The user has access to their medical records via MyUPMC, as well as quick access to data like allergies, emergency contacts etc.
- Allows user to share their information with their doctor's office or medical personnel quickly and easily.

## **Implementation Considerations:**

- Integration into Passbook functionality on iOS and Android
- Integration into EMR (long term)
- Ability to create a QR code that can be easily shared
- Needs to have a simple and easy to use interface

## **MVP (Minimal Viable Product) Considerations:**

- User-entered data for first release
- QR code scan data from API's not deep integration

## **Possible Partners:**

- MyUPMC
- Tie ins to retail or medical-related products may provide advertising opportunity

# Care Genius - Opportunity Detail

Description - An application to promote convenient care services via a web landing page or app which drives users through a clinical symptom decision tree to the appropriate care site (self-care, virtual visit, urgent care, or ER). Usage reduces wait times and costs of trips to ER or urgent care.

## **Features/functionality:**

- Users enter their symptoms and are guided through a selection process to narrow down their possible conditions.
- Live tele-consult portion available 9am to 9pm and can be billed as an office visit.
- Results of symptom analysis would lead to direction to appropriate level of care
- Symptoms can be added to PHR
- Provides wait times at urgent care clinics

## **Implementation Considerations:**

- Limited to in-state at this time due to regulations.
- Offers easy integration with 3<sup>rd</sup> party devices like sensors

## **MVP Considerations:**

- Utilize current existing decision tree technology
- Trial in a small subset of the market where access to wait times is available
- User may need to enter PHR data

## **Possible Partners:**

- Sensor companies
- My UPMC
- Apps the user already has on their phone (makes date avail. During consult)

# Care Concierge - Opportunity Detail

Description – Provides all the necessary information for patients who are coming to UPMC before their appointment begins to create a personalized service. Information on parking, hotels, traffic, are provided to patient and can be shared with the caregiver. Providing this information informs and helps ease the experience of learning about and preparing for the care process.

## **Features/functionality:**

- An interactive application that allows users to ask about symptoms, and get directed to a physician or specialist who can help them.
- Once an appointment is made at a UPMC facility, the patient receives a curated list of directions and information based on their needs.
- User will identify needs such as transportation to the location, housing needs, dietary needs, caregiver/spouse needs.
- The application will select those attributes that best match the user.

## **Implementation Considerations:**

- Needs to use 3<sup>rd</sup> party data (restaurants, hotels, etc.) to provide personalized recommendations
- Future Integration with CMS
- Simple easy to use interface for multiple users

## **MVP Considerations:**

- Some curation of content may be needed on the part of the user initially
- User may need to enter some of their own personal data
- Utilize as much existing content from UPMC.com (locations, videos, etc.)

## **Possible Partners:**

- MyUPMC and medical record/billing data
- Hotel, travel, restaurants and aggregator companies
- Mapping data (Google maps)
- Coupon or rewards companies

