



Justine Dupal

Human Factors + UX Researcher

Design Strategist + Service Designer

After attaining both a B.S. (Cornell) and M.S. (Harvard) in Human Factors and Ergonomics, I have spent 10+ years using mixed methods research to uncover user needs and translate them into design solutions, spanning industries, products, and services. The versatility of human factors is why I love it so much!

My design thinking process is a mixture of:

- Applied Human Factors
- Design Research
- Systems Thinking
- Quantitative + Qualitative methods

Through my projects, I consider the:

- Employee, customer, and patient experiences
- Modes of service touchpoints
- Platforms, technology, and databases needed
- Capabilities of LLM's and AI to enhance research methods, end-user insights, and potential solutions

The common theme is my **empathy** for the user and being an **advocate for the users' needs**.



Hospital + Healthcare



Product Design + UX



Architecture + Interiors



Pharmaceutical Services



Government Consulting

Surveys	Interviews	Focus groups	Ethnographic Research	Workshops	Behavioral Mapping	Journey Mapping	Data Analysis	Process Mapping	Service Blueprints	Wireframes + Prototypes	Assessments + Testing	Other tools	
✓	✓		✓		✓		✓				Checklists	Human Factors Analysis	Ergonomic Tools
✓	✓		✓			✓				Wireframes + Prototypes	Usability Testing		
✓	✓	✓	✓	✓	✓	✓	✓		Space programming	Computer Simulations	POE Evaluation	Change Management	
	✓	✓		✓	✓	✓	✓	✓	Service Blueprints	Wireframes + Prototypes			
✓	✓	✓	✓		✓	✓	✓	✓	Service Blueprints	Org Restructure	Usability Scoring	Change Management	

Veterans Crisis Line

Design Problem:

The **Veterans Crisis Line (VCL)** is a confidential, 24/7 support service for veterans, service members, and their families and friends experiencing a crisis, or those concerned. It connects individuals with qualified, caring responders through a hotline, online chat, or text, aiding >900,000 veterans annually.

The crisis line is a response to the White House mandate of "every call answered" by a veteran.

VA's goal is to answer 90% of VCL calls at the VCL primary center within 30 seconds.

Current VCL Contact Center is based on legacy Avaya voice, data collection, and stand-alone applications. Cisco's on-premise UCCEX could not meet requirements set forth in OIT Authorization Requirements SOP. To best support VCL's call volume and maintain service quality, FedRAMP-certified upgrades to systems are planned and staggered over the next 5 years. **VA OIT asked my team to assist with telephony modernization part of VCL's planned upgrades. Solution must support 2,000 agents and 500 supervisors as well as anticipated growth of 3,500 agents and 1,000 supervisors.**

Design challenges:

Technology reliability

Software and process redundancy

Dashboard UX

Increase efficiency of routing

Increase case processing + filing

Remote team trainings

Solution:

Advise OIT on cloud-based provider selection for VCL, considering omnichannel, WFM QA, interfacing with current and future systems, and storage and network infrastructure needs to support data centers and CRM integrations.

Work around bureaucracy measures by empowering 'super users' on cloud vendor choice, noting concerns and knowledge gaps to be targeted in future trainings and change management.

- Using research, mapping, personas, and scorecards, guide client in selection between 3 vendors.

Overview:

User groups :



Veterans



Concerned
family /
friends



Responders



Managers,
Coordinators



Police



Emergency
Care



Non-profits

Data utilized:



Best Practice
Research



Interviews



Journey
Mapping



Process
Mapping



Demo / prototype
testing

Primary issues identified:



Support
Entry Points



Dashboards
& Reporting



'Prank Call'
(CWCN)
Routing



Transfers



Training
(Barging)

Veterans Crisis Line

Approach:



SOP Data +
Must Have's



User
Interviews

Client & User Interviews
Interview end users for pain points in current system, discuss with OIT tech req's for backend features



Data
Analysis



Workshops

Use-Case + Scorecard

Assess interviews and data for most important use cases, create scoring method, train participants on how to score vendors



Journey
Mapping



Process
Mapping

UX for Use-Cases
Map to analyze pain points, role intersections, communication points, and system needs



Demo / Sandbox
testing



Scorecard
Results

3 Vendor Demo

Vendors present demos while Business and Users rate 18 tasks; discuss scores to select new telephony system and leadership next steps

1. Current State Analysis

VCL Contact Center, critical call center within VA:

- Aides emergencies
- Connect Vets / loved ones with social services
- Refer Vets to local Suicide Prevention Coordinator (SPC) for counseling and services

Since launch, VCL has supported:

- 7.6 million+ calls
- 360,000+ texts
- 910,000+ chats
- 1.4 million+ referrals to VA SPCs
- 313,000+ emergency service dispatches
- Overall, connect with >900,000 Veterans a year

HCD research used to examine VCL's future-state roles, responsibilities, processes, and technical architecture to optimize performance and costs

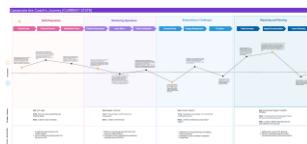
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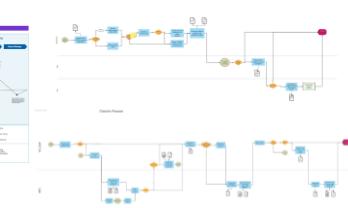
**Who are the end user group?
What are their concerns?**

- Assessed On-Prem system in Canandaigua, NY
- 31 interviews, including 8 Responders, 8 Crisis Sup's, 4 WFC's, 4 TOC's
- 34 observed users
- 15 stakeholder interviews
- 1 participatory design session

What is the journey like for each persona?



How can modernization help user pain points?



What are the main needs of the business?

- Address client concerns on clearance and tech knowledge, select 'Power Users' from Tech & Innovation Team; Quality, Training, and Risk Management Team; and Crisis Ops Team
- Once vendor is chosen, start CM strategy and training rec's

How can we help client select vendor + support pro's and con's?



DIAL 988 then PRESS 1



How We Help ▾ Signs of Crisis Resources and Support ▾ About ▾

24/7, confidential crisis support

for Veterans and their loved ones

You don't have to be enrolled in VA benefits or health care to connect.

Dial 988 then Press 1

Chat online

Text 838255



Veterans Crisis Line

2. VCL user groups were defined by job role and then sorted by their likelihood of impact by modernization efforts.

A. Snapshots (lower impact)

Adam the Auditor
(Silent Monitor)

ADAM THE AUDITOR



The challenge isn't just overseeing interactions—it's navigating an ecosystem of old and new tools, while aiming to meet KPIs that sometimes don't even make sense in our daily workflow.

REMOTE SET-UP:
2-screens
Headset
Pad of paper



AGE: 40's

GENDER: Male

ROLE: Silent Monitor
Responsible for monitoring calls, providing feedback, and escalating safety concerns

RESPONSIBILITIES:

Double-monitoring because of so many programs:
Responder tracker, track in excel. Power App!
MS Teams: Multiple teams - can within department and responder team makes it difficult to keep track of and answer documentation question
No search within trackers: No search function within the queue or trackers, even though monitoring 80% of each site
Misroute calls

PAIN POINTS:

Provide feedback
Escalate safety concerns

Connie the Connector
(Air Traffic Controller)

CONNIE THE CONNECTOR



My goal is to make sure we have constant coverage, but scanning so many aux codes up and down constantly is challenging.

REMOTE SET-UP:
2-screens
Headset
Pad of paper



AGE: 40's

GENDER: Female

EDUCATION:

ROLE: Air Traffic Controller

Dashboard that accurately indicate coverage gaps in real time so that WFC's and supervisors can be alerted. See aux codes and check for any outliers.

NEEDS:

Manages the call flow and routes calls to responders. Collect data even more quickly. Alert supervisors and WFC's when more coverage is needed for modulators

RESPONSIBILITIES:

Manages the call flow and routes calls to responders

Alerts supervisors and WFC's when more coverage is needed for modulators

PAIN POINTS:

Data Tracking:
- Scanning and doing for numbers for all the various WFC's is difficult
- Alerts from ATC hub has weird aux code
- No differentiation between what is an immediate task and what isn't on after-hours dashboard

Manual Documentation among multiple software

MS Teams:
- Supervisors are overwhelmed with messages
- Adherences issues
- Stored IM chats causes things to get missed

Sam the Sense-Maker
(Data Analyst)

SAM THE SENSE-MAKER



Data empowers decisions; clear communication makes them actionable. Balancing both is my daily mission.

REMOTE SET-UP:
2-screens
Headset
Pad of paper



AGE: 40's

GENDER: Male

EDUCATION:

ROLE: Data Analyst, EET team

Manages data analysis and employee experience, using real-time metrics to inform scheduling and leave approvals while enhancing operational efficiency and staff well-being.

RESPONSIBILITIES:

Analyses data to guide scheduling decisions

Provides data metrics for enhancing staff experience and efficiency

Conducts custom studies for VCL decision-making, focusing on employee metrics

Manages employee dashboard

PAIN POINTS:

Limited Bandwidth: Dual roles stretch time and focus thin.
Information Stress: Constant updates add pressure.
Communication Gaps: Role overlap can cause misunderstandings.

Ingrid the Initiator
(Peer Support Specialist)

INGRID THE INITIATOR



Every alert I get could be a life on the line; there's no room for error. My job is to connect the dots—so every veteran gets the support they desperately need.

TECHNICAL COMPETENCY:
- Microsoft Office Suite (Word, Excel, PowerPoint)
- SQL
- Power BI
- R and Python for special reports

AGE: 40's

GENDER: Female

EDUCATION:

ROLE: Peer Support Outreach Specialist

Assigning veterans to appropriate peer support, conducting initial screenings, and connecting them to clinical teams. The role also entails meticulous documentation and liaison with clinical teams.

RESPONSIBILITIES:

Matches veterans to tailored peer support.

Contacts veterans and starts VCL screenings.

Transfers high-risk cases to responders.

Documents and alerts teams for emergencies

PAIN POINTS:

Time-sensitive Tasks: Balancing emergency interventions with admin tasks.

Complex Systems: Difficult in quick action due to bureaucratic delays.

Data Management: Need for a reliable system for critical info. (Reference)

Priscilla the Pilot
(ATC Supervisor)

PRISCILLA THE PILOT



It's [challenging] scanning up and down [constantly] for numbers. Looking at [so many] aux codes: talk time, breaks, lunch, active calls, tech, meetings, special activities, personal

REMOTE SET-UP:
2-screens
Headset
Pad of paper



AGE: 40's

GENDER: Female

EDUCATION:

ROLE: Program Analyst (ATC Supervisor)

Manages 150+ATC controllers, ensure efficient call routing, collaborates across departments, monitors performance, and mitigates issues in critical situations.

