

CASE STUDY

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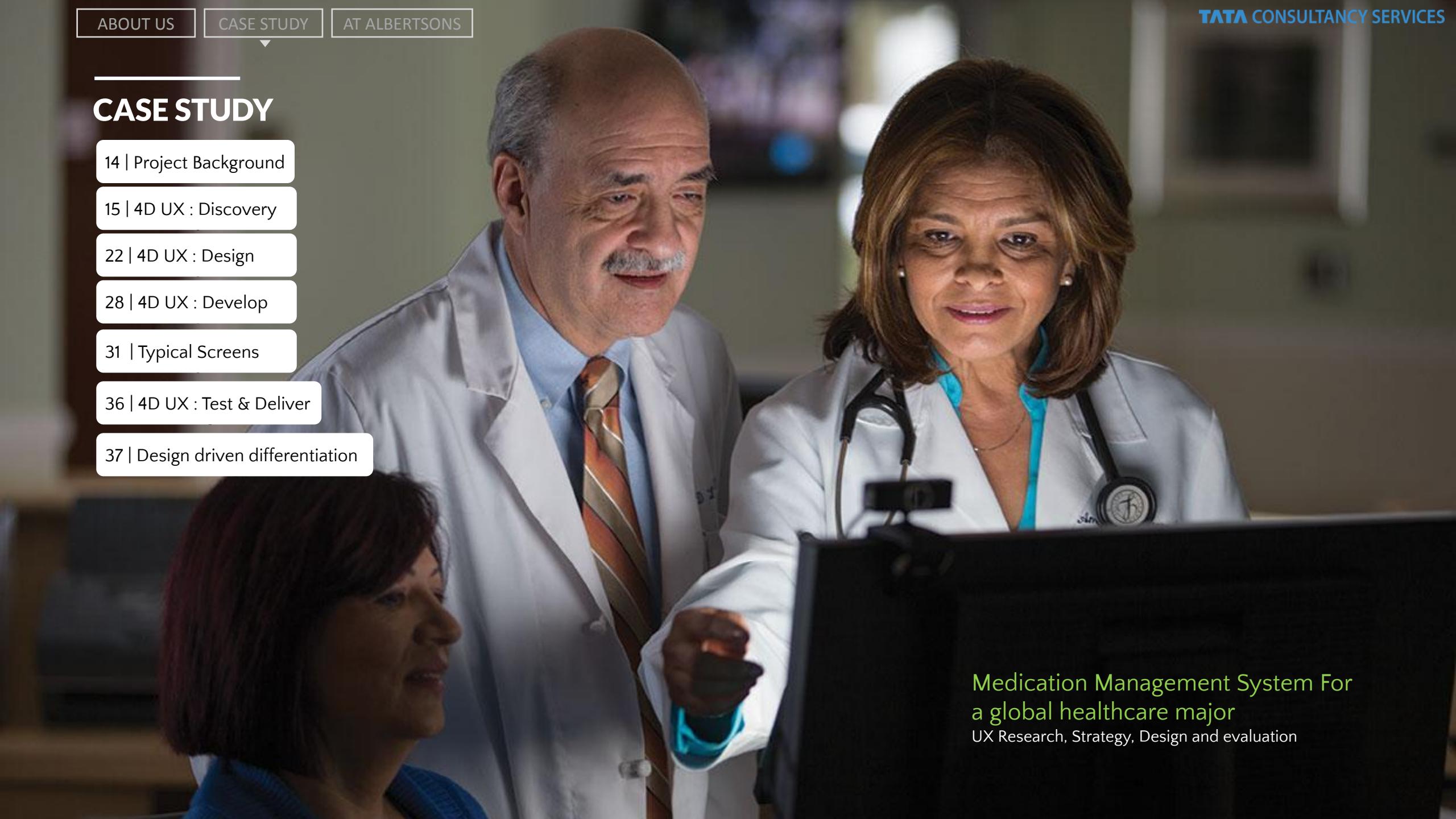
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Medication Management System For
a global healthcare major
UX Research, Strategy, Design and evaluation

PROJECT BACKGROUND

Medication Therapy Management (MTM) is a federally designed program sponsored by a global healthcare major.

MTM helps Medicare members to know more about getting the greatest benefit from their medications, reduce risk by learning how to avoid harmful side effects and help them save money by finding lower-cost alternatives to prescribed medications

The TCS UX team worked from client site in Louisville, KY, two nearshore studios (Santa Clara & Chicago) and one offshore location in Kochi, India. UX director and UX researchers were based on client site.

For certain participatory activities, experts flew in from studios to the user/customer locations.

KEY PAIN POINTS

GENERIC PROBLEMS



The context and functionalities of the then MTM resided under 7 discrete portals and 60+ disconnected intranet locations and legacy interfaces. Each of these different applications needed member authorizations.



Some processes were paper-trail driven; certain tools were xl sheets with formulae. Existing Web portals were very few in number, had critical usability problems and none of them were responsive.



Existing systems had old school non-responsive design and serious problems like low brand recall and bad navigation. All stakeholders wanted fully responsive experience to be more productive.

USER-SPECIFIC PROBLEMS



Physicians faced challenges such as too many logins, repetition of info, incomplete info, duplicate info while using the system during calls with members.



Pharmacists changed between 7 different systems to complete a member review. They spent too much time calculating medication dosage.

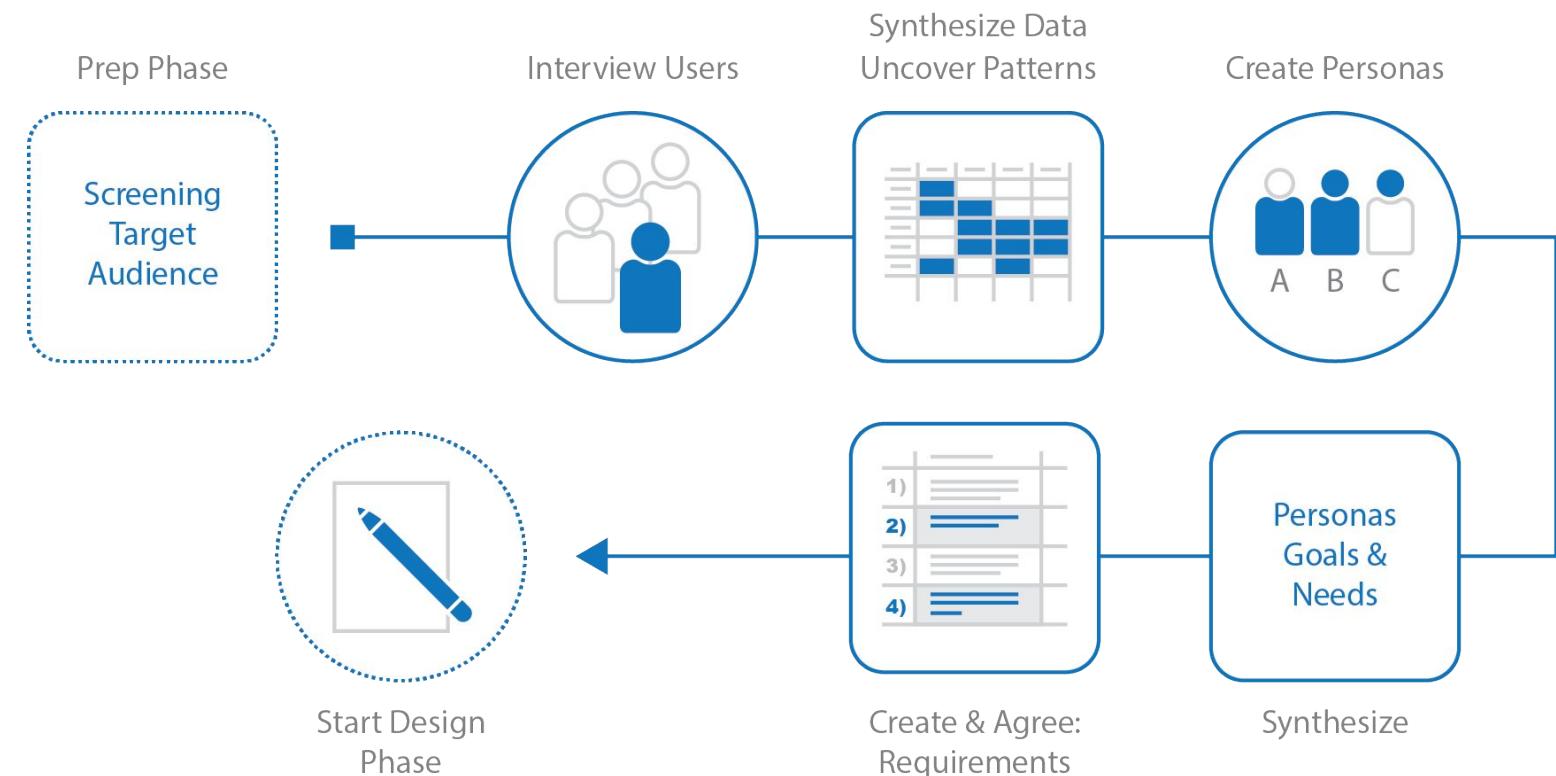


The Nurses and helper technicians at Humana used 60+ multiple disparate applications for different tasks including Daily planning and generating prescriptions.

4D UX: DISCOVERY

Together with Client stakeholders the TCS user researchers and design team will jointly engage with actual users of the product. The target is to learn and uncover unmet needs and goals in workflow/user experience.

Kickoff	<ul style="list-style-type: none"> Align project expectations Share existing product knowledge Create detailed 4D TCS Design Plan Plan check-ins and collaboration approach
Outcome & Deliverables	<ul style="list-style-type: none"> Portal Overview & Understanding Contextual Inquiry <ul style="list-style-type: none"> Client Agents Client Consumers
Research	<ul style="list-style-type: none"> Target personas: Needs and goals of clients and agents Synthesized findings and recommendation document
Joint collaboration	<ul style="list-style-type: none"> Finalization and agreement of product requirements



4D UX: DISCOVERY

HIGH-LEVEL REQUIREMENTS

TIP ENCOUNTER TEMPLATE

Cost-Efficacy

Actonel

Encounter	What we talked about	What I need to do
Cost Efficacy- Actonel® 35mg	Please consider the following alternative: A lower cost alternative for this medication is available. Recommendation is to evaluate if Alendronate is a suitable alternative.	Please discuss this with your doctor. Do not stop or change any medications without consulting with your doctor. OR I have sent this recommendation to your doctor. If you do not hear back from him/her, please discuss this recommendation with your doctor at your next appointment. Do not stop or change any medications without consulting with your doctor.