# Critical Success Factors

## Short Term

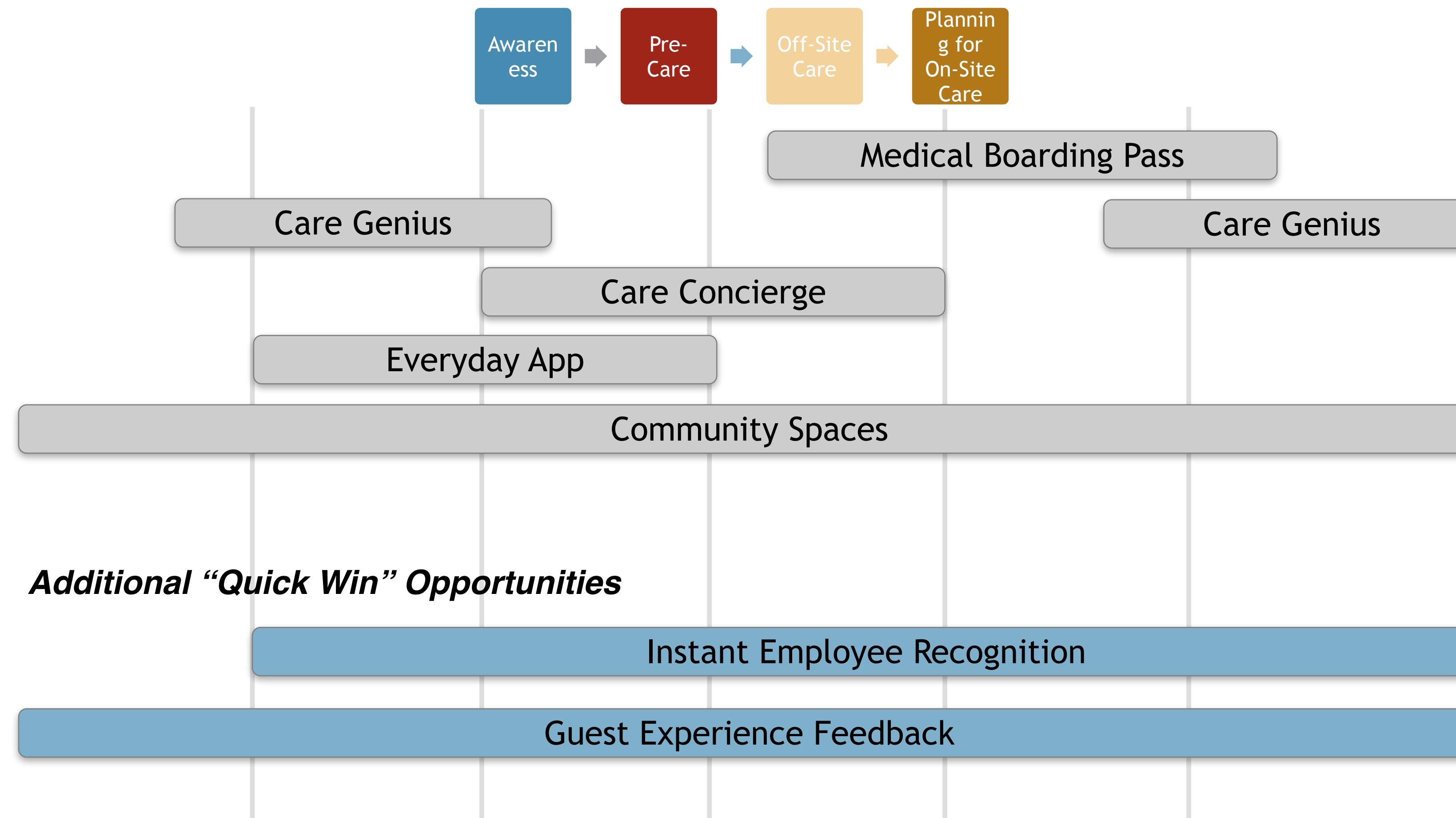
- Begin MVP initiatives in a light integration way to serve as momentum builders, then ramp up to larger integrated systems later
- Ability to test and learn quickly on small populations
- Adoption of a mobile mind set and a mobile first approach to support a patient-centric experience

## Long Term

- Integrated and measurable analytics (web/social/mobile, patient EHR)
- Promotion of the Tools/Initiatives across UPMC
- Sponsorship and support from Executives and Leaders
- Need a team of Community Managers, Subject Matter Experts
- Partnerships for both innovation and access

# Improving the Overall Customer Experience

Leveraging Digital to Empower Patients and their Families Along the Care Journey



# Impacting the Patient Experience

## Short Term

- Begin MVP initiatives in a light integration way to serve as momentum builders, then ramp up to larger integrated systems later
- Ability to test and learn quickly on small populations
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## Long Term

- Integrated and measurable analytics (web/social/mobile, patient EHR)
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# Appendix

# Everyday App - Opportunity Detail

Description - An application that assists the user in managing their health and life day to day by integrating across many points in the user's life. It can sync with health profiles, and fitness sensors to give tips and feedback on the user's health and their family member's health. Links to blogs, experts and relevant information/articles empowers users with information.