RESPONSIBILITIES:

Manages ATC system and supervises controllers

Collaborates with IT and experts to optimize resource allocation.

Relates in Pilot, Co-pilot, and Backup roles for shifts.

Monitors performance through CMIS Supervisor Session and KPIs.

Bolster resources when call queues hit critical levels.

Fay the Foreman
(Quality Management Officer)

FAY THE FOREMAN



"We use lots of trackers. Most of what we do is manual – not a lot of electronic data – so my day is lots of time doing the manual work."

REMOTE SET-UP:
2-screens
Headset
Pad of paper



AGE: 40's

GENDER: Female

EDUCATION:

ROLE: Quality Management Officer

Oversees silent monitors for call quality assessment. Reviews safety-critical calls for follow-up. Works with training team to improve training. Updates Standard Operating Procedures for compliance and effectiveness.

PAIN POINTS:

Message Overload: Overwhelmed by the sheer volume of instant messages.
Reliable Tracker: Needs a stable tracking system to prevent errors.

Simplified Documentation: Need for a centralized and simplified process for documentation.

Data Automation: Requires automated data systems to replace manual work.

Integrated Manual: Needs tools that unify feedback forms, tracking, and instant messaging

Technology Gaps: Relies heavily on manual tracking systems that are prone to going down, dragging the workflow and leading to inefficiencies.

Data Management: Manually sorting through large sets of data due to lack of automation, making it time-consuming to analyze for improvement.

Team Coordination: The queue for silent monitors is not separate by team, making it challenging to efficiently manage a team of silent monitors.

B. Personas + Journey Maps (higher impact)

Kayla the Confidante
(Responder)

KAYLA THE CONFIDANTE



Laura the Liaison
(SSA)

LAURA THE LIAISON



"It's hard to talk to a veteran and chat with SSA at the same time"

"Sometimes I feel like an operator needs to think a crisis responder?"

RESPONSIBILITIES:

- Role: Responder - Social Service Specialist
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

REMOTE SET-UP:
2-screens
TECHNICAL COMPETENCY:
Headset
GOALS:

- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

NEEDS:

- Technological challenges: Application latency, MS Teams, trouble connecting to video calls, difficulty managing multiple programs at once.
- Communication barriers: Difficulty understanding veterans' needs, lack of clear communication between different teams.
- Resource constraints: Limited time and resources to provide comprehensive support.

PAIN POINTS:

- Technical difficulties: Application latency, difficulty connecting to video calls, trouble managing multiple programs at once.
- Communication barriers: Difficulty understanding veterans' needs, lack of clear communication between different teams.
- Resource constraints: Limited time and resources to provide comprehensive support.

Suresh the Supervisor
(Crisis Responder Supervisor)

SURESH THE SUPERVISOR



"Crisis doesn't work, it's not what to do with them. We need to find a better way to handle them. What should we do?"

"What's good is doing?"

RESPONSIBILITIES:

- Role: Supervisor - Crisis Responder Supervisor
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

REMOTE SET-UP:
2-screens
TECHNICAL COMPETENCY:
Headset
GOALS:

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- Technical challenges: Application latency, difficulty connecting to video calls, trouble managing multiple programs at once.
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- Resource constraints: Limited time and resources to provide comprehensive support.

Michael the Mediator
(CWON Cadre)

CHASE THE MEDIATOR



"When our single sign-on system fails, it becomes a password nightmare. We need to find a better way to handle them. What should we do?"

"There's a lot of backtracking."

RESPONSIBILITIES:

- Role: Mediator
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

REMOTE SET-UP:
2-screens
TECHNICAL COMPETENCY:
Headset
GOALS:

- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

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- Technical challenges: Application latency, difficulty connecting to video calls, trouble managing multiple programs at once.
- Communication barriers: Difficulty understanding veterans' needs, lack of clear communication between different teams.
- Resource constraints: Limited time and resources to provide comprehensive support.

Suzanne the Surveyor
(Workforce Coordinator)

SUZANNE THE SURVEYOR



"I'm not sure how to keep track of everything. It's getting overwhelming."

"I'm not sure how to keep track of everything. It's getting overwhelming."

RESPONSIBILITIES:

- Role: Workforce Coordinator
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

REMOTE SET-UP:
2-screens
TECHNICAL COMPETENCY:
Headset
GOALS:

- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

NEEDS:

- Technical challenges: Application latency, difficulty connecting to video calls, trouble managing multiple programs at once.
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- Resource constraints: Limited time and resources to provide comprehensive support.

PAIN POINTS:

- Technical challenges: Application latency, difficulty connecting to video calls, trouble managing multiple programs at once.
- Communication barriers: Difficulty understanding veterans' needs, lack of clear communication between different teams.
- Resource constraints: Limited time and resources to provide comprehensive support.

Cassandra the Coach
(Team Operations Coordinator)

CASSANDRA THE COACH



"Preplanning/prep is great. But we're increasing the staff a lot, 70-80 (or there) are new. Since everyone is WFC now, we're having to learn how to do things in person when in person, which means training harder."

"It's been a challenge to keep track of everything. I'm not sure how to keep track of everything. It's getting overwhelming."

RESPONSIBILITIES:

- Role: Team Operations Coordinator (TOC)
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

REMOTE SET-UP:
2-screens
TECHNICAL COMPETENCY:
Headset
GOALS:

- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.
- Provide feedback, escalate concerns, and coordinate with other departments to ensure veterans receive the best care possible.

NEEDS:

- Technical challenges: Application latency, difficulty connecting to video calls, trouble managing multiple programs at once.
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- Resource constraints: Limited time and resources to provide comprehensive support.

PAIN POINTS:

- Technical challenges: Application latency, difficulty connecting to video calls, trouble managing multiple programs at once.
- Communication barriers: Difficulty understanding veterans' needs, lack of clear communication between different teams.
- Resource constraints: Limited time and resources to provide comprehensive support.

jud658@mail.harvard.edu

Veterans Crisis Line

3. For each user group that would be more highly impacted by a change in telephony system, accompanying personas, journey maps, and use-case scenarios were drafted.

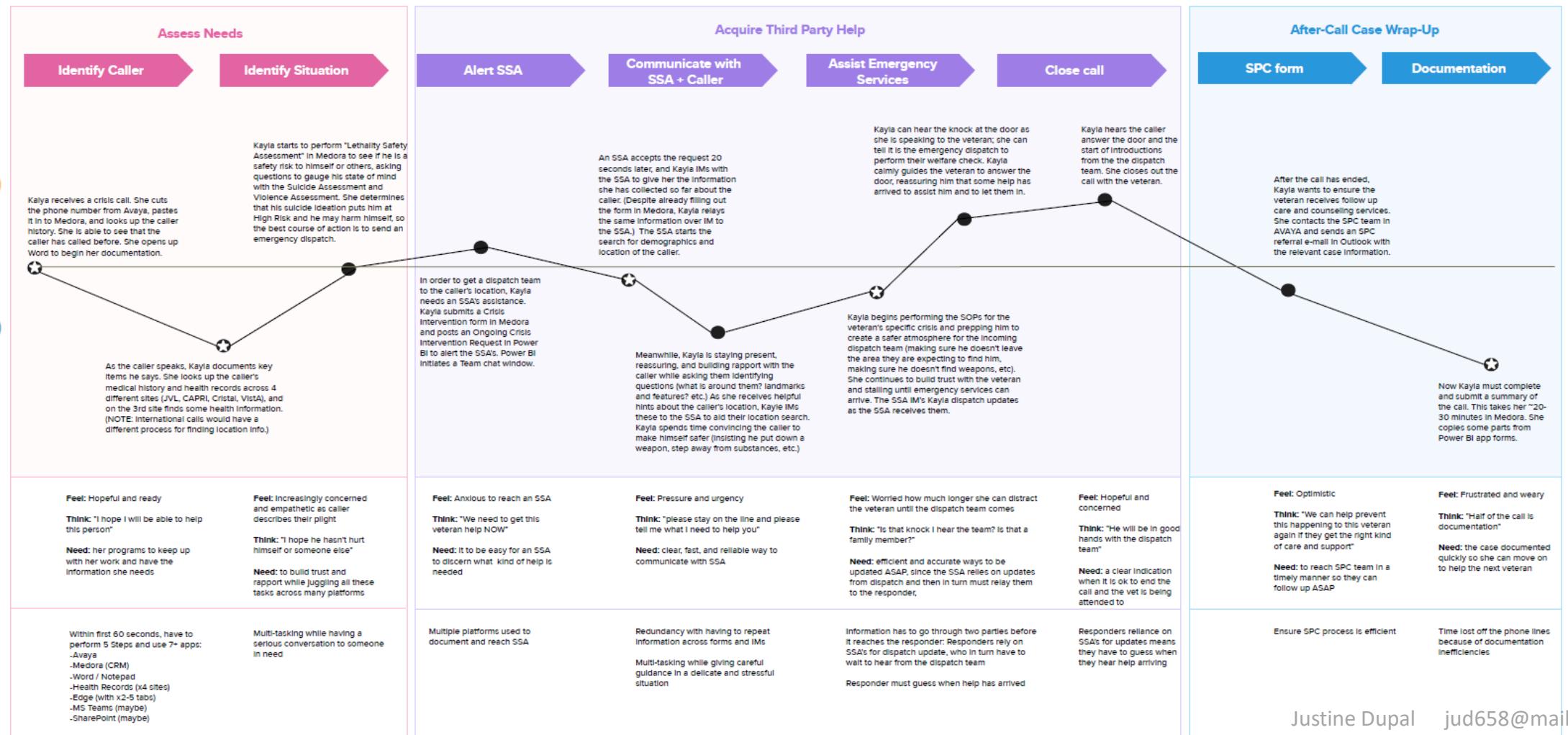
Kayla the Confidante's Journey (CURRENT STATE)