Aggrenox

Encounter	What we talked about	What I need to do
Cost Efficacy-Aggrenox	Please consider the following alternative: A lower cost alternative for this medication is available. Recommendation is to evaluate if Clopidogrel is a suitable alternative.	Please discuss this with your doctor. Do not stop or change any medications without consulting with your doctor. OR I have sent this recommendation to your doctor. If you do not hear back from him/her, please discuss this recommendation with your doctor at your next appointment. Do not stop or change any medications without consulting with your doctor.

Updated 1-17-14

EXISTING SYSTEMS

Welcome SILVANA!

0 Claims to review & resubmit

162 Unfinished claims

Patient Search

Last Name:

Date of Birth: mm/dd/yyyy

Patient ID:

Search

Contact us at 877-237-0050 (7am–7pm CST Mon–Fri) or info@outcomesMTM.com.

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MICHELLE MAGLOIRE (ID #H557411560)

Start a Claim

Date of Birth: 09/22/1936 (age 78) Phone: 954-450-7976 Plan: HUMANA MTM

Prescriber communication

To Do Basic Info CMR & Action Plan Medication Profile Rx History MTM Claims

Current Conditions - last modified 01/23/2015

Conditions are inferred by the patient's Rx history.

- Anticoagulation
- Anxiety
- Cardiovascular Disease
- COPD
- Diabetes
- Heartburn
- High Blood Pressure
- Thyroid Disorder

Drug Allergies & Side Effects

Allergy or Side Effect Reaction

No known allergies or side effects

Add Drug Allergy/Side Effect: Search by name, ie. Penicillin Add

Edit Conditions

Current Medications - last modified 01/13/2015

Reminder! When performing a CMR, remember to review any TIPs listed on the To do tab!

Medication	Prescriber	Directions for Use SIG Code Guidance	Related Condition	Action Plan	Remove
ALBUTEROL NEB 0.083%	GEORGE CARRE	AS NEEDED	Other Breathing	Add problem	X
AMLODIPINE TAB 10MG	GEORGE CARRE	TAKE 1 TABLET DAILY	High Blood Pressure	Add problem	X
LABETALOL TAB 200MG	GEORGE CARRE	TAKE 2 TABLETS EVERY MORNING	High Blood Pressure	Add problem	X
LEVEMIR INI	GEORGE CARRE	INJECT ONCE DAILY AT NIGHT AS C	Diabetes	Add problem	X

BRAND GUIDELINES

Welcome!

If you have a question about any of our guidelines or have a suggestion for improvement, please send us a note.

Ask question Submit suggestion Frequently asked questions

New & recently updated

- Common terminology
- Humana Identity
- Common usage & formatting
- Writing for digital

Humana - MTM Application Visual Design - Round 1

Styleguide Overview

Fonts

Humana font is clean, open, and easy to read. The lowercase letters of the selected typeface, FS Humana, and supporting font, Arial, ensure readability, reflects the look and feel of our brand personality, and creates clear visual hierarchy of pages.

Headline copy in FS Humana Light

Headline copy type treatment

Font FS Humana

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Web icons

Web and utility icons also help the user navigate the page and enrich their experience in the digital space. Humana's icon set has been converted to an icon font and icons must be implemented using the icon font.

Humana - MTM Application Visual Design - Round 1

Styleguide Overview

Color palette

Color plays a prominent role in website design, used as a differentiator and visual cue for separating content and functionality. Color usage must be applied consistently in order to be effective. Humana brand colors have been specifically chosen to establish a distinctive unique visual style in our communications across all channels.

The Humana color palette is defined by the complementary use of Humana Green—our core color—dark green, Humana Green evokes optimism, vitality, and growth. Secondary colors include Humana Dark Green, Dark Gray and Gray, which provide both warmth and focus. Humana Plum plays a special role as a high-contrast accent color for highlighting the important details that make life rich and meaningful.

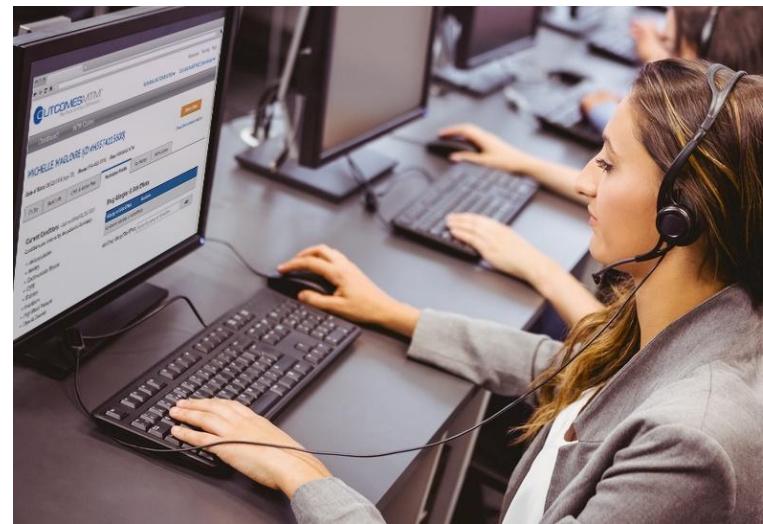
Brand colors

Humana Green (PMS 347C)	White (PMS 118)	Dark Green (PMS 347C)	Dark Gray (PMS 427)	Gray (PMS 427)	Medium Gray (PMS 427)	Light Gray (PMS 427)
Humana Green (PMS 347C)	White (PMS 118)	Dark Green (PMS 347C)	Dark Gray (PMS 427)	Gray (PMS 427)	Medium Gray (PMS 427)	Light Gray (PMS 427)



PERSONA : PHARMACIST

"I enjoy helping members understand their medications and suggesting improvements to help them feel better"



Profile

- Age: 37
- Experience as a Pharmacist: 12 years
- Worked at Humana: 5 years
- Technology savviness: Average

Common Tasks

- Logging how their time is spent during the day (email, meetings, calls, etc.)
- Logging calls with members
- Reviewing medication profiles

Lisa Davis is a Pharmacist in Jacksonville , FL. The majority of Lisa's work is reviewing members' medication profiles. She is very good at performing the review with members, but she believes she could review profiles more efficiently, and complete more in a day, if the systems were more integrated.

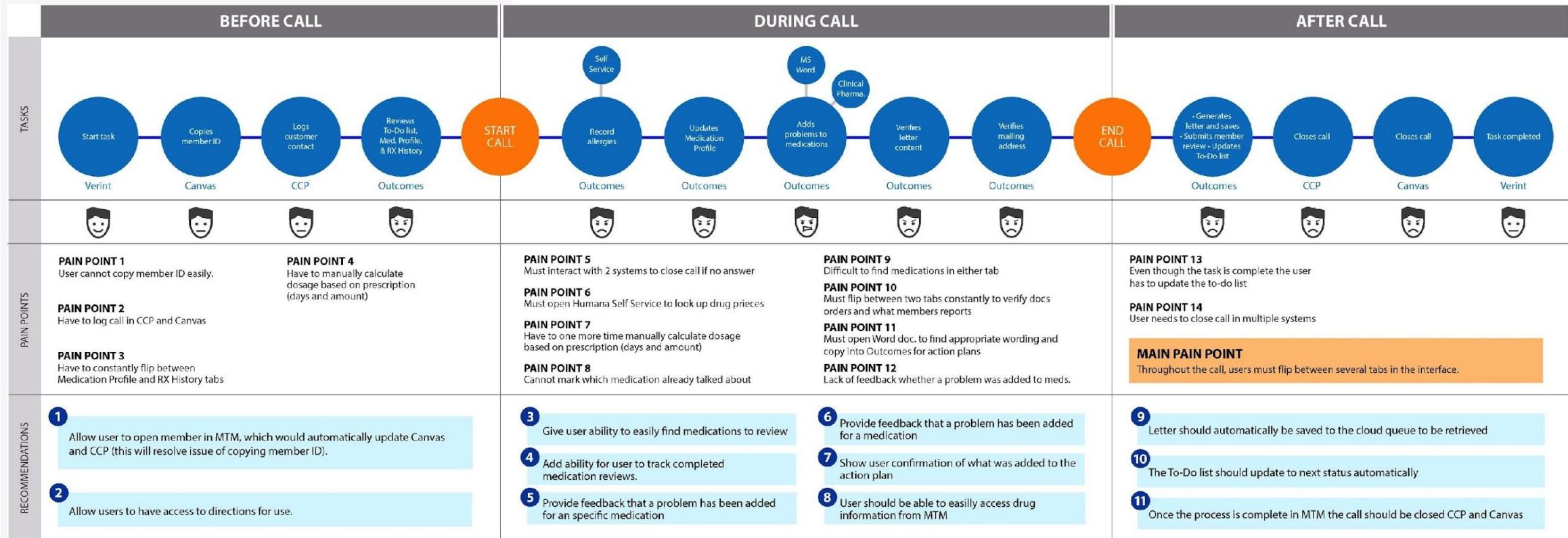
Frustrations & Pain Points

- Having to change between 7 different systems to complete a member review
- Expending too much time calculating medication dosage.