## **Features/functionality:**

- Daily check-ins with users and family members for the purpose of managing themselves and their family members to track their health.
- Focus on predictive advice – ex: analyzing data of a person who reports they feel poorly 3 days in a row would prompt messaging about seeing a doctor
- Social integration would help manage detail and sharing increases personal accountability
- Based on data, create customized programs for each person
- Possible giveaway of wearables as an incentive for use and additional data collection

## **Implementation Criteria:**

- Needs to use real-time analytics to provide personalized recommendations
- Simple easy to use interface for multiple users
- Offers easy integration with 3<sup>rd</sup> party devices like sensors
- UPMC will benefit from the data mined

## **Possible Partners:**

- Sensor companies
- My UPMC
- Coupon or rewards companies
- Schools and community organizations

# Community Spaces

Connect patients “like me” and “families like us”, and have clinicians hold virtual office hours with community.

## **Features/functionality:**

- Users can interact with other members of the community.
- Patients can contact/interact with clinicians during their office hours
- The user has access to their medical records via MyUPMC, and can add/save interactions to their record
- Allows user to invite others to the community to share relevant information

## **Implementation Considerations:**

- Integration into EMR (long term)
- Ability to integrate with other social media sources
- Needs to have a simple and easy to use interface

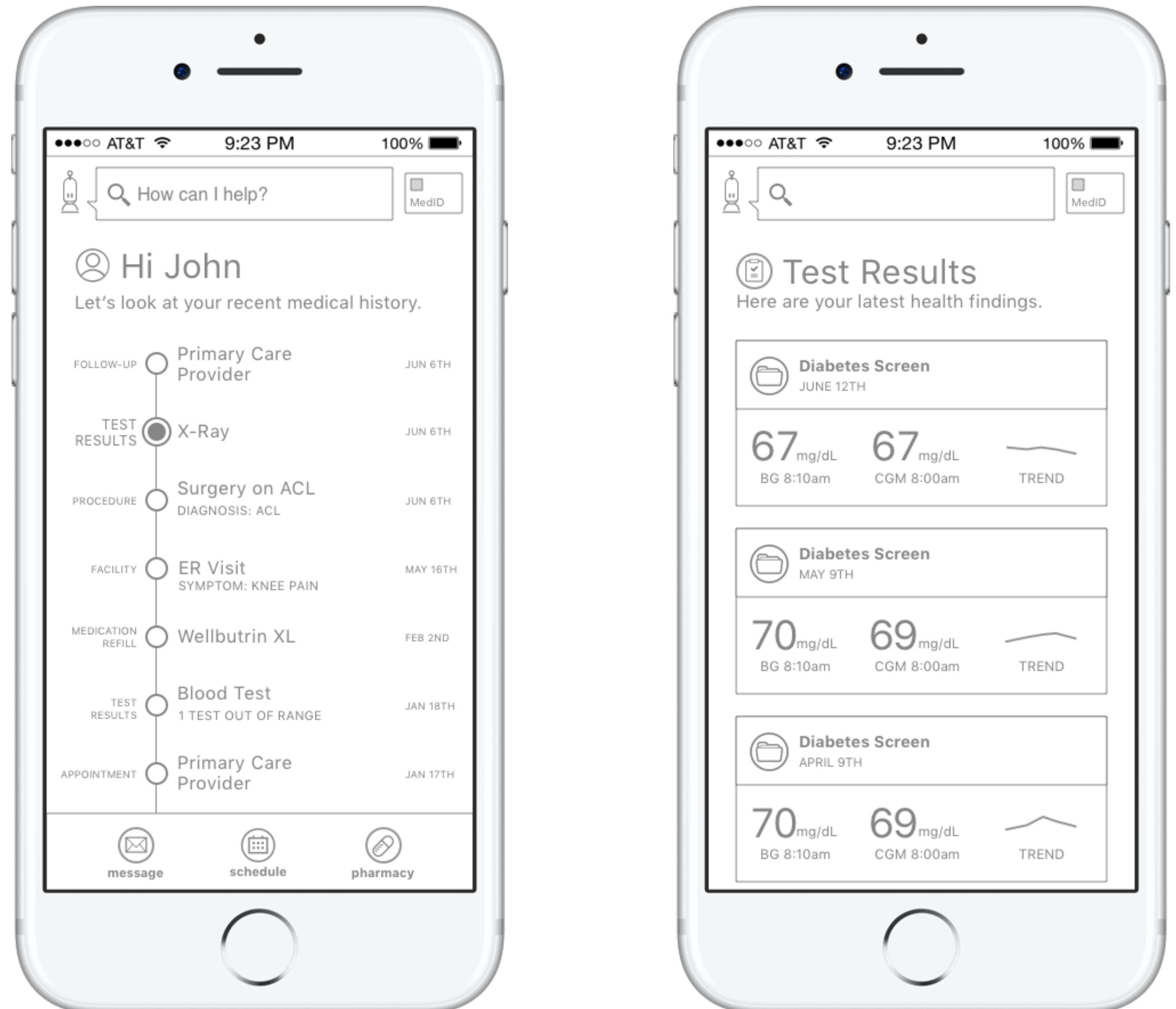
## **Possible Partners:**

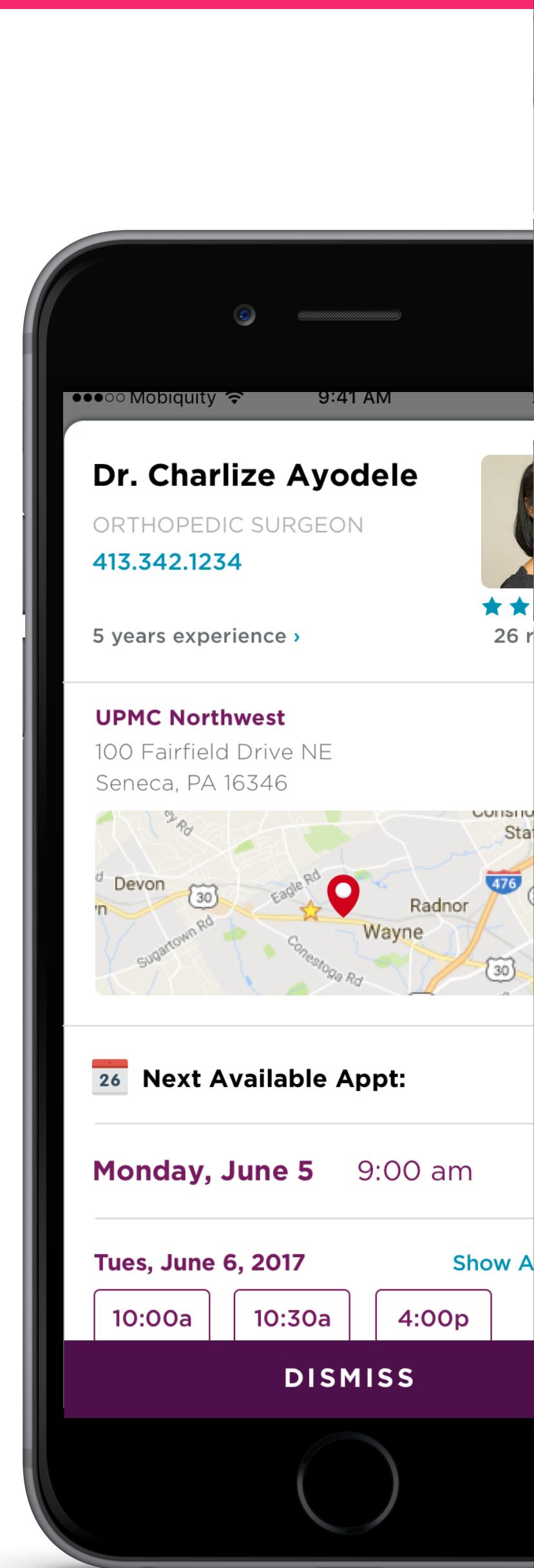
- MyUPMC
- Tie ins to health related products, or other UPMC services may provide advertising opportunity/revenue

# Thought Starters

WAYFINDING

## Information Gaps @ Scale





•••○ Mobiquity 9:41 AM \* 42%

How can I help? ≡

# Good Afternoon

WOULD YOU LIKE TO ACCESS YOUR ACCOUNT?