AGE: 40's

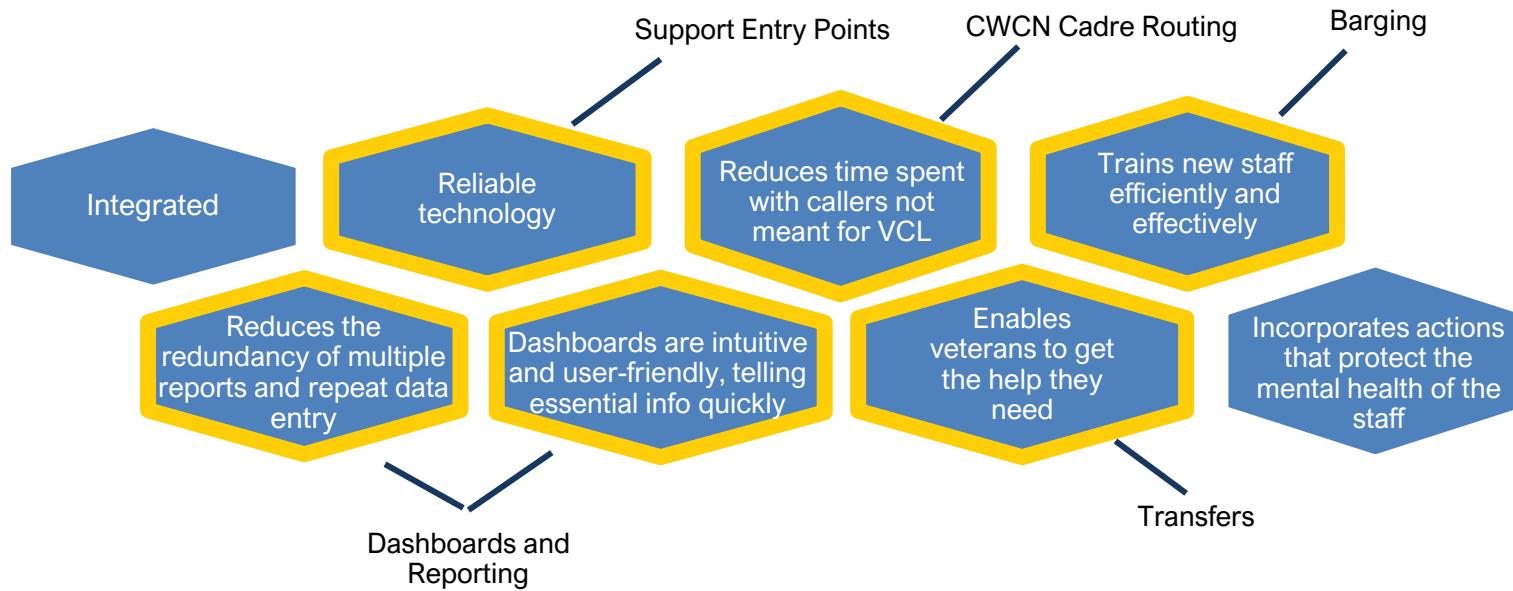
BACKGROUND: Kayla is an experienced mental health professional who has a passion for helping others. She works remotely and does not have much technical experience.

INSIGHT: Kayla has been working in many platforms to complete her duties; over time she has begun to use some templates and work-arounds to try to make all of the multi-step processes more efficient so she can focus on the veteran the best she can.



Veterans Crisis Line

4. Based on data gathered, the ideal future state had 8 features:



5. User interview data was analyzed to select key use-cases and subtasks to test main future state priorities, across 5 main categories of call center functions. 3 vendors presented a 3-hour demo performing each :

Dashboard, Reporting, and Analytics	Call Routing	Agent Management	Quality Assurance	Workforce Optimization and Management
<ul style="list-style-type: none">Dashboard configsSet-up processReal-time data managementHistorical data management	<ul style="list-style-type: none">TransfersExtensionsContact presetsIncoming call notificationsCaller ID	<ul style="list-style-type: none">CWCW Cadre RoutingAttribute-based routing / changesSkill routing / changes	<ul style="list-style-type: none">BargingQA holdsAutomated QA	<ul style="list-style-type: none">Shift bidsCapacity / Long-range planning

6. VCL 'Power Users' assessed front-end usability while IT assessed technical / back-end features

- Both groups assessed the same overall categories
- Both groups used a 5-point scale
- Only VCL users scored subtasks individually
- System Usability Scale was used by 'Power Users' to score each of the 18 tasks during the Demo

DASHBOARD, REPORTING, + ANALYTICS	
SCENARIO	TASKS
	Dashboards for Responders
	Dashboards for Supervisor
	Dashboards for Executives
CALL ROUTING	
SCENARIO	TASKS
	Transfers
	Extensions
	Contact Pre-sets / Phonebook
AGENT MANAGEMENT	
SCENARIO	TASKS
	Incoming Call Notifications
	Caller ID
QUALITY ASSURANCE	
SCENARIO	TASKS
	Barging
	QA Holds
	Automated Holds
WORKFORCE OPTIMIZATION + MANAGEMENT	
SCENARIO	TASKS
	Shift Bids
	Capacity / Long-range planning

Veterans Crisis Line

7. Demo Evaluations were tallied and scores discussed with client. Change management protocols and comms strategy with leaders socialized OIT's software decision.

VCL Scorecards

	I'd like using this frequently	System is unnecessarily complex	System is easy to use	I'd need assistance to use this	System functions are well-integrated	Too much inconsistency in system	Most people can learn this system quickly	System is very cumbersome	I'd feel very confident using this	I'd need to learn or test things before using
DASHBOARD, REPORTING, + ANALYTICS										
Dashboards for Responders										
Dashboards for Supervisor										
Dashboards for Executives										
Set-Up Process										
Real-Time Data										
Historical Data										
CALL ROUTING										
Transfers										
Extensions										
Contact Pre-sets / Phonebook										
Incoming Call Notifications										
Caller ID										
AGENT MANAGEMENT										
Attribute-Based Routing										
Skill changes / routing										
QUALITY ASSURANCE										
Barging										
QA Holds										
Automated Holds										
WORKFORCE OPTIMIZATION + MANAGEMENT										
Shift Bids										
Capacity / Long-range Planning										
Average Score	3.4	4.1	4.15							



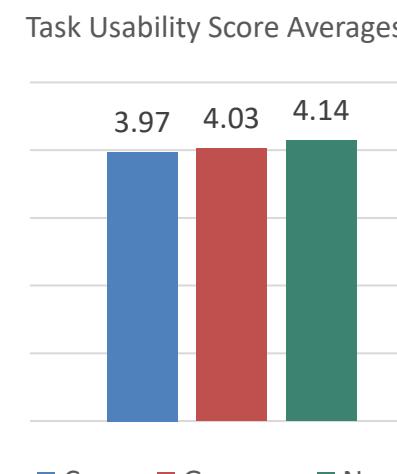
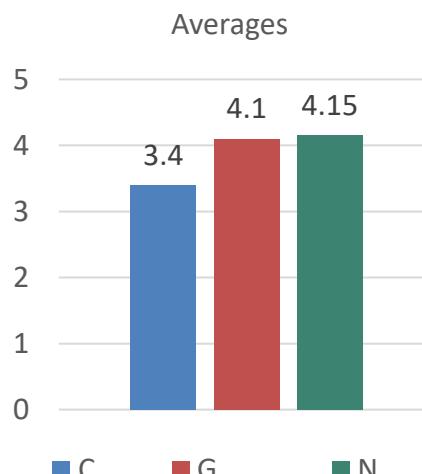
Vendor Software Demonstration	Score
Aligns with Business Requirements	
Ease of Use	
Flexibility	
Improved Capabilities	
Overall Impression	
Average Score	

OIT Scorecard

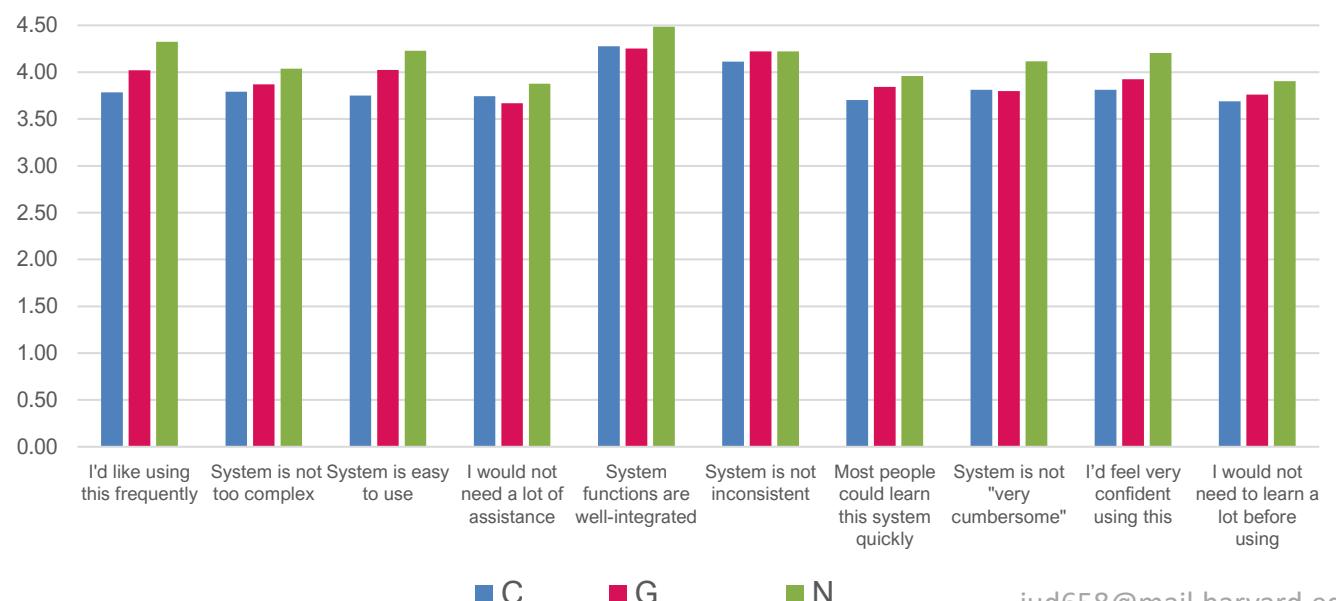
5 = Excellent, 4 = Good, 3 = Okay, 2 = Poor, 1 = Worst Imaginable	
Aligns with Contact Center Requirements Score:	[Score]
Reasoning:	
Ease of Use Score:	[Score]
Reasoning:	
Flexibility Score:	[Score]
Reasoning:	
Improved Capabilities Score:	[Score]
Reasoning:	
Overall Impression Score:	[Score]
Reasoning:	

MY ROLE: As the Research Lead, I conducted the user research, mentored a colleague so we could co-create the journey maps, collaborated on the personas with the same colleague, created the demo evaluations and trained participants, collected and analyzed the data, presented to the C-suite every week on research updates, and drafted the final report with my technical team to present our findings and recommendations.