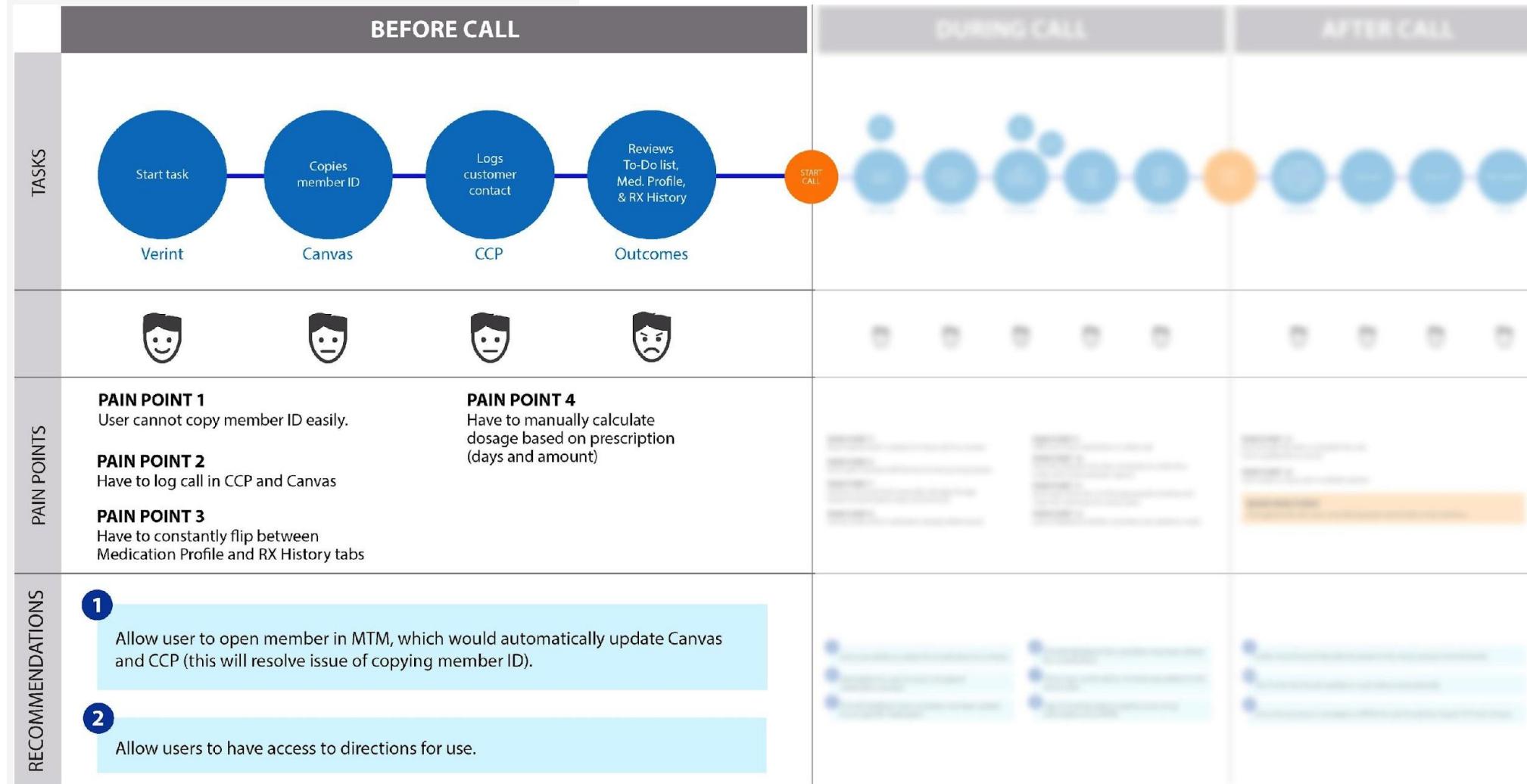
Goals

- Complete a medication review efficiently
- Complete a minimum of 15.5 reviews daily