REFILL SCHEDULE LOCATE

**E ARE 3 FACILITIES NEARBY**

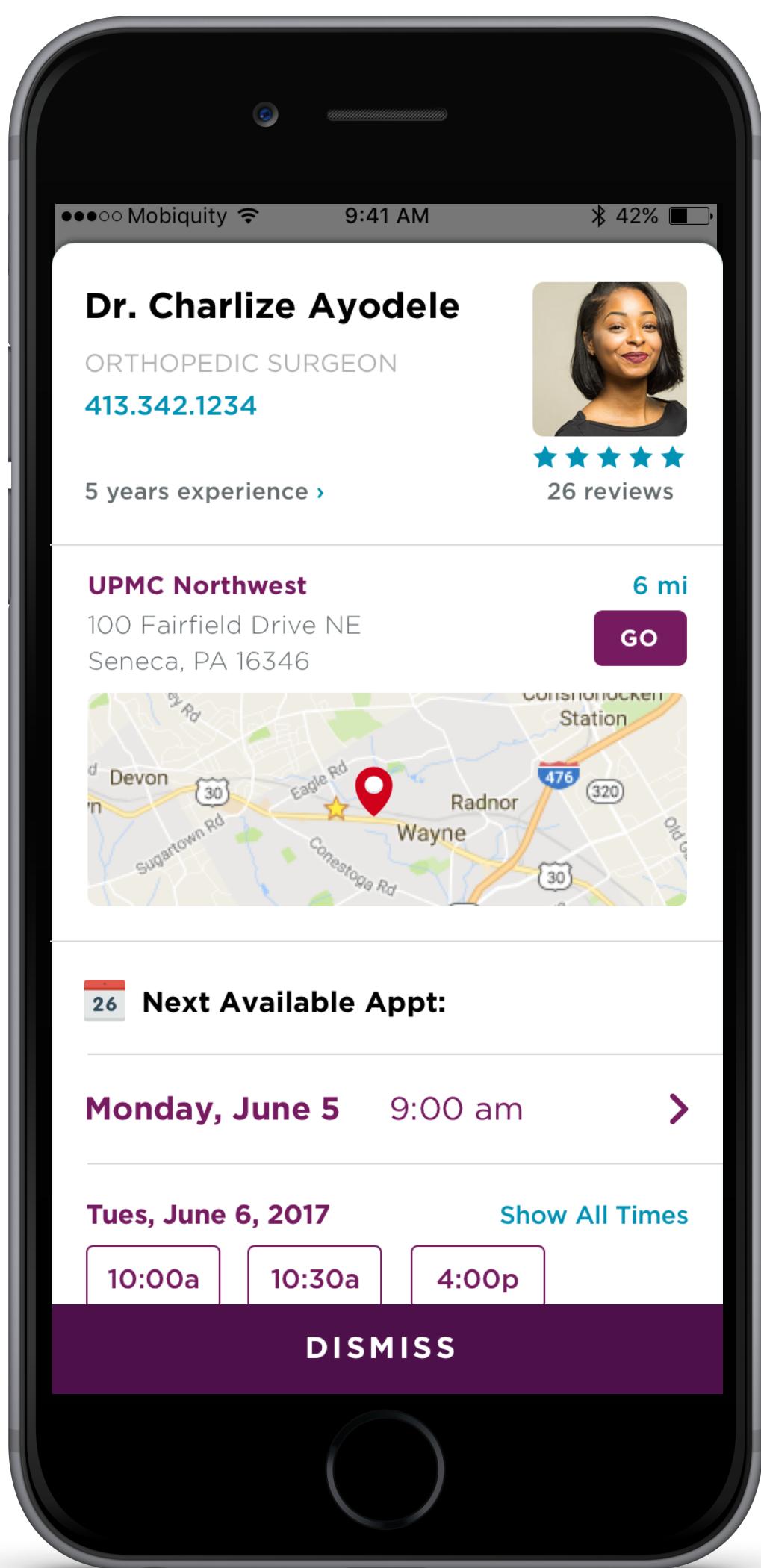
looking for a hospital nearby or  
ng an appointment? hide