General Evaluation Score Averages



VCL SUS Averages



Anti-depressant Nurse Support Program

Design Problem:

A novel anti-depressant for extreme cases of depression / suicidal ideation has been developed. While traditional anti-depressants are taken orally in a daily dose, this new treatment is administered nasally, under **direct supervision of a nurse, 1-2 times week**. Patient must be **monitored for side-effects for 2 hours** after dosing.

Current challenges of the drug are:

- High Drop-off Rate
- Insurance Uncertainty
- Barriers to Access
- Operational Burdens
- Low Referral

Consider:

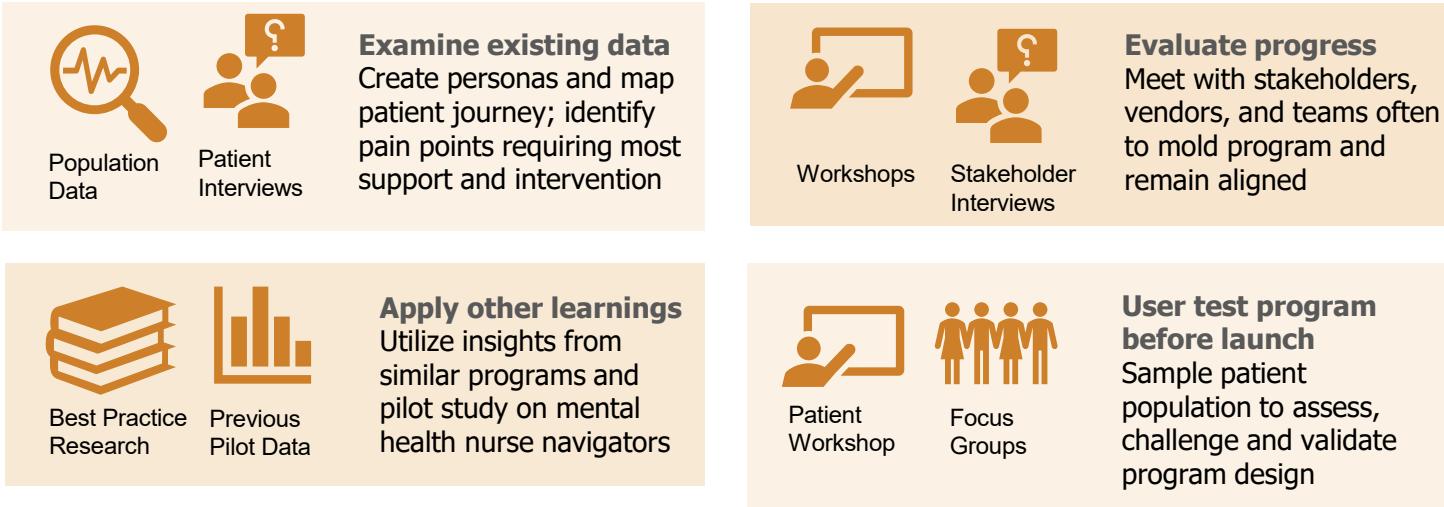
- **Scalability:** # patients 16K → 200K first year, reach ~360K by 2025
- **Translatability:** in-office to home health option next year
- **Technological Integration:** adaptable, seamless shift to app

Solution:

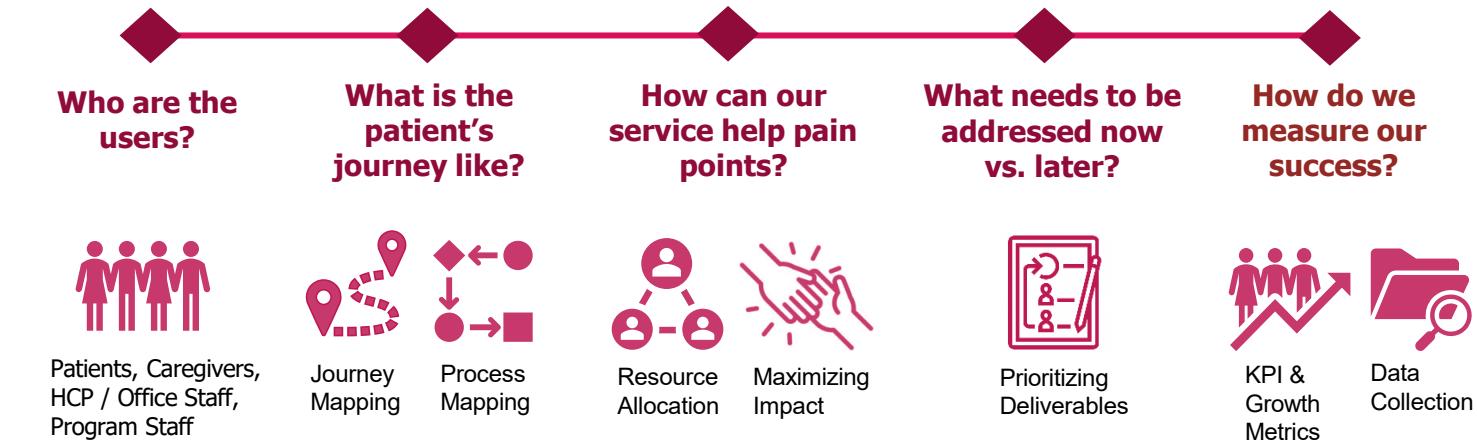
A nurse support program was designed to help patients onboard this new treatment.

- Supportive calls, texts, and therapeutic resources will be delivered during crucial parts of patient's journey
- Nurse navigator assists patients with:
 - setting expectations
 - providing education and medical info
 - share resources on drug and its administration
- Home health option + phone / tablet application

Approach:



Process:



Anti-depressant Nurse Support Program

Who are the users?

Patients



Demographics: men & women 18+ with TRD, MDD, or MDSI

- Ethnicity, language, & finances vary
- 18-29 yrs old and women more commonly diagnosed with MDD
- ~80% commercially-insured

Location: within United States

Cultural Considerations: Racial and cultural differences affect if patient seeks care + care relevance / success

Special Considerations: patients only prescribed if treatment-resistant to ≥2 meds or have suicide ideation

Attributes:

Cynical - been through many different treatments, so wary of a new one
Want honesty - no sugar-coating
Modern - may prefer texting over calls

What is the patient's journey like?

Caregivers



Relation: can be a legal guardian, authorized romantic partner, family member, or friend

Responsibilities may include:

- Patient transportation
- Pet and/or childcare during apt
- Assist patient in finding financial options for treatment
- May act as patient liaison

Special Considerations: some cultures or relationships not as likely to emotionally support MDD males

Attributes:

Concerned – want to know what to expect and how they can support
Accommodating - many rearrange their lives for patient's treatment

How can our service help pain points?

HCP / Office Staff



Location: facilities will need to be REMS trained & certified, limiting availability of eligible offices

Special Considerations:

- Private or group treatment areas?
- Language matches patient?
- Culturally diverse to ensure patients feel represented?
- Home Health: safety of navigator in patient's home

Attributes:

Busy - may not have a lot of room for the office visits this requires, may not be super responsive

Crowded - some have created group treatment sessions to accommodate patient demand

What needs to be addressed now vs. later?

Navigators + Case Managers



Demographic: background in healthcare, especially mental health

Location: Remote

Special Considerations:

- Legibility and useability of materials and dashboard
- Program simple enough for multiple patients per navigator
- Training – content and length?

Attributes:

Empathetic – come from backgrounds of patient support and want to do their best to help

Limited – handling many patients at once through complicated processes

Anti-depressant Nurse Support Program

Who are the users?

What is the patient's journey like?

How can our service help pain points?

What needs to be addressed now vs. later?

How do we measure our success?

➤ **Assessing existing research:** Population data, research, and past interviews revealed important insights into the patient experience

What are the biggest issues for patients?

6 themes in the data emerged, informing goals for how to enhance patient experience:



Background data also illuminated patients' general feedback with the current treatment process

Patient Likes:

- + Rapid onset of action & durable response
- + Perceived safety of on-site monitoring
- + Sense of community
- + Ability to co-schedule counseling

Patient Dislikes:

- Loss of time
- Lack of privacy / comfort at centers
- Unreliable providers
- Side effects
- Need for transportation / childcare
- Reimbursement hurdles

Anti-depressant Nurse Support Program

Who are the users?

What is the patient's journey like?

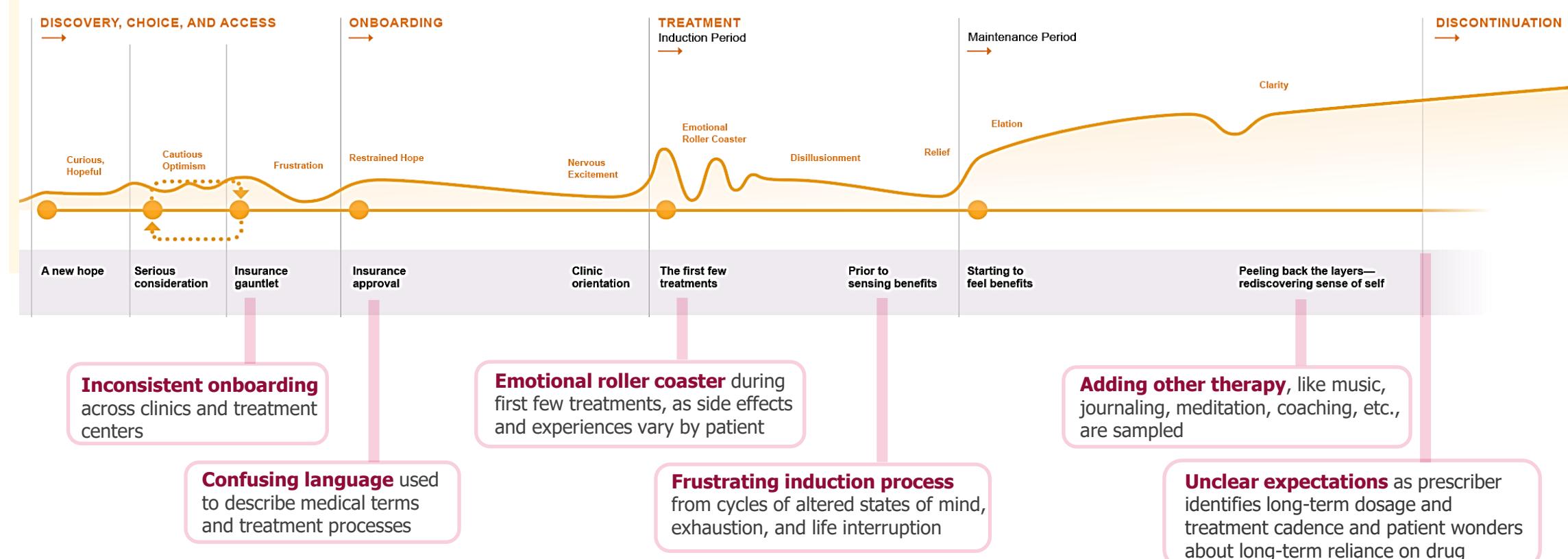
How can our service help pain points?