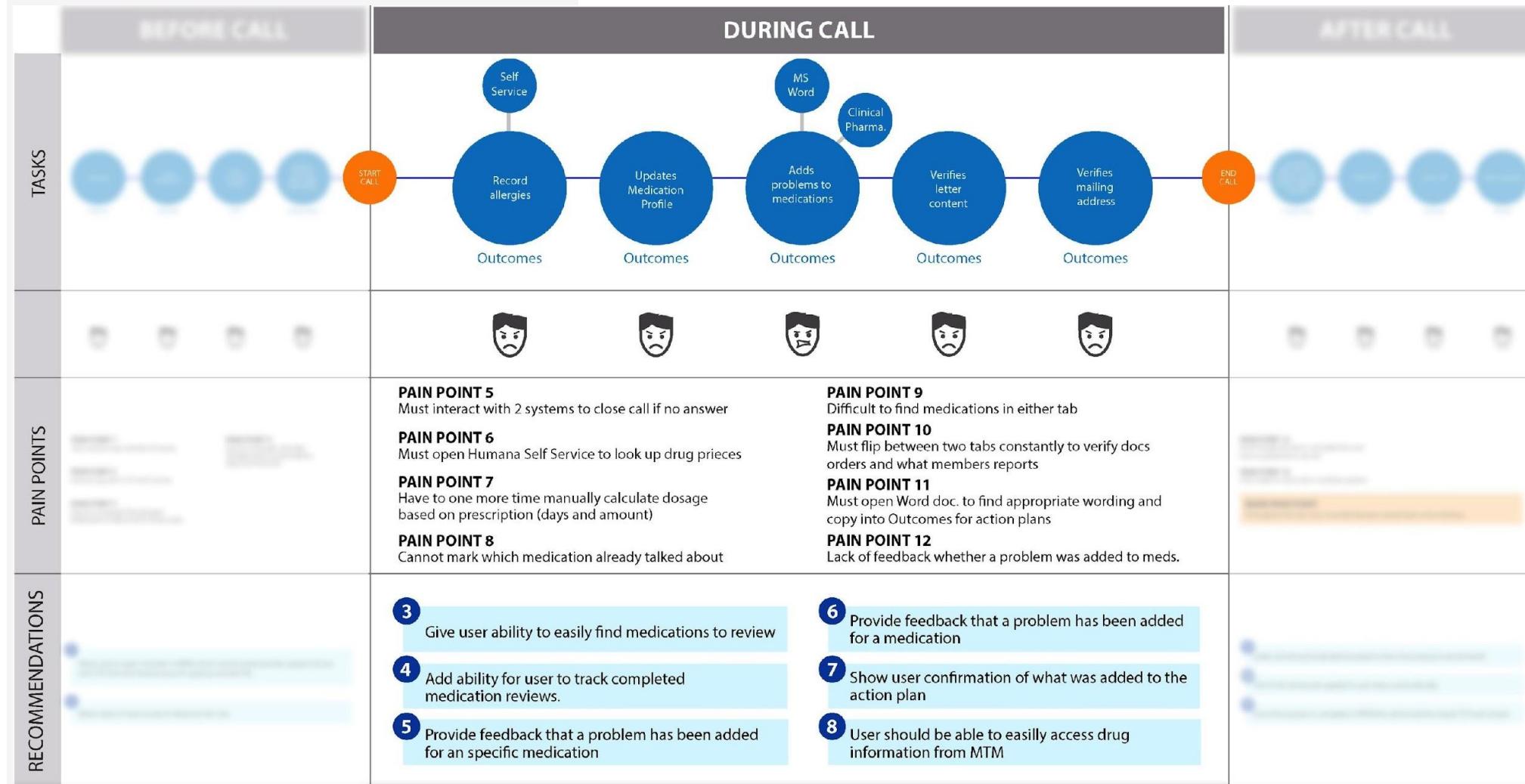
JOURNEY MAP : PHARMACIST



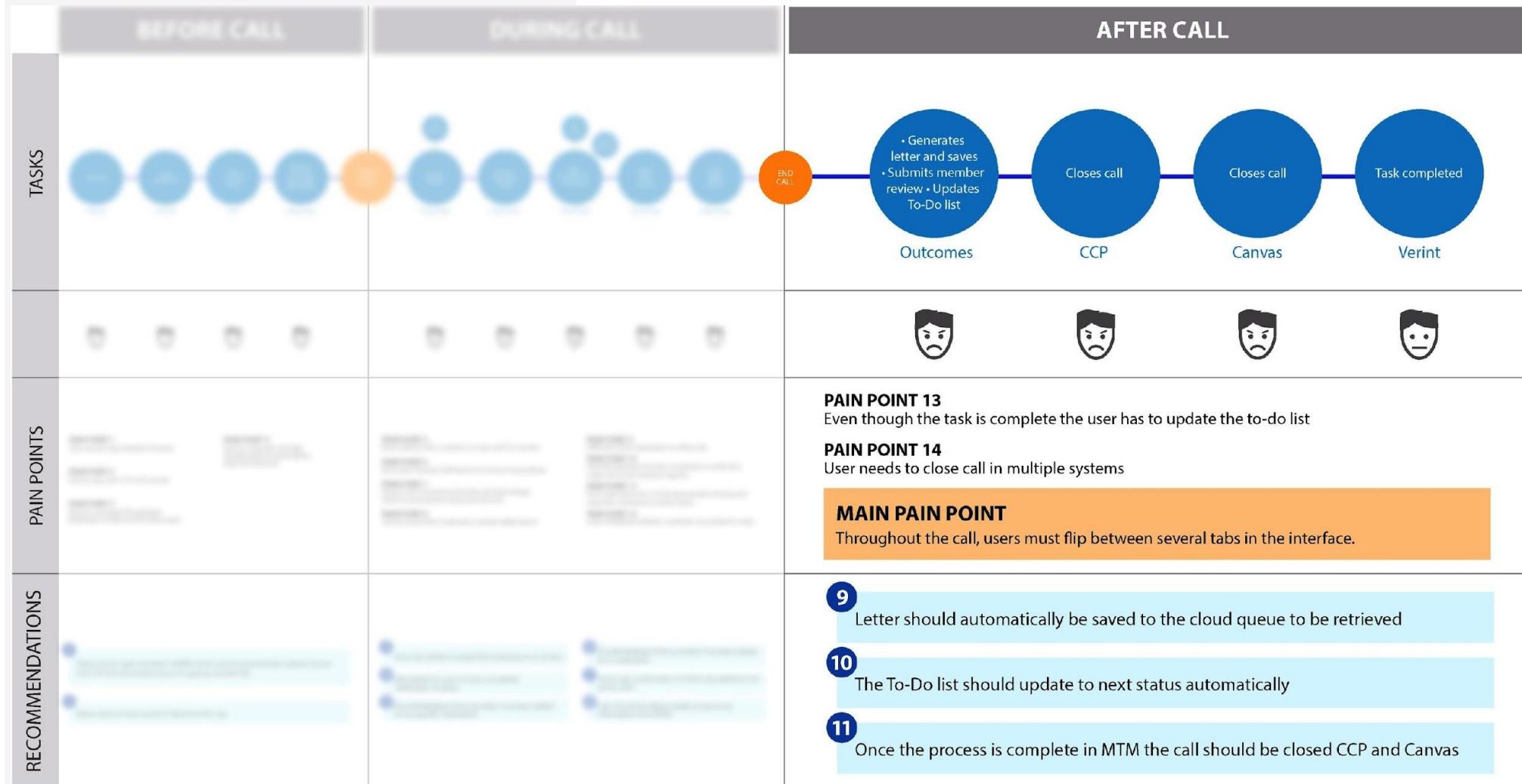
JOURNEY MAP : PHARMACIST



JOURNEY MAP : PHARMACIST



JOURNEY MAP : PHARMACIST

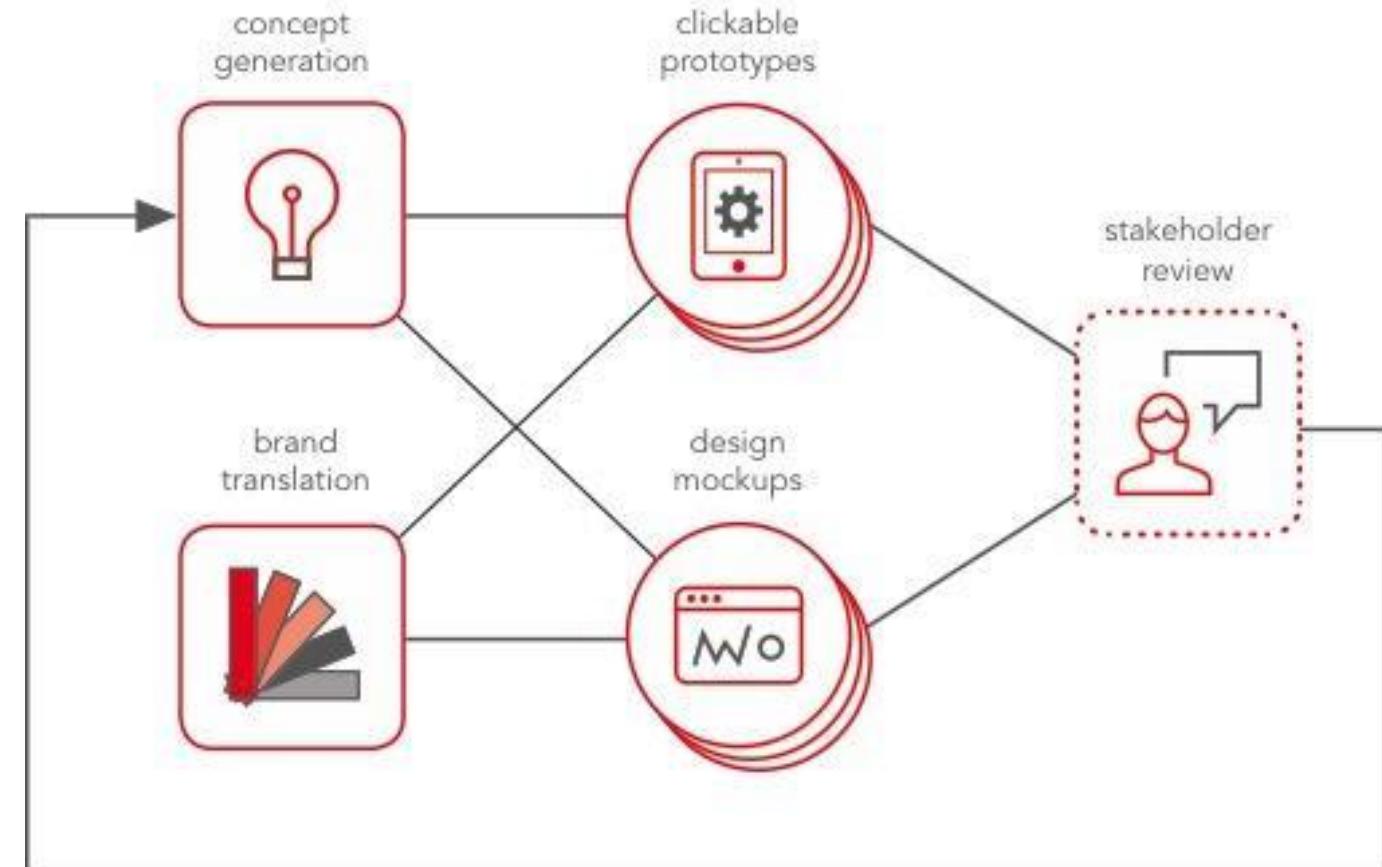


4D UX: DESIGN

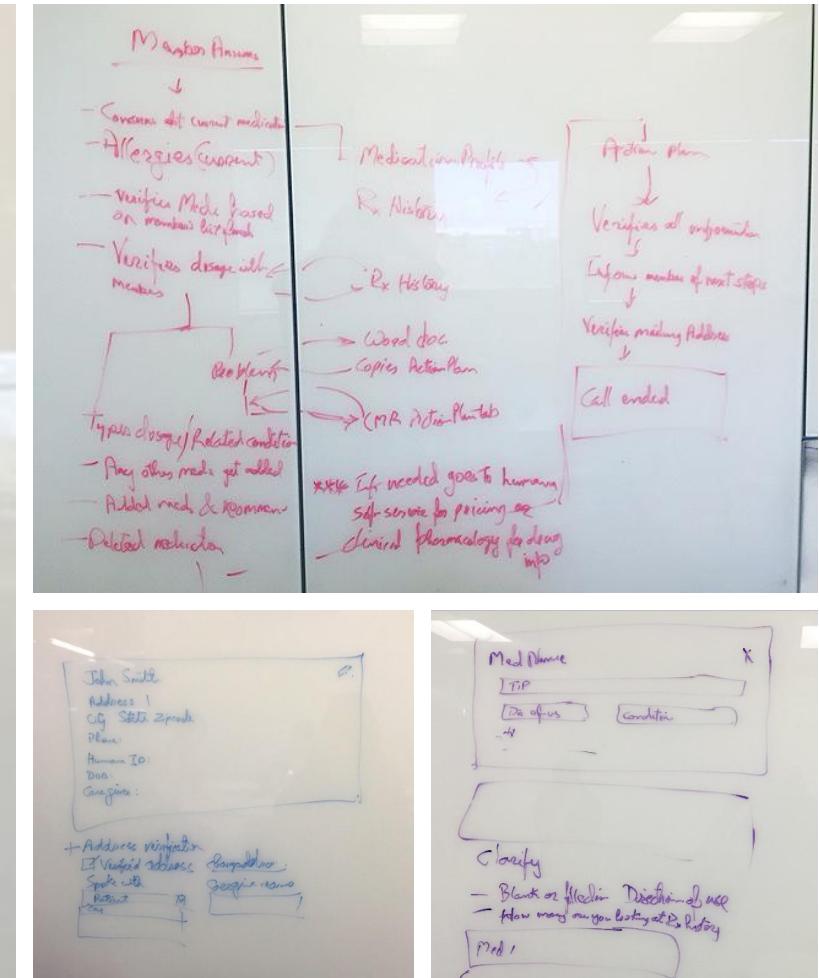
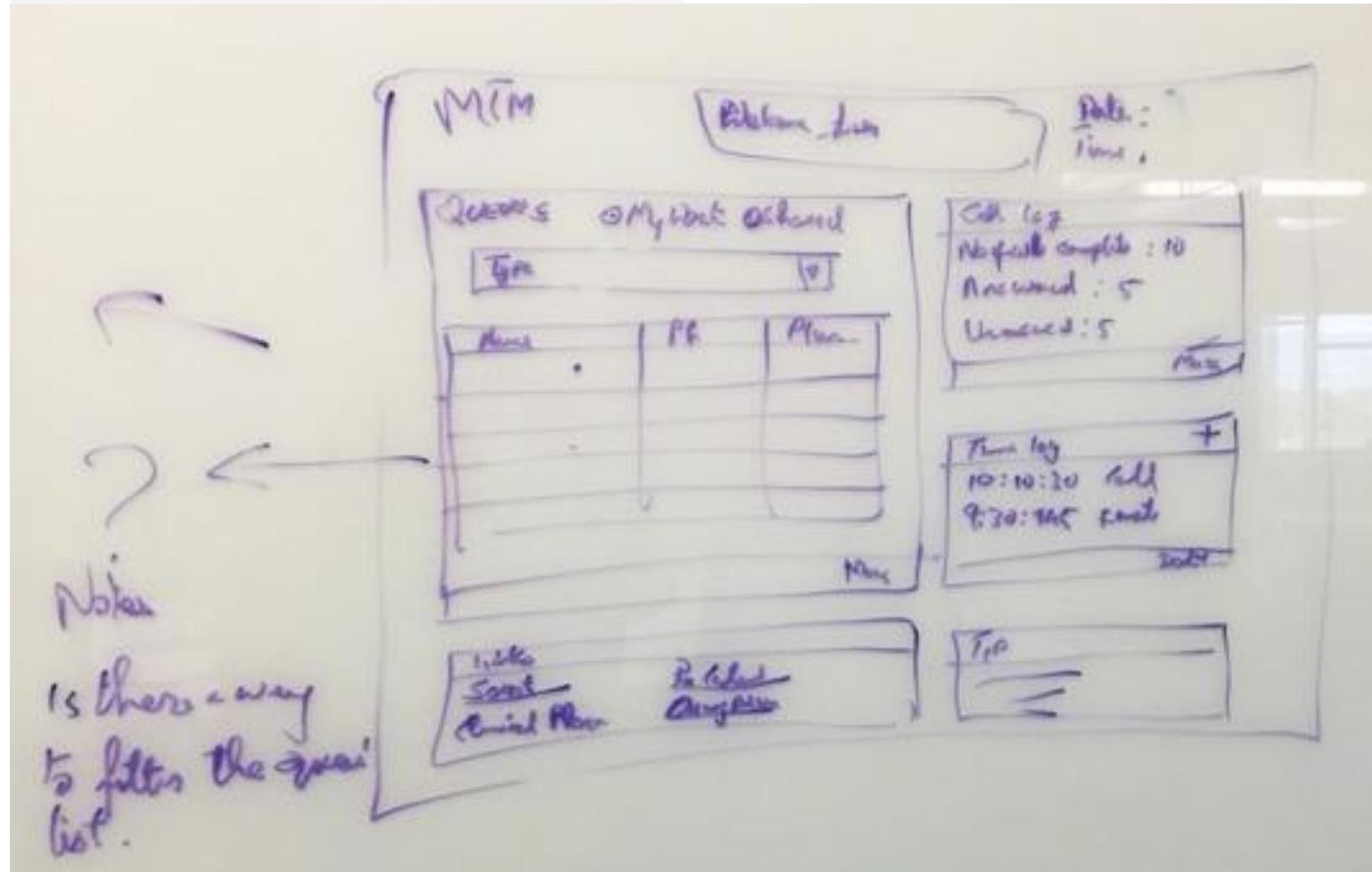
Informed by the research interaction and visual designers will start exploring a large range of viable concept directions. Promising directions will be further developed and tested with quick mockups and prototypes. End goal is to come up with a strong final interface direction and visual design approach.