**Follow-up Appt**  
Tomorrow, 2:00 pm X

**Time to get ready!**

PRE-REGISTER PAY COPAY PLAN TRIP

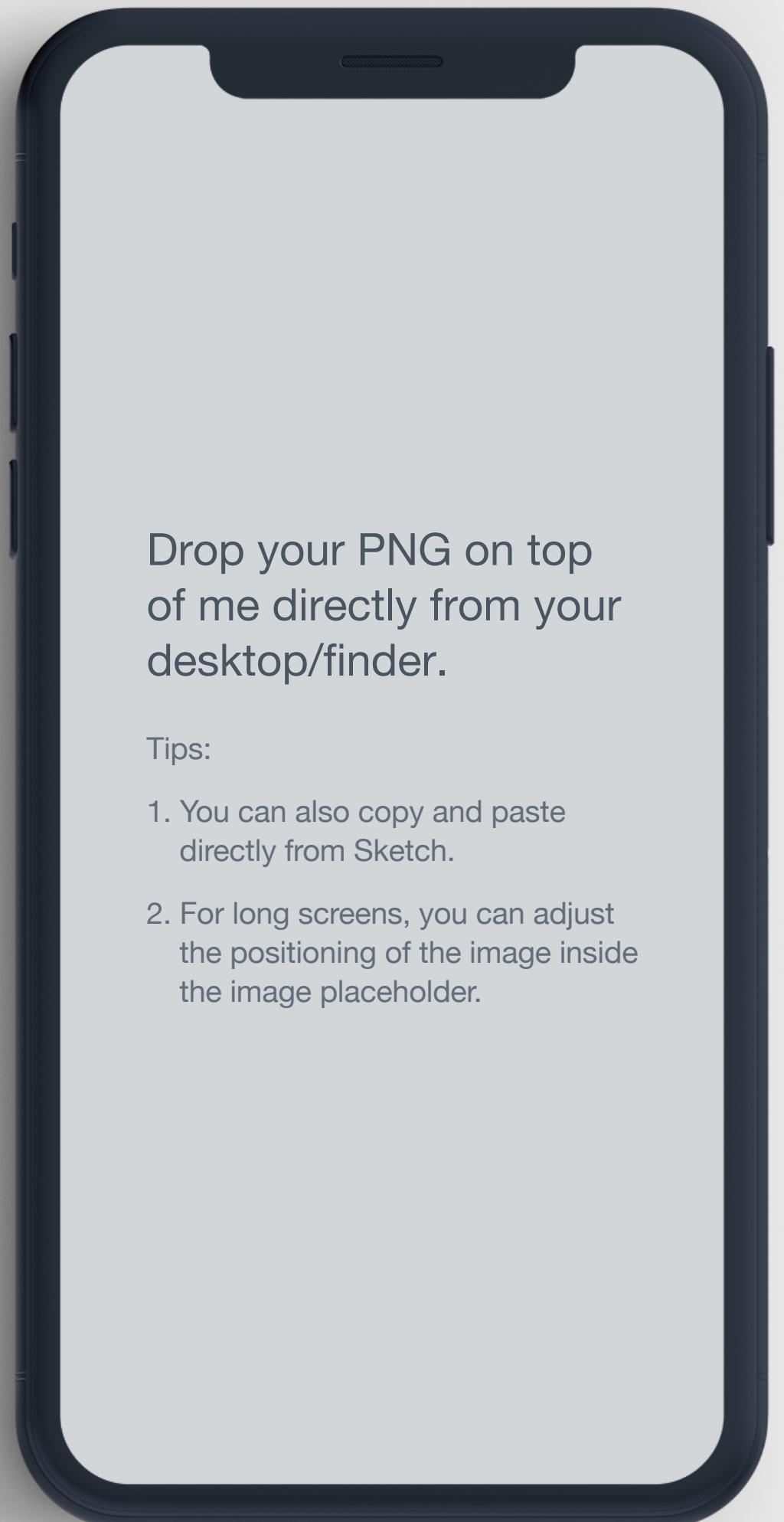
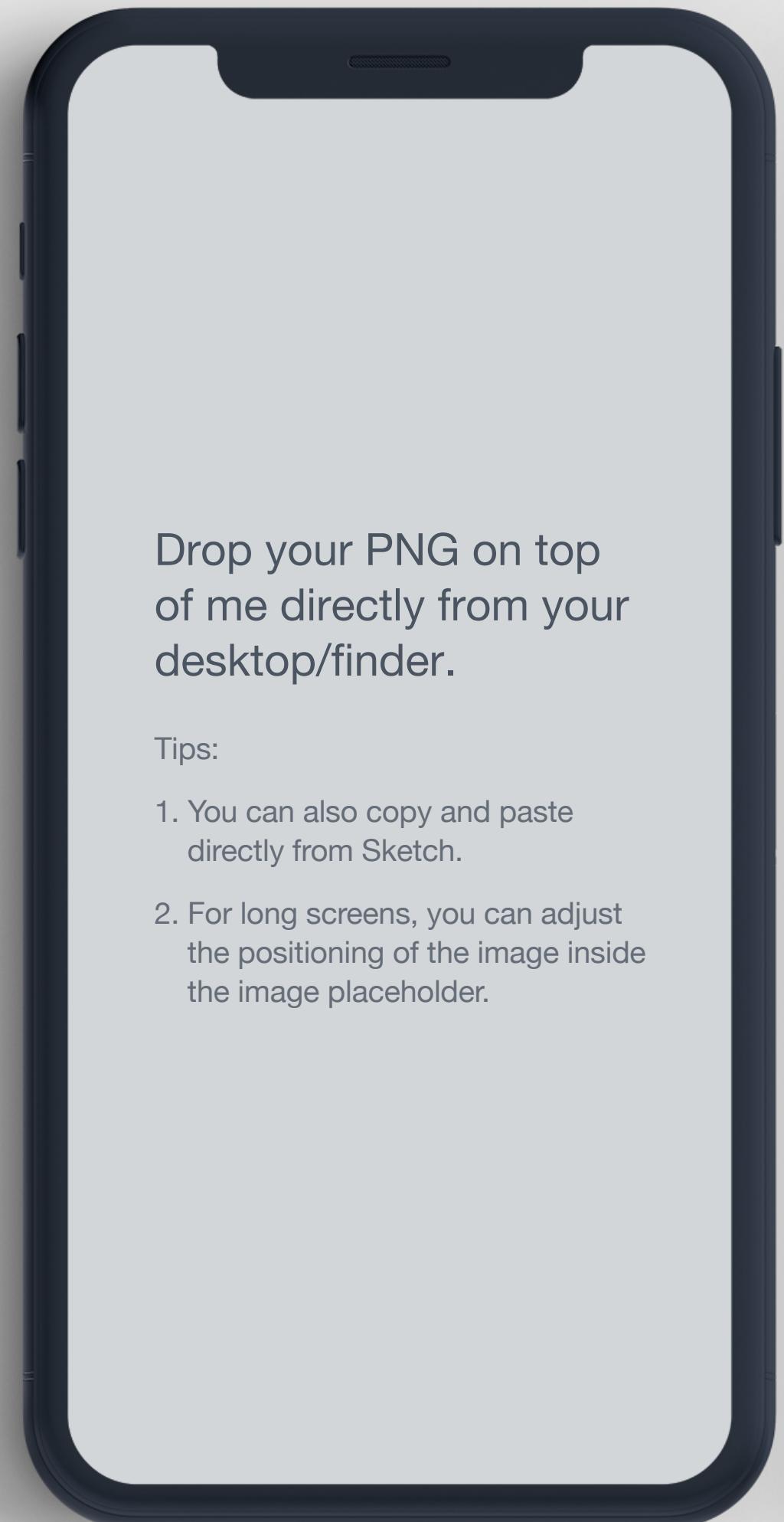
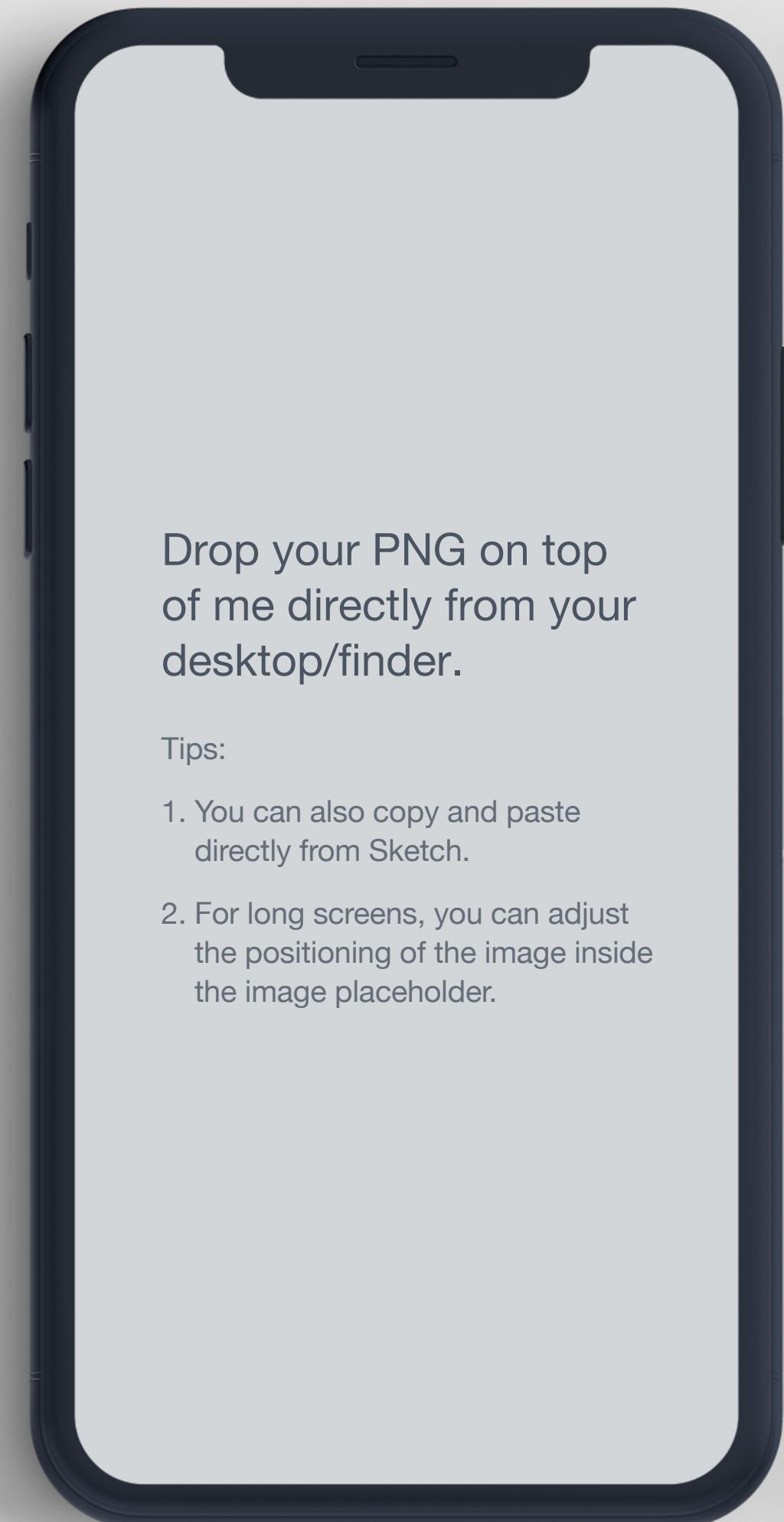
DISMISS



**(DESIGN BATCH/SPRINT NAME).**

## Screen Name

Short description of any key information you need to convey. Keep this brief, but think about how this could have value to the viewer.



# Wayfinding & Self-Guided Navigation



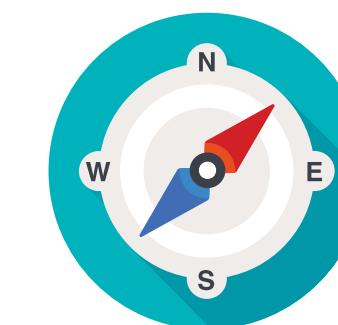
## Confusion

EASING  
HOSPITAL  
FRICTION



## Directions

Large campuses  
create additional  
hurdles for wayfinding.



## Navigation

Relieves hospital staff  
of the burden  
of assisting patients.



## Destinations

Easing user transitions  
improves satisfaction, and  
limits hospital overhead

EASING  
USER  
TRANSITIONS

Large spaces can be  
overwhelming. Especially  
to sick, scared or  
confused patients.

Directions, from the  
web or mobile  
device, can help  
ease this confusion.

BluDot navigation allows  
patients to navigate  
in a comfortable,  
familiar manner.

Driving directions, and  
parking garage info assist  
patient from home to office  
and back again.