What needs to be addressed now vs. later?

How do we measure our success?

- **Pain points** were used to map out where support is needed the most, especially during the **early months**
- Many patients endure a **bumpy ride** before noticing relief from symptoms

Journey Map: Major events and emotions were mapped out to discern high's and low's of patient's treatment journey:



Anti-depressant Nurse Support Program

Who are the users?

What is the patient's journey like?

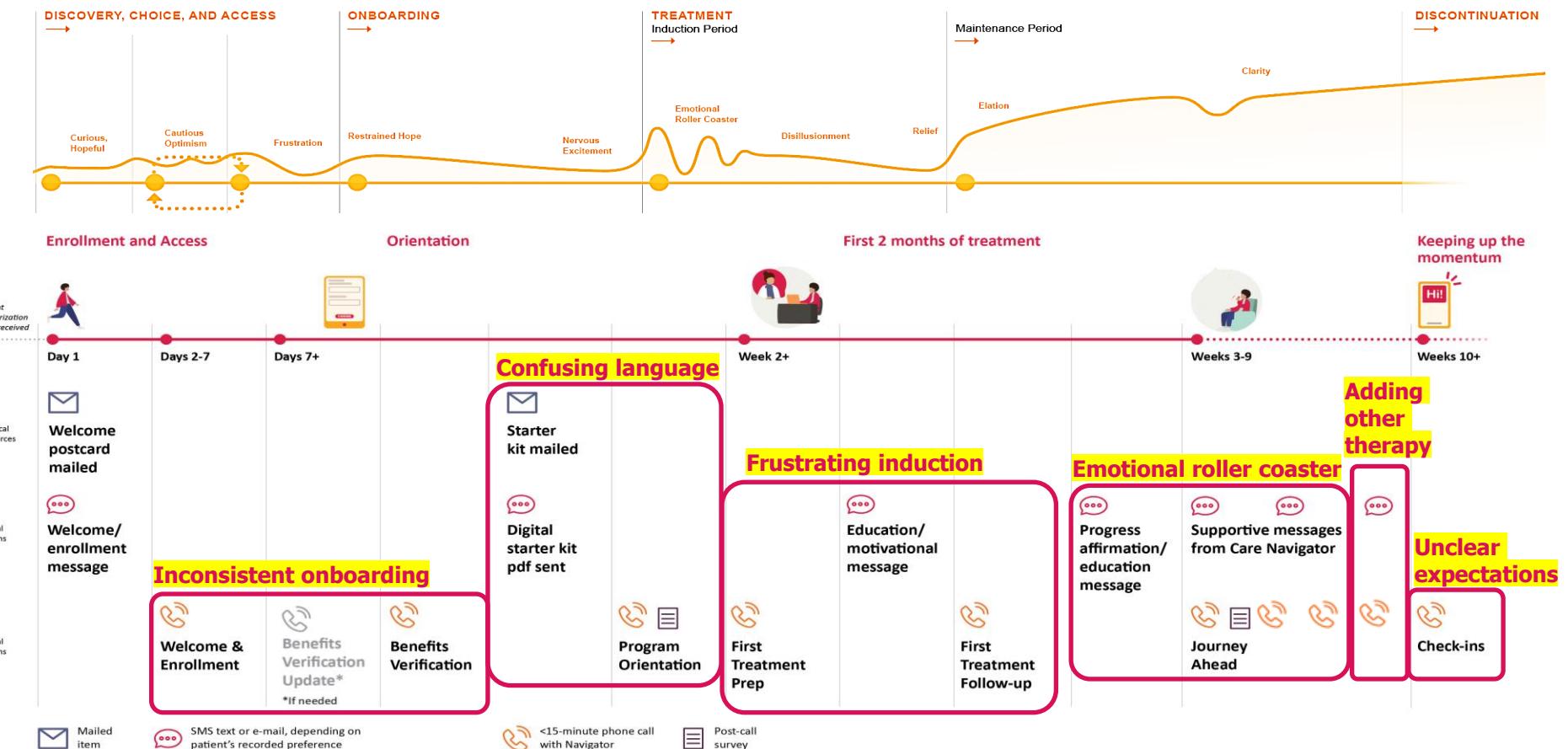
How can our service help pain point?

What needs to be addressed now vs. later?

How do we measure our success?

- Pain points utilized to determine:
 - when patient should hear from the navigator
 - what the navigator should discuss
 - and through what medium

- Each set of calls / messages / resources was designed to address a main pain point



Anti-depressant Nurse Support Program

Who are the users?

What is the patient's journey like?

How can our service help pain point?

What needs to be addressed now vs. later?

How do we measure our success?

- Passive and interactive resources prioritized according to budget, time, and necessity

Immediate Impact:

- **Remote Services + Mailings** – keep patients informed to decrease drop-off rate, operational burden, and insurance uncertainty
- **Call + Reference Guides** – prepared content to guide navigators in patient interactions
- **Website + Online Resources** - provide tools, assistance, and navigation to patients and caregivers throughout treatment
- **Texts/E-mails** – deliver program information to patients and caregivers
- **Journal + Reflective Activities** – aid patients incrementally and holistically throughout treatment journey

PHASE I



Trail Guide



Starter Kit



Resources + Financial Options



Peer Stories



Journey Navigation References



Text + E-mail Messages



Website



Digital Starter Kit



Reflection Journal + Goal Trackers

MY ROLE: As Sr. Design Strategist, I worked with my Lead, Copy Writer, and Jr. Designer. I also collaborated closely with the partner client Manager. I was responsible for journey mapping and process mapping; owned the Call Guides, digital messages, journal updates, and review committee submissions; worked closely and led meetings with other agencies on website advisory and overall patient experience / advocacy.

Future Impact:

In-person services (home health) + virtual resources (app) creation begun but put on hold to complete in later phases

PHASE II



Home Health Delivery Services



PHASE III

Phone App + Orientation

Anti-depressant Nurse Support Program

Who are the users?

What is the patient's journey like?

How can our service help pain point?

What needs to be addressed now vs. later?

How do we measure our success?

Call Guides

- Crafted for each key part of journey
- Reviewed in weekly team meetings to assess direction, cadence, and content
- Addressed:

Insurance Access & Enrollment

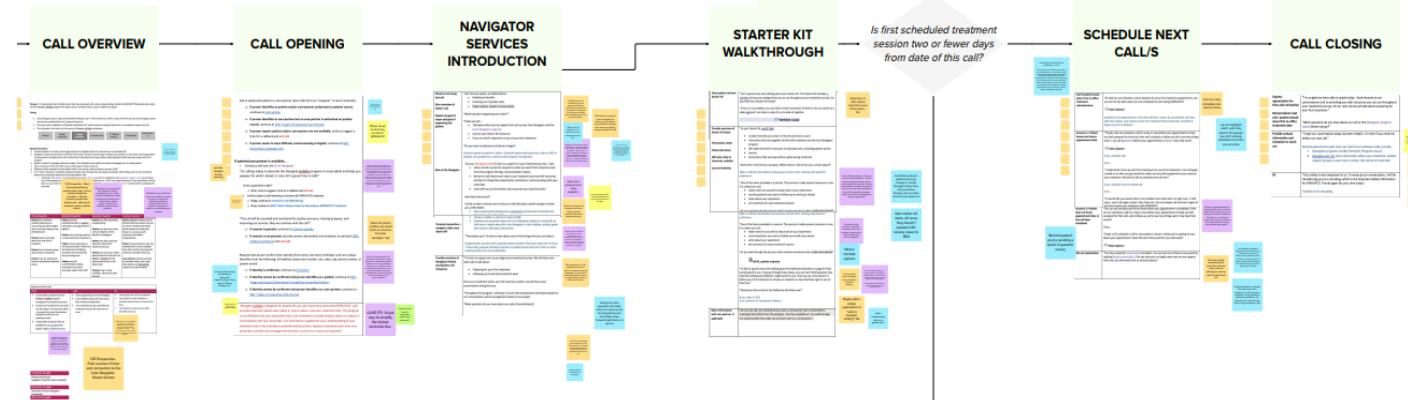
Treatment Side Effects

Supportive resources

Appointment Logistics

Language & Cultural Barriers

ORIENTATION CALL GUIDE

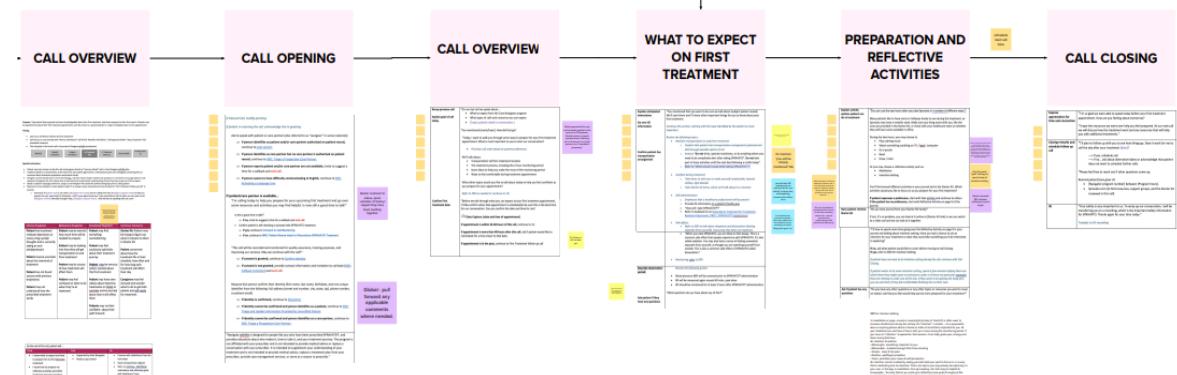


Call Guide Review Process:

Because of population vulnerability, drug class, and legal policies, every word had to be approved in patient-facing material

1. Internal team review
2. Partner + companion agency reviews
3. Advisory committee review
4. Internal team edits
5. Partner edits
6. Advisory committee re-review
7. Submit to vendor for training decks

1ST TREATMENT PREPARATION CALL GUIDE



Anti-depressant Nurse Support Program

Who are the users?