Design	<ul style="list-style-type: none">User interface: Multiple concepts generationExploration of information architecture and wireframes of key user flowsCreate design flow mockups and quick prototypes to determine best approachesVisual: Brand translation: Design language studies
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Outcome & Deliverables	<ul style="list-style-type: none">User interface design conceptsInformation architectureDetailed flow, shown as wireframes, Demo, prototyping of key signature interactionsDesign strategy for Client visual approach , Visual language studiesVisual design conceptsPresentation materials: Design documents and demo/prototype
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WIREFRAMES: LOW FIDELITY



INFORMATION ARCHITECTURE

Arriving at an overarching navigation menu required a thorough Information architecture design exercise involving 60+ users and stakeholders.

Individuals & Families				Medicare	Insurance Through Your Employer	Sign in or Register
→ Products & Services	→ Understanding Insurance	→ Learning Center	→ Support	→ Products & Services	→ About Medicare Enrollment	→ Learning Center
Health Insurance	HMO vs. PPO	Healthcare For You Guide	New to Humana Payments & Claims	Medicare Advantage Plans	What to Know Before you Enroll	Healthcare For You Guide
Dental Insurance						
Vision Insurance	Health Insurance for Self-Employed	Diet & Nutrition	Your Health Providers	Prescription Drug Plans	When to Enroll	Diet & Nutrition
Pharmacy	Calculate Health Insurance costs	Mental Health	Pharmacy	Medicare Supplement Plans	How to Enroll	Mental Health
Find a Medication ↗		Financial Health	Affordable Care Act		Optional Supplemental Benefits	Financial Health
Life & Supplemental	What is an HMO?	Medical Conditions	Contact Humana		After you Enroll	Medical Conditions
HumanaVitality	Orthodontics & Dental Insurance	Healthy Living	Managing Your Costs	Pharmacy	Helping Someone Enroll	Healthy Living
Humana At Home	Family & Relationships	Family & Relationships	Member Guidelines	Find a Medication ↗	Eligibility	Medicare FAQs
Pay Now ↗	Discount Dental plans	Medications & Prescriptions	Member Resources			Family & Relationships
	Full coverage Dental Insurance	Federal Healthcare Reform	Become a Member	Humana At Home		About Medicare
	Supplemental Dental Insurance	Caregiver	Find a Local Sales Office			Medications Prescriptions
						Provider Finder
						Guidance Centers
						Federal Healthcare Reform
						Find a Local Sales Office
						Caregiver

Individuals & Families				Medicare	Insurance Through Your Employer	Sign in or Register
→ Products & Services	→ Enrollment Center	→ Learning Center	→ Employee Resources	→ Products & Services	→ Enrollment Center	→ Learning Center
Medical Plans	Enroll Online	Diet & Nutrition	Benefits of Membership	Medical Plans	Enrollment Guide	Member Guidelines
Dental Plans						
Vision Plans	Life Changing Events	Financial Health	Tools & Resources			
Pharmacy	Pre-Enrollment	Medical Conditions	Videos	Find a Medication ↗	Disclosures	FAQs
Find a Medication ↗				Healthy Living		About Humana
Life Insurance	Family & Relationships	Insurance	Provider Finder			
Spending Accounts	Medications & Prescriptions					
Disability Coverage						
Group Medicare	Federal Healthcare Reform					
HumanaVitality	Caregiver					

WIREFRAMES: HIGH FIDELITY

Home Profile History Communications Lisa Lambert Humana

Smith, James

Address Type: Primary Home Address Services Eligible 1

DOB: 07/22/1954 MTM Term Date: 07/10/2017

123, Happy Way Male, 60 Yrs CMR Eligible: Yes

Louisville KY 40201 Humana ID:H12345 Vendor: Vendor Name

Ph:502-555-3333 Conducted Consult with*

Address Verified

< Member Search Delete Medications Add Medication

ALBUTEROL NEB 0.083%

Prescriber* Details Directions for use* SIG codes Related condition* Add

Kevin Rich

Rx History Viewing last refill

Date	Quantity	Days Supply	Prescriber Name	Pharmacy Name
01/06/2015	60	30	Kevin Rich	Pharmacy Name

[View More](#)

AMLODIPINE TAB 10MG

Prescriber* Details Directions for use* SIG codes Related condition* Add

Kevin Rich

Rx History Viewing last refill

Medication Reviewed

Cost Savings Add Problem

Medication Profile Screen

Home Profile History Communications Lisa Lambert Humana

Add a Problem

Medication Name: Medication 1

Problem Reason*: Administration Problem Type*: Bleeding - Signs and Symptoms

Action Code*:

Add to prescriber communication

Problem Description*: English | Spanish

Recommendation

It is important to monitor for signs and symptoms of bleeding while taking a medication that decreases the risk for blood clot formation. It is also important to monitor for signs of a blood clot.

Member action

Contact your doctor if you experience: blood in your urine or stool (may look like tar- black & sticky), unusual or unexplained bruising (bruises larger than a quarter or half-dollar, bruises that are not healing or may look like there is blood pooling under the surface of your skin); Call 911 if you experience: chest pain, shortness of breath, difficulty breathing, numbness or weakness on one side of your body, or a severe headache.

Result Code:

Save Cancel

Rx History Viewing last refill

Medication Reviewed

Add Problem Screen

VISUAL DESIGN: BASELINE

Member Information

Smith, James

Address Type: Secondary Home Address
123, Happy Way Apt. 456 Louisville KY 40201

Ph: 502-333-2222 Humana ID: H12345 Male, 60 Years DOB: 07/22/1954

Allergies & Reactions

- Allergy 1 Reaction 1
- Allergy 2 Reaction 2
- Allergy 3 Reaction 3
- Allergy 4 Reaction 4

Address Verified Conducted consult with Name Patient Representative Mark Smith Verified View more

Add Medication

MEDICATION 1 - TABLETS, XXXmg

* Prescriber Mary, Reece Details * Directions for use Directions SIG codes * Related condition Select condition Add

Rx History - Viewing last refill

Date	Quantity	Days Supply	Prescriber Name	Pharmacy Name
01/06/2015	60	30	Kevin Rich	Pharmacy Name

View more Review

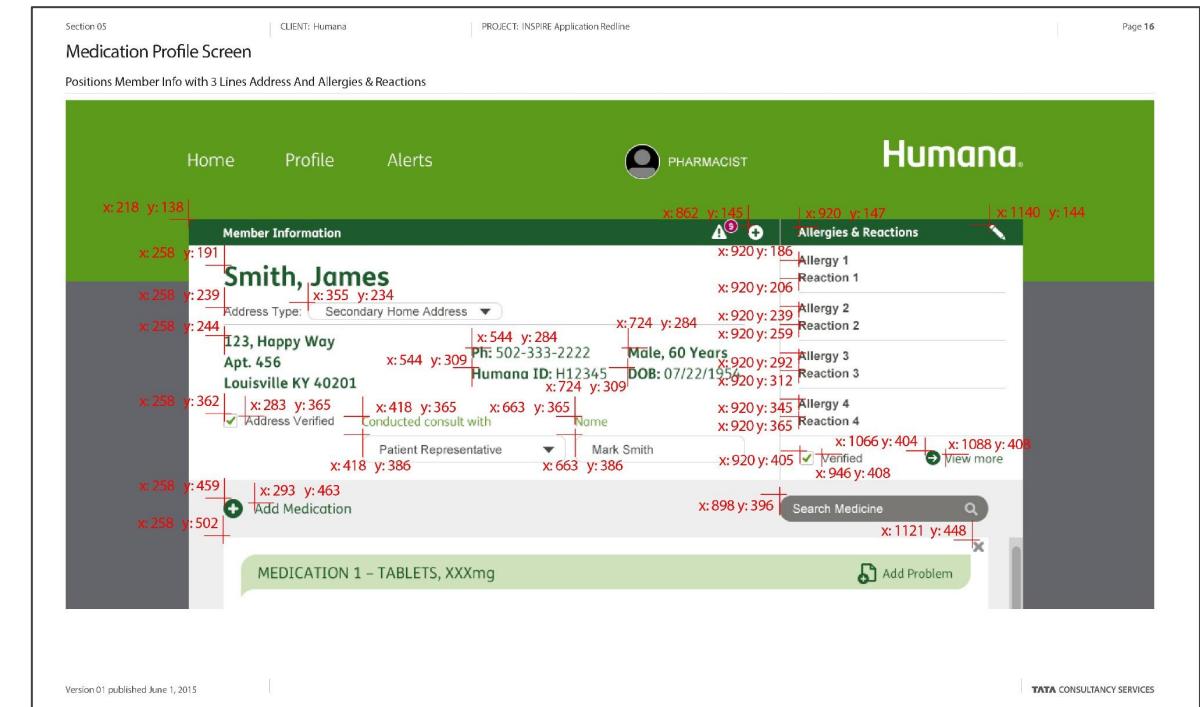
MEDICATION 2 - TABLETS, XXXmg

* Prescriber Mary, Reece Details * Directions for use Directions SIG codes * Related condition Select condition Add

Rx History - Viewing last refill

Date	Quantity
01/06/2015	60

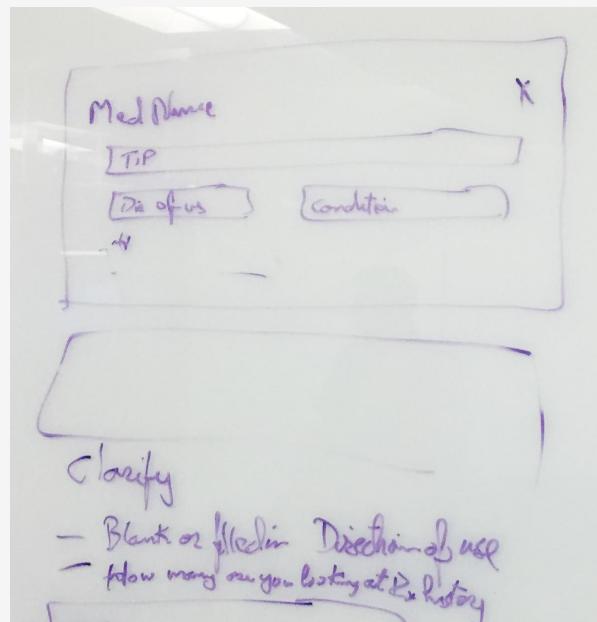
View more Review



4D UX: 3 STAGES OF DESIGN

In 3+ months, 7 discrete portals and 60+ disconnected intranet locations and legacy interfaces were unified under one digital platform. There was consistent customer experiences for responsive platforms.