What is the patient's journey like?

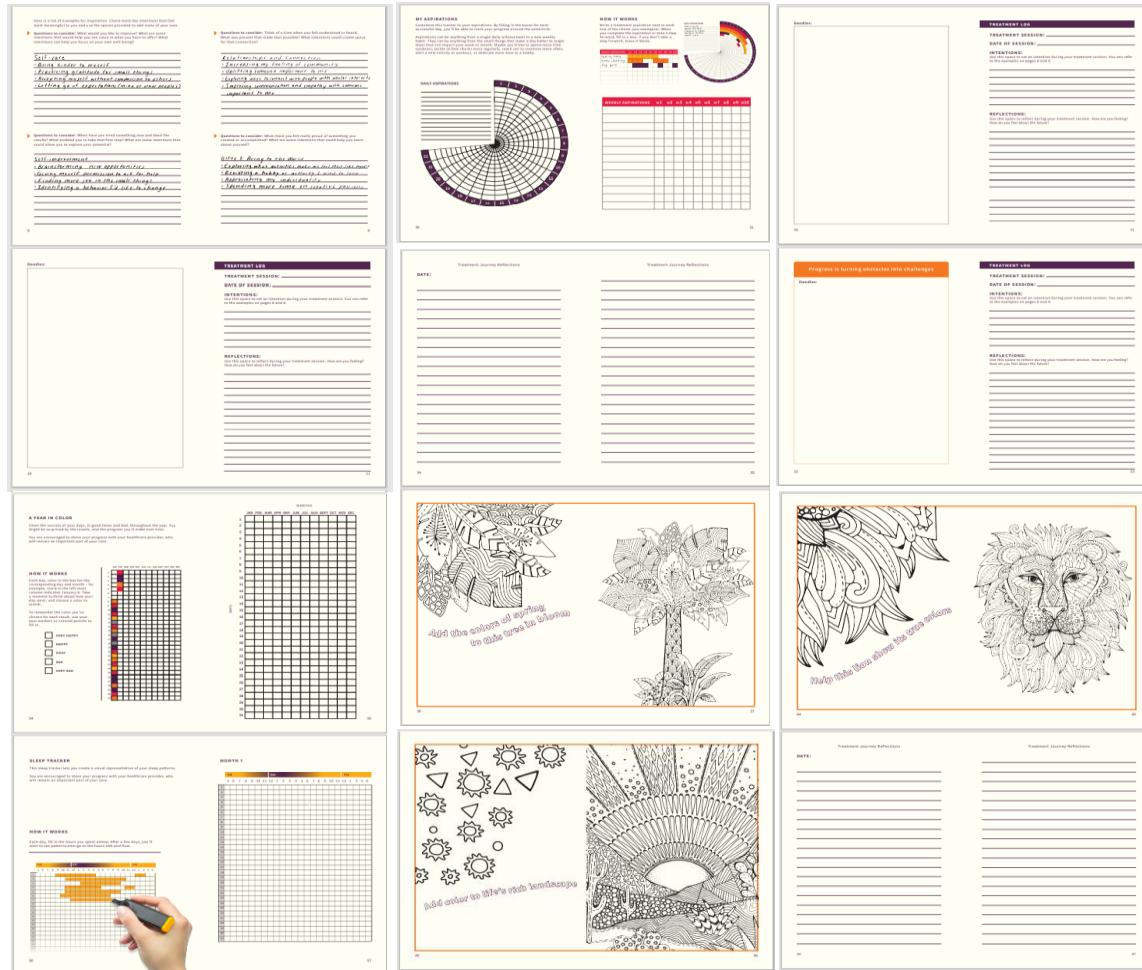
How can our service help pain point?

What needs to be addressed now vs. later?

How do we measure our success?

Starter Kit Updates

- For other support, deliverables needed to be updated, including Starter Kit and Journal pages
- Working with a partner agency, we re-designed elements of the Journal**
 - Introduced a new activity to assist during drug treatment
 - Updated sleep and mood trackers to help the patient self-monitor their progress during treatment journey
 - Updated branding and coloring designs
- Upgraded other kit elements**, including “premium” product samples, and added additional brochure of patient services
- Website updated** (for projected launch in between phase I and phase II) and **virtual Starter Kit** link added to site



Anti-depressant Nurse Support Program

Who are the users?

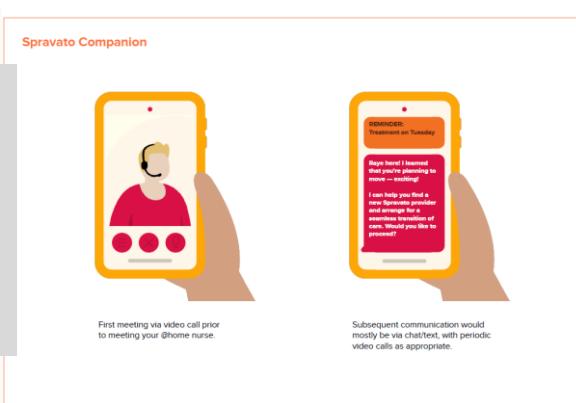
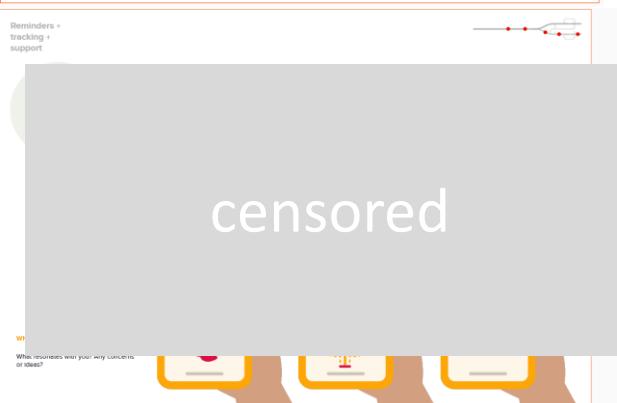
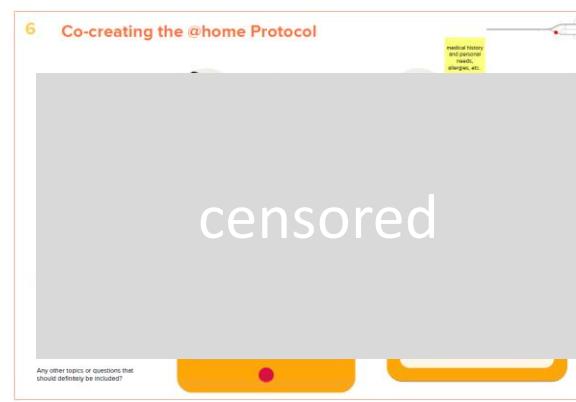
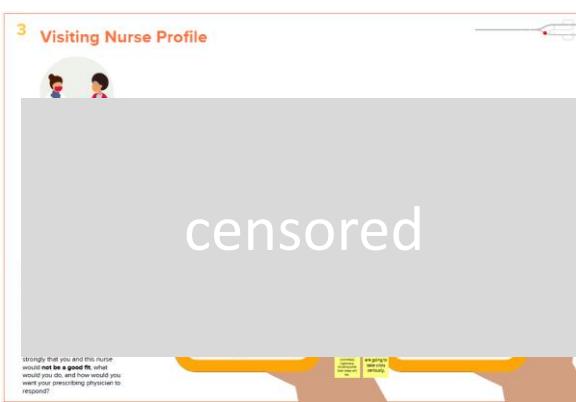
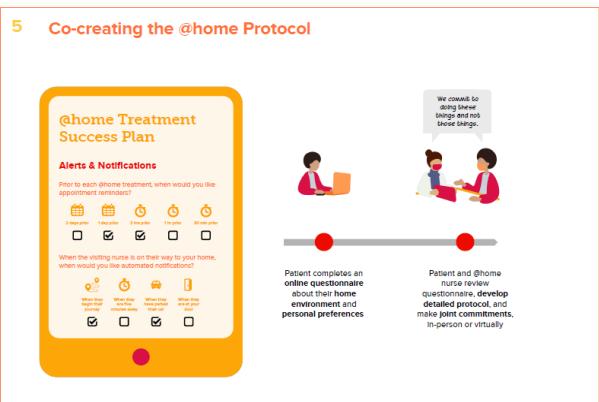
What is the patient's journey like?

How can our service help pain point?

What needs to be addressed now vs. later?

How do we measure our success?

App design and research (put on hold for Phase III):



Features requested by patients:

- Treatment schedule, reminders, and alerts
- Communication amongst team
- Peer stories and peer mentors
- Journey Navigation messaging
- PHQ-9 surveys and reports

Other potential desirable features:

- Follow-up surveys and complaint forms
- Prompts for intention setting
- Shipment tracking
- Visiting Nurse proximity alerts
- White noise / relaxing music / guided meditation

Design Problem:

Northwell Health wants to create a new 260,000 ft² multispecialty office building in Manhattan to be closer to its urban patients that will **embrace new technology and enhance the healthcare experience**. Rethinking the arrival, waiting, and overall registration and flow of the hospital experience were key areas of concern, as well as ensuring the spaces encouraged collaboration and flexibility among staff.

Design challenges:

Constraints
of an existing
building

Elevator
capacity

Centralized vs.
De-centralized

Solution:

Based on interviews with each department, stakeholder meetings, journey mapping, and scenario and simulation modeling, an innovative program was developed. **Floors were distinguished into clinical spaces or academic villages, with a main centralized registration** on the first and second floors to control traffic volumes and simultaneously welcome the community into the health system.