5200+ pages were redesigned in a new responsive framework. We focused on clarity and simplicity, Flat design approach and Humana's brand guidelines closely.



Date	Quantity	Days Supply	Prescriber Name	Pharmacy Name
01/06/2015	60	30	Kevin Rich	Pharmacy Name

Date	Quantity	Days Supply	Prescriber Name	Pharmacy Name
01/06/2015	60	30	Kevin Rich	Pharmacy Name

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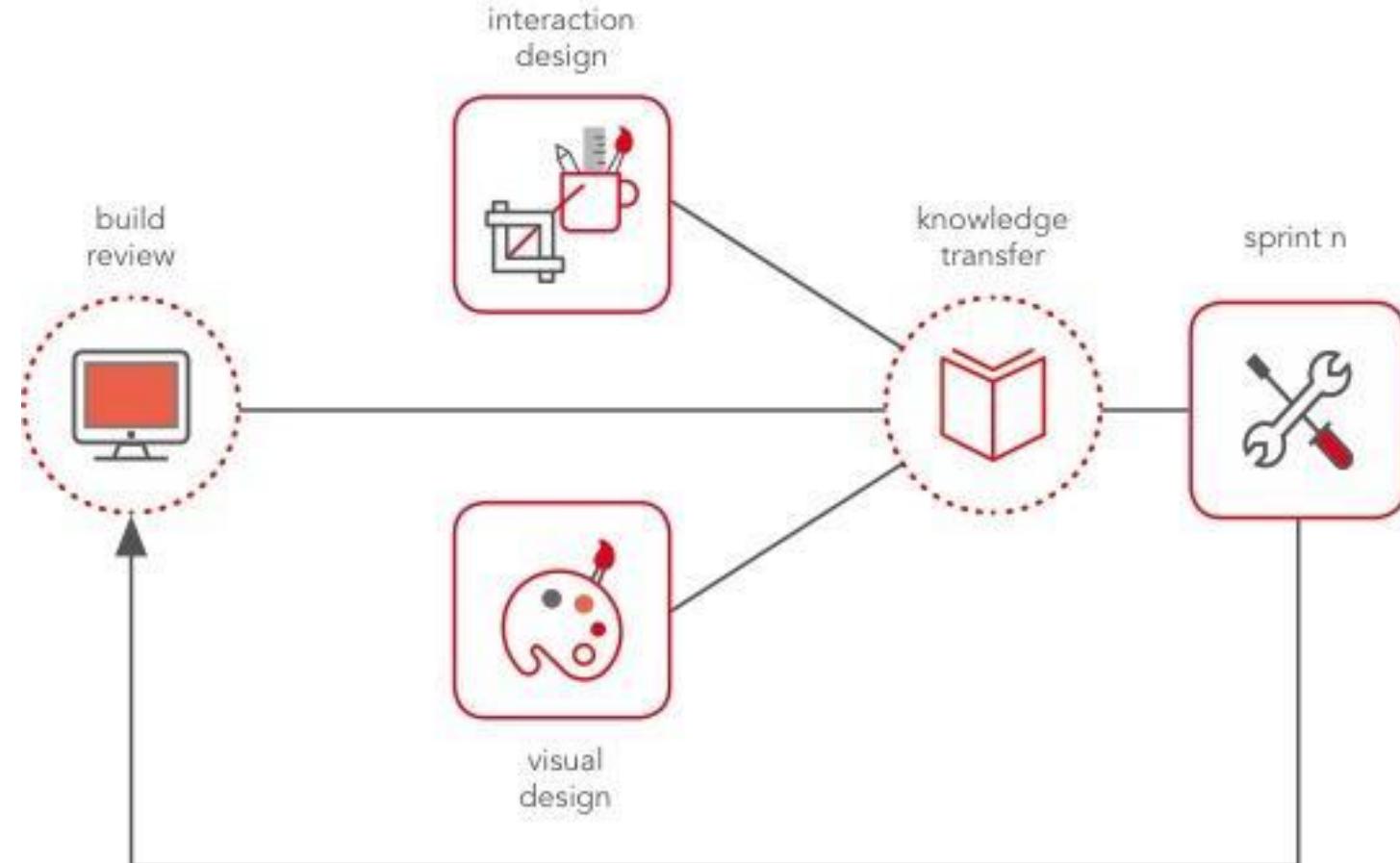
Date	Quantity	Days Supply	Prescriber Name	Pharmacy Name
01/06/2015	60	30	Kevin Rich	Pharmacy Name

4D UX: DEVELOP

In this phase the teams will further develop the chosen concept direction now focusing on testing with actual users with higher fidelity prototypes to adjust and polish the direction.

After user validation the teams will work closely with development teams on design specifications to best translate design intent into a working product.

Usability Research	<ul style="list-style-type: none">Evaluate design concepts with users (Usability testing)
Design	<ul style="list-style-type: none">Finalize WireframesFinalize Visual Assets
Outcome & Deliverables	<ul style="list-style-type: none">User interface design definitionVisual design style guides and assets



INTERACTION PATTERNS

Humana - MTM Application
Visual Design - Round 1

MTM Visual Design Principles

Simple and clean
Clear visual elements, use of contrast and white space, avoiding distractions, improving readability and understanding.

Easy
Reduce the user's cognitive workload whenever possible. Be consistent and establish a strong visual hierarchy.

Discoverability
Users should be able to discover how to accomplish their tasks. Be able to find and engage with the solution.

6

Humana - MTM Application
Visual Design - Round 1

MTM Visual Design Principles

Learnability
Users should be able to easily learn a product's interaction model and predict how to move from one part of the product to another. On repeat visits, they should be able to remember how to engage with the product to accomplish their goals.

Efficiency
Once pharmacists have become repeat users, they should be able to accomplish repetitive tasks quickly and easily.

Delightful
The product must delight users. If we can instill an emotional connection to a product in users, they will champion our product and share its virtues.

7

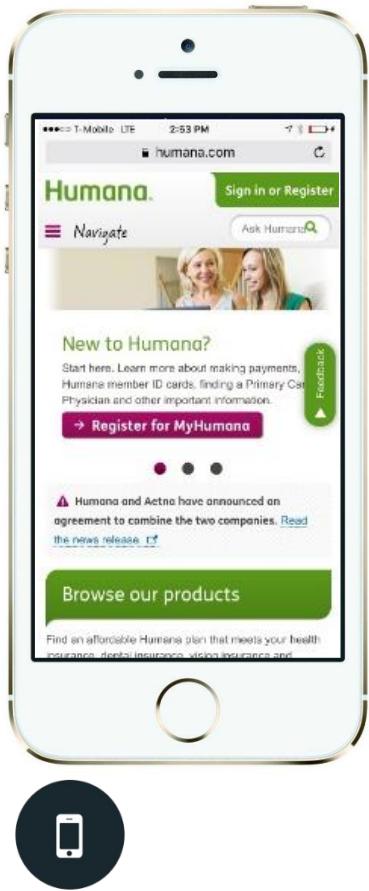
The image shows the Humana website interface. At the top, there is a navigation bar with links for "Individuals & Families", "Employers", "Agents & Brokers", and "Providers". Below the navigation bar, there are links for "Investor Relations", "Customer Support", "Español", and a search bar. A prominent green button on the right says "Sign in or Register >". The main content area features a green header with "Home", "Profile", "Alerts", "Communications", and a user profile picture labeled "PHARMACIST". Below this, a "Member Information" section displays the name "Smith, James", gender "Male", date of birth "60 Yrs, 07/22/1954", Humana ID "12345678901", and phone number "502-555-3333". To the right of this section is a "Allergies" panel with three entries: "Allergy 1", "Allergy 2", and "Allergy 3". The overall design uses a dark green color scheme for the header and sidebar.

INTERACTION PATTERNS

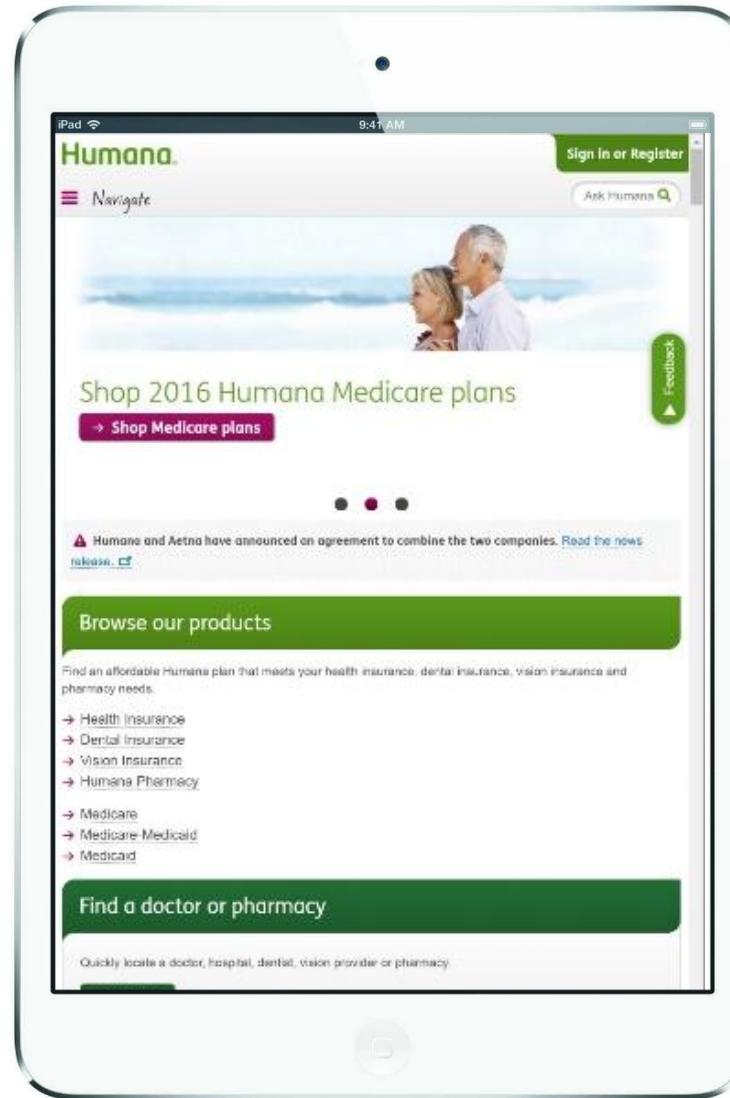


TYPICAL SCREENS

HOME PAGE



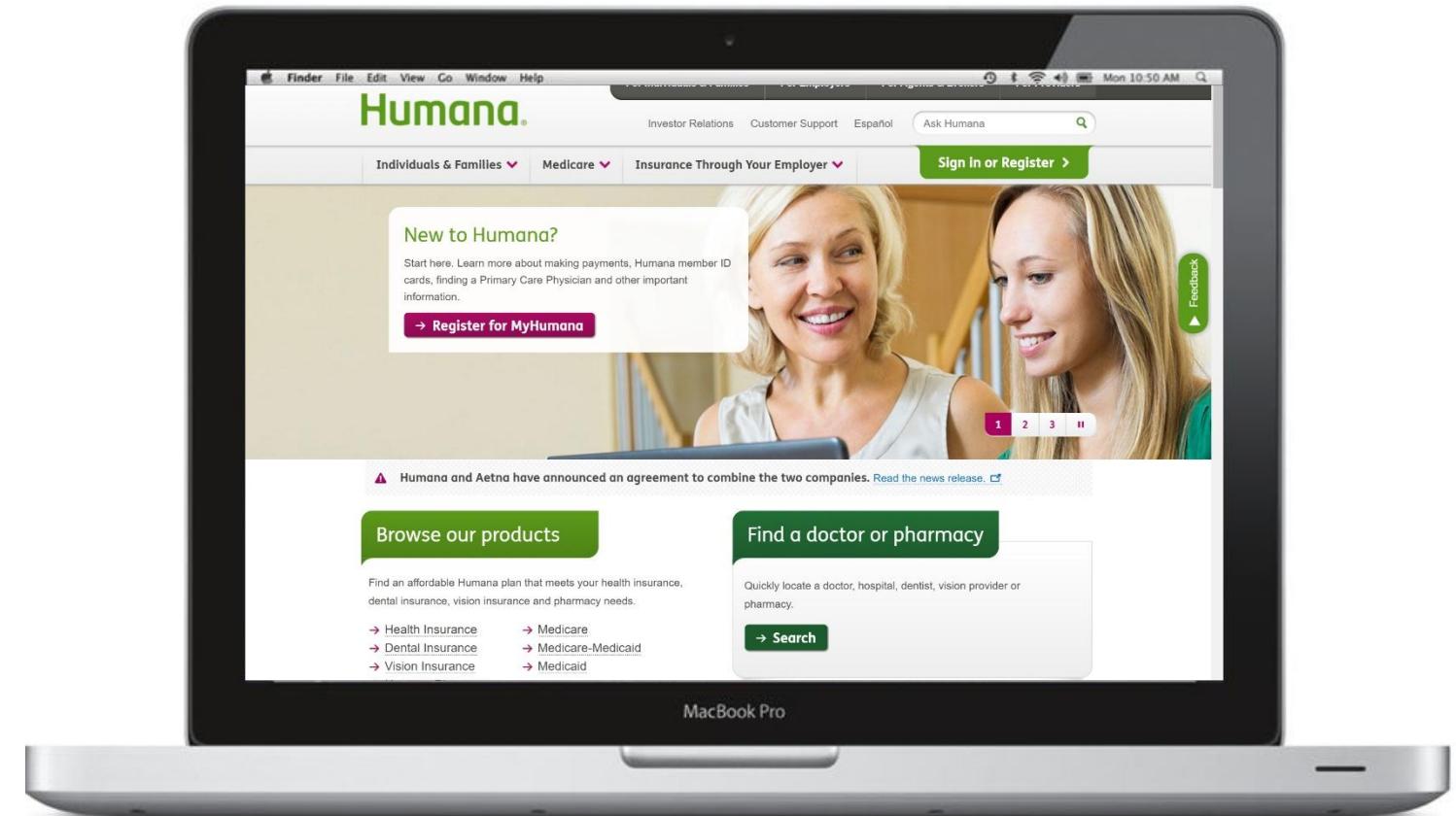
80+% Users consume information such as this in their smartphones in portrait orientation. For smartphone portrait breakpoint, the page is designed in a single column.



50+% Users consume information such as this in their tablets in portrait orientation. For tablet portrait breakpoint, the page is a wider single column.

TYPICAL SCREENS

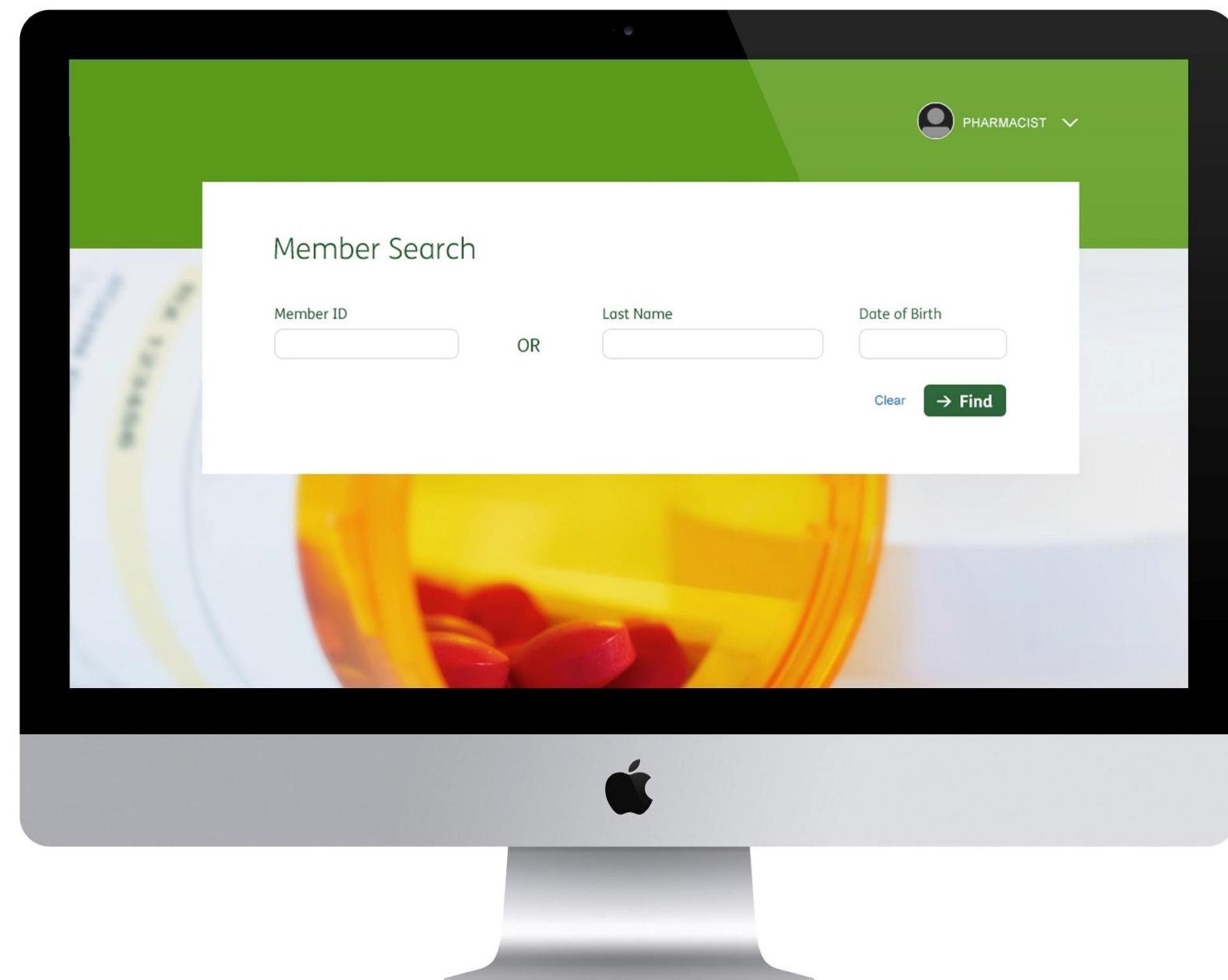
HOME PAGE



95+% Users consume information such as this in their Desktop/laptop. Especially the 40+ age group.