Overview:

User groups considered:



Patients



Staff



Community

Data gathered:



Population
Data



Best Practice
Research



Computer
Simulations

Primary issues identified:



Traffic
Flow



Seating



Department
Needs



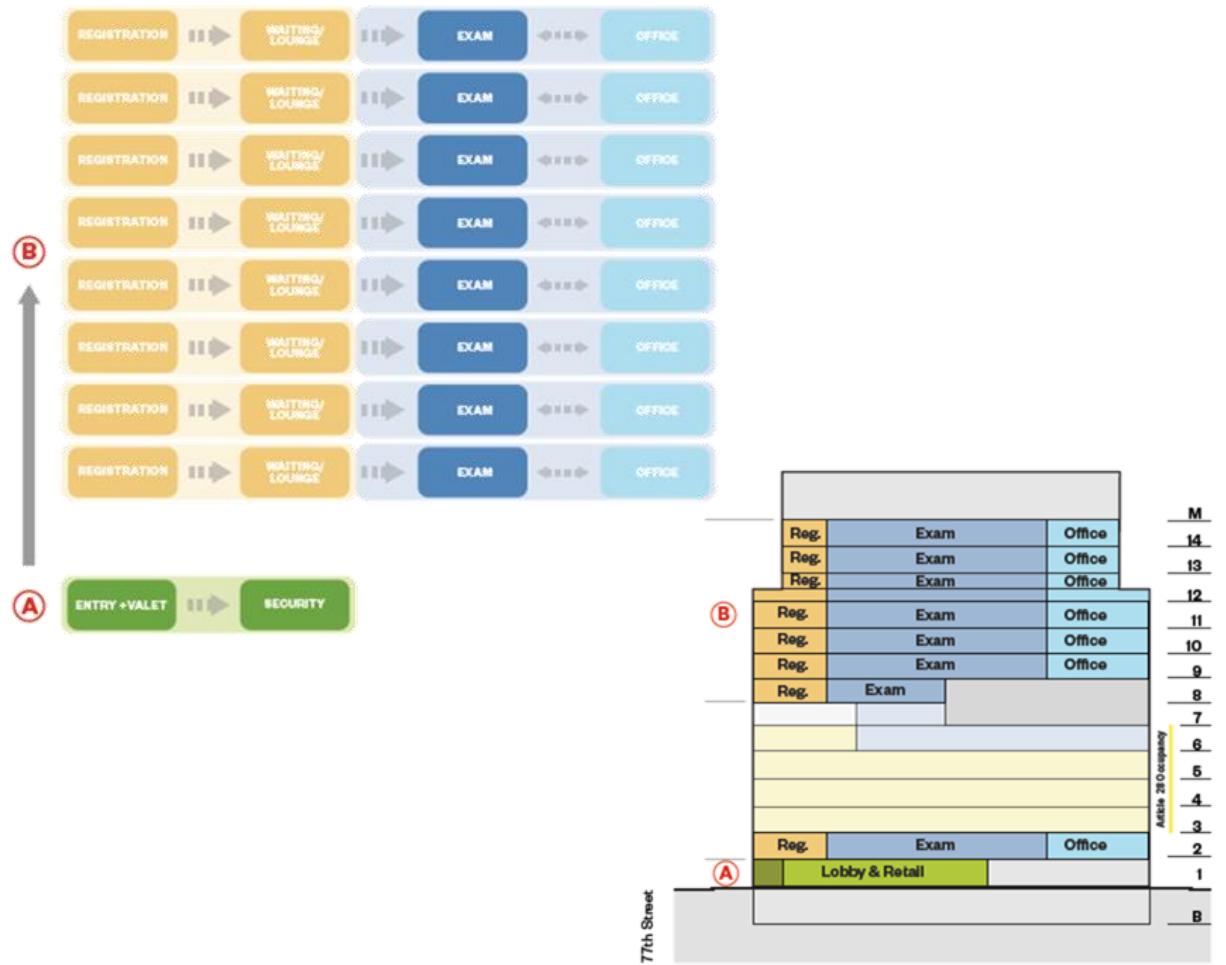
Wait Time

Northwell Health Building Program

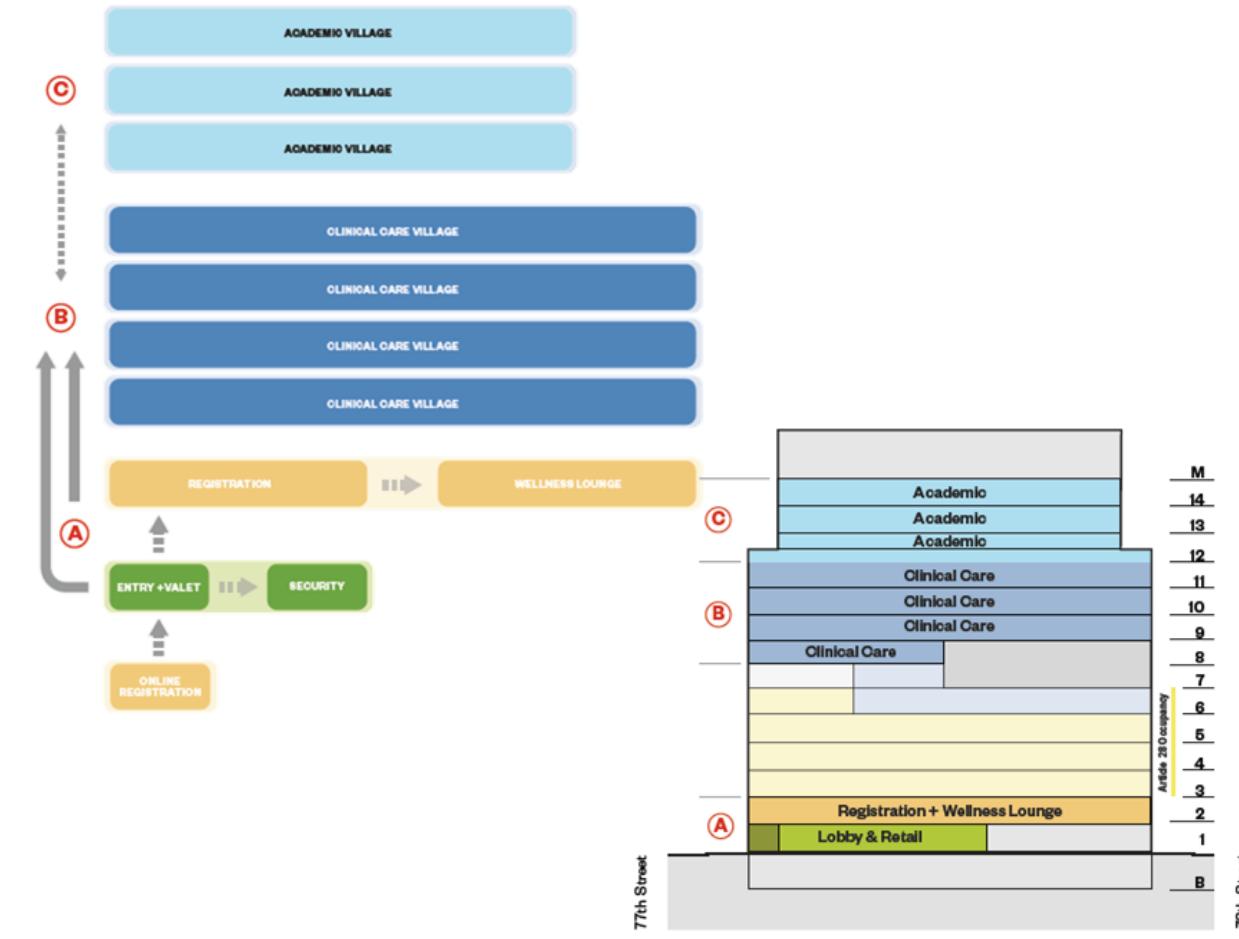
EDRA CORE 2022 Award

1. Model Redesign: What if we re-imagined the patient experience by centralizing registration and waiting? How could that improve patient flow and the patient experience?

Before: Rethinking the conventional outpatient model, where a typical hospital has registration and waiting lounges on every floor, often for each department :



After: With a centralized lobby and offices moved to separate floors, clinical spaces can be dedicated to patient care and experience reduced congestion



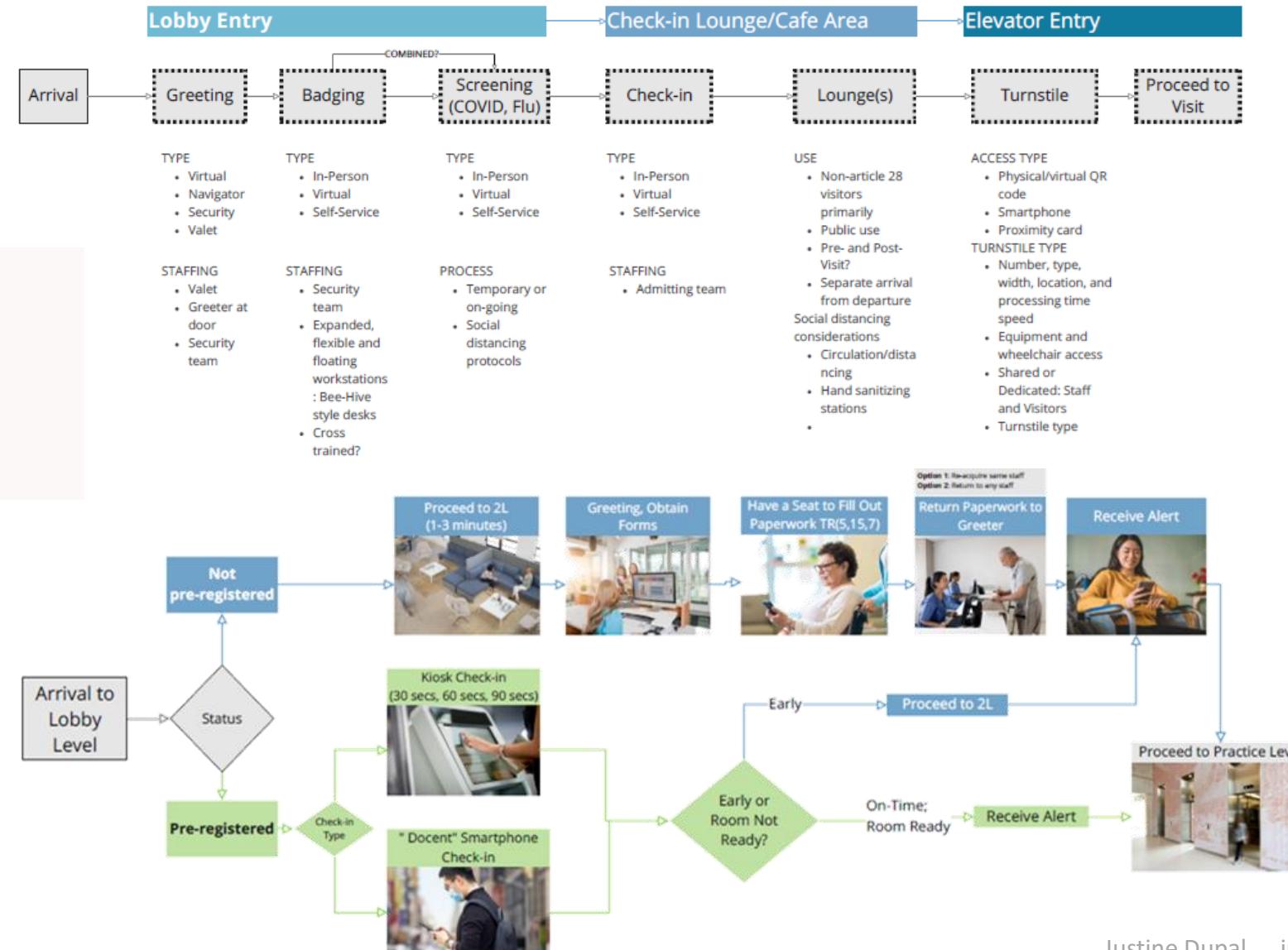
2. Journey Mapping: The patient experience was simulated using a journey map to explore where pre-registration could potentially expedite check-in, minimize wait times, and improve patient flow. What could the check-in experience ultimately look like?