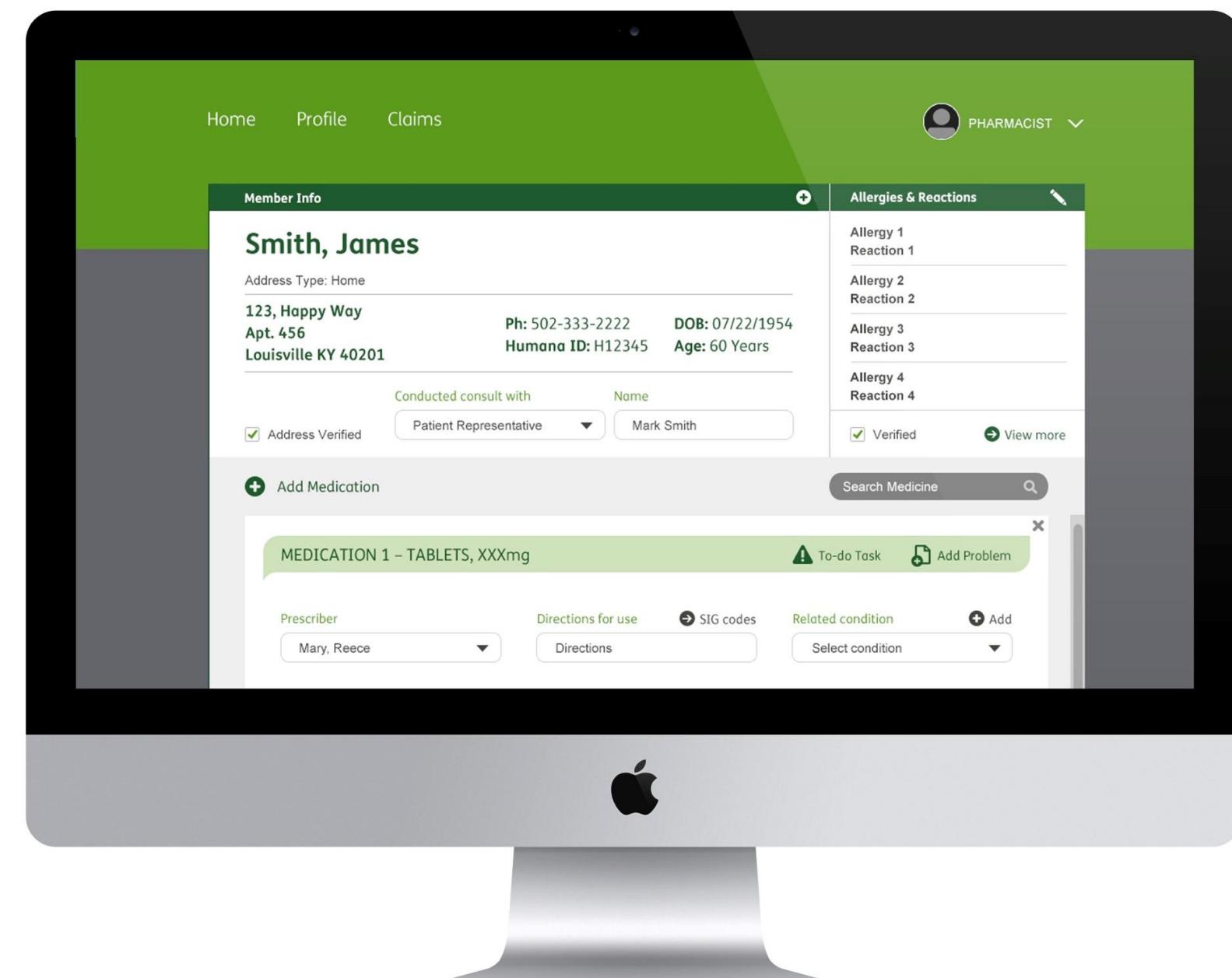
TYPICAL SCREENS

MEMBER SEARCH PAGE

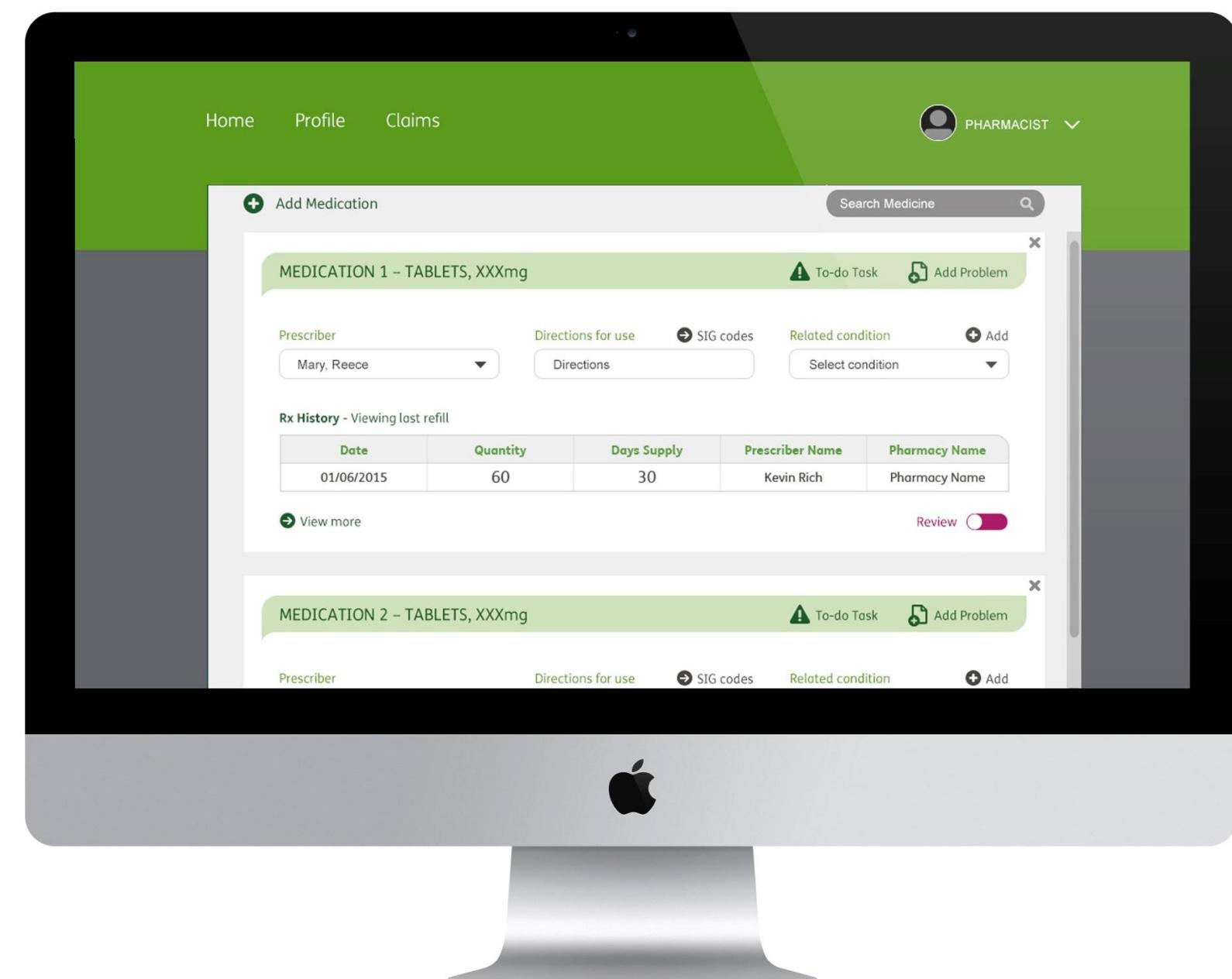


TYPICAL SCREENS

MEMBER PROFILE PAGE



TYPICAL SCREENS MEDICATION DETAILS



4D UX : TEST & DELIVER

After delivering all product specifications and style guides the TCS design teams could further focus on specific product launch marketing strategy or marketing related design efforts. Also, if desired, post launch refinement efforts can be offered to ensure the best possible product is presented to the users.

Launch	<ul style="list-style-type: none"> UI design implementation
Outcome & Deliverables	<ul style="list-style-type: none"> Determined by final requirements
Testing Types	<ul style="list-style-type: none"> Concept Testing A/B Testing Qualitative Research Message Testing Action Sequence Testing Error Testing
Testing Methodology	<ul style="list-style-type: none"> 1-on-1 Depth Interviews Focus Group Discussions Using Projective Techniques Surveys & Opinion Polls Eye Tracking

Usability testing landscape considers 3 sets of variables. Change in any one or combination of those variables can completely change the way we'd strategize and manage the usability testing of the target solution.



Devices:

Personal Computers, Smart phones, Tablet devices, Interactive Kiosks, Point of Purchase terminals

Interfaces:

Informative Websites, Transactional Websites, Enterprise Applications, ecommerce, Business Applications, Intranets, Mobile Applications , Search Engines

Elements:

Textual Content, Audio-Visual Content, Format & Layout, Functionality, Navigation

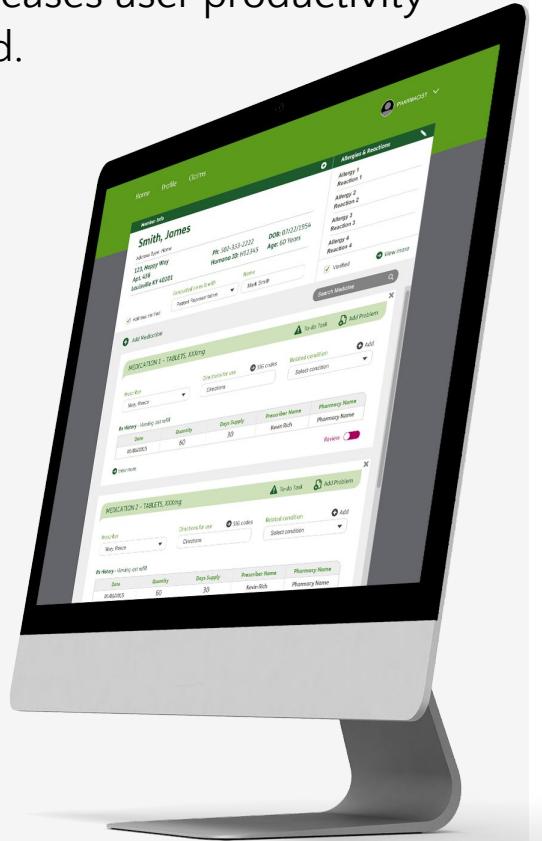
Based on the usability parameter, the following measures and methods are used :

Usability Parameter	Measure	Method
Self-Evidence	Success/Fail Qualitative comments	Pre-test Interview Questionnaire
Task completion ratio	Success/Fail Or Assisted	Observation
Task completion time	Time	Observation
Accuracy of task completion	No. of errors Type of errors Ability to self-recover	Observation
Assistance	Frequency of assistance Nature of assistance needed	Observation
SUS (System Usability Scale) score	SUS Score Qualitative comments	Post-test Like RT Scale



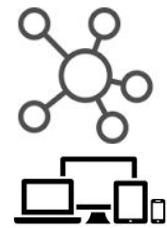
DESIGN DRIVEN DIFFERENTIATION

This transformational journey of Medication Therapy Management (MTM) fosters brand Humana's Wellbeing-focused Experience and increases user productivity manifold.



TRANSFORMATIONAL VALUE ADDITIONS

GENERIC VALUE-ADDS



Redesigned MTM stands for seamless Multi-Channel service with excellent Cross-sell and speed to market abilities. It provides fully responsive experience to be more productive.



Users could use the data seamlessly across all connected systems in one single login.



All MTM members receive monthly mailings on topics like compliance and medication profiles.

USER-SPECIFIC VALUE-ADDS



Physicians use MTM during calls with members. They can provide solutions almost real-time.



Pharmacists complete member review and calculate medication dosage in almost 1/5th of the time than before.



The Nurses uses the MTM extensively for their Daily planning & generating prescriptions. They get member details real-time at the patient's bedside



The new digital strategy increased participant engagement and helped Humana get blood donors and participants in clinical trial.



Social Media insights built on the participant sentiment helps devising multi-channel campaign strategies & engages participants more and increases peer-to-peer communication.



Patients can now ask questions to their pharmacist and, If eligible, consult a health professional online