Scenarios Tested:

- Baseline:** 30% pre-registered
- Medium:** 40% pre-registered
- High:** 50% pre-registered

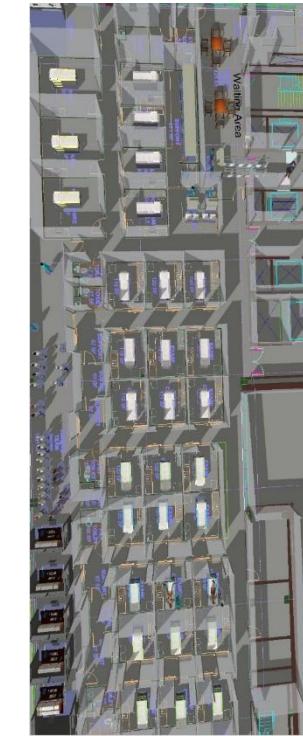
Objectives:

- Check-in wait time < 2 mins
- Check-in staff utilization ≤ 85%



3a. Scenario and Simulation Modeling: In Flexsim, we created mockups of the waiting area and hospital floors, imported patient visit data for each department and pre-registration rate assumptions, and simulated an average week in the hospital. Flexsim found estimated bottlenecks, traffic patterns, and utilization rates to help us identify peak times and maximum seating demand on any given day.

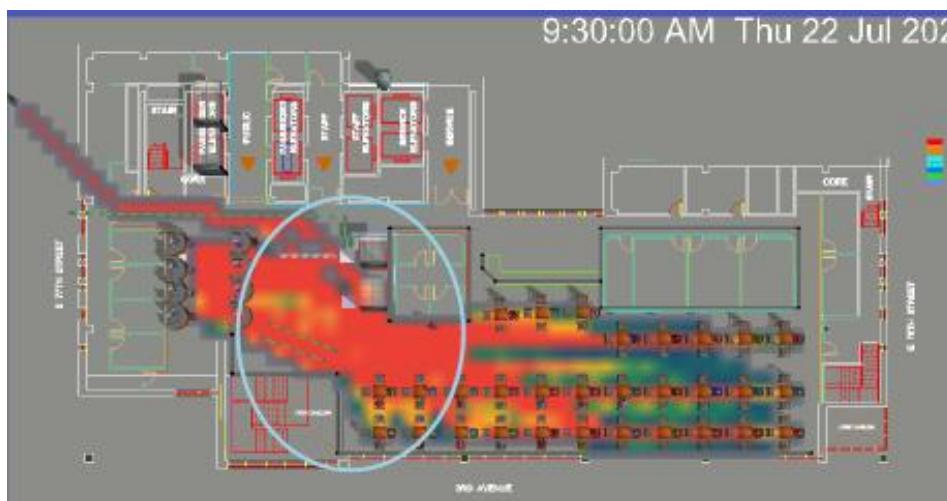
Comparing 3 pre-registration scenarios:



3b. Scenario Modeling: congestion and circulation



Heat maps: Further modeling and data collection in the Flexsim model helped us communicate lobby needs to the client



4. Space programming for infusion rooms: calculations using what-if and data tables in excel to predict rooms needed based on utilization rates and operating hour goals

INFUSION	Einstein Cancer Program			Benchmarks (blank = not provided)					
	Assumptions	Future State	Moses	Medical Park	Advisory Board 25%	Advisory Board 50%	Advisory Board 75%	DOD (low)	DOD (high)
Total number of annual infusions (2021 annualized from daily estimates)		8670		24,000					
Operating Hours per Day			12	12	8	9	10	8	12
Operating Days per Week			6	5	5	5	6	5	5
Operating Hours per Week			72	72	40	45	50	40	60
Operating Days per Year			289	240	240	240	289	240	
Total Annual Hours of Operation			3468	2880	1920	2160	2990		
Average length of infusion (mins)			240	240	150	180	240	120	120
Utilization factor - target			0.8	0.8	0.65	0.80	0.90	0.8	0.8
Utilization factor - actual					0.59	0.7	0.8		
Calculate increment									
Calculated increment threshold for room			693.6		576				
DOD workload threshold for additional room (fixed value)			154		154				
Calculate Chair Need									
Step 1: Subtract the Increment from annual load encounters to generate minimum one room			7976.4		23424				
Step 2: Divide the resulting value in previous step by the increment to generate any additional rooms			11.5		40.7				
Step 3: Multiply the resulting value in previous step by the increment			7976.4		23424				
Step 4: Subtract step 3 value from step 1.			0		0				
Step 5: Compare with the minimum workload to generate an additional room			0		0				
Infusion Chair Calculated Need			12		41				
Infusion Chair Current Counts			11		40				

Sensitivity Analysis: Hours of Operation + ALOE			
Medical Park		Chair Utilization Rate	
Hours of Operations	Avg Length of Infusion (minutes)	AB 25th PCT	AB 50th PCT
		150	180
		240	
8	39	46	62
10	31	37	50
12	26	31	41
Annual Volume		24,000	

Sensitivity Analysis: Utilization Factor + ALOE			
Medical Park		Chair Utilization Rate	
Utilization Factor	Avg Length of Infusion (minutes)	AB 25th PCT	AB 50th PCT
		150	180
		240	
0.6	34	41	55
0.7	29	35	47
0.8	26	31	41
Annual Volume		24,000	

MY ROLE: As Sr. Design Researcher, I led and supported research initiatives of my Director, as requested by designers and principals. I trained and coached interns, worked closely with our Systems Engineer on simulation techniques and quantitative analysis, and led qualitative research - such as interviews and focus groups, survey design and analysis, patient journeys, and facility programming guidelines.

[Confidential] CRS Digital Monitoring

Design Problem:

Cytokine Release Syndrome (CRS) is a common autoimmune response for a patient undergoing CAR-T cell Therapy or therapeutic antibody treatments for **Non-Hodgkin's Lymphoma**. The severity of CRS varies, with 4 stages defining the level of medical intervention needed (ranging from steroids to ER admission.) Onset of CRS is typically within a week after treatment, so patient's vitals and health are monitored in a hospital or adjacent facility for 2 weeks.

Create a prototype for a remote digital monitoring device / system that would allow 2-week observation period to be done in the comfort of a patient's home, reducing healthcare costs and uniting patients with their families sooner.

Design challenges:

Reduce Time in Hospital Reduce Time Away Family Increase Patient Comfort

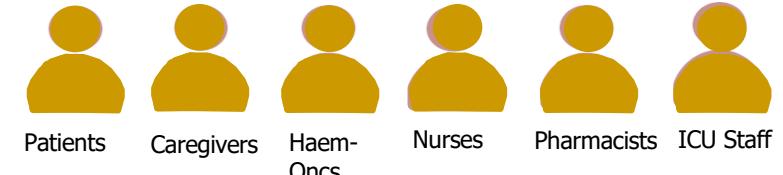
Explore Digital Potential

Solution:

Created and tested prototype that will reduce hospital stay for patients by up to 71% while freeing up hospital resources for other billable treatments.

Overview:

User groups :



Data utilized:



Primary issues identified:



[Confidential] CRS Digital Monitoring

Early Concept Exploration – D1

WEEK	Phase 1: Framing	Phase 2: Define Use Scenarios	Phase 3: Design, Test, and Iterate Sprints	Phase 4: Refine Concept	Phase 5: Activation
PROCESS	 Understand prior work	 Framing workshop	 Build journey map	 Final prototype	 2-day workshop
OUTCOME	<ul style="list-style-type: none">HCP-Patient-Caregiver Decision Journey Map (draft 1)Phase 2 research plan	<ul style="list-style-type: none">Define use case scenarios, and key decision momentsInterview 8 HCPs (Physicians + Nurses)• Uncover patient-HCP informational needs along the decision pathway• Understand features & benefits / value	<p>Design Demo + Iteration</p> <p>Sprint Set-up: 1 workshop + 4 interviews</p>  <p>4 Physicians 2 Nurses 1 Caregiver 1 Patient</p> <p>Sprint 1 Storyboards prototype</p> <p>Sprint 2 Low-fi wireframes prototype</p> <p>Sprint 3 Mid-fi wireframes prototype</p> <ul style="list-style-type: none">Design sprint plan, write key Q's + key findingsNeed-Solution fit assessment after each sprintRefine artifacts at end of each sprint	<ul style="list-style-type: none">final refinement based on sprint feedback (clickable interface)	<ul style="list-style-type: none">Final prototypeFinal HCP Decision Journey MapMetrics to measure pilot successDesign Sprints: summary of insights

MY ROLE: As Lead Strategist, I lead my Sr. Researcher and Jr. Service Designer through sprint planning, mapping, and research initiatives, acting as client liaison and owner of deliverables. Because this case is confidential, no work on the project can be shared here.

Consular Affairs: Passport Agency

Design Problem:

Over 22 million citizens receive a new or renewed passport each year. In anticipation of 6 new locations across the country as well as online renewal rollouts, Consular Affairs' **Passport agency** (CA/PPT) seeks an **independent assessment** of its human capital management, organizational structure, and customer delivery model structure to identify potential issues and recommendations. **CA/PPT seeks to enhance the passport customer experience while improving coordination between headquarters and field elements, workflows, and staff satisfaction.**

Consider coordination and customer impact across 35 physical passport sites, 7,400+ acceptance facilities, White House and Congressional mandate affects, and customer expectations and employee experiences (contractors, FTE's, seasonal, and remote workers) among peak travel season, as well as technology potential and online dependencies.

Solution:

Develop a future state process map, customer journey map, and human capital management plan that new locations can utilize as a harmonized process. Ensure consideration of Online Passport Renewal (OPR) and its expansion to new eligible application types, as well as recommendations for Headquarters and Field structures.

- Over 120 interviews with 150 stakeholders, 7 site visits, walk throughs with each level of management, 30 focus groups, 10+ workshops, weekly C-suite meetings, and various mapping iterations informed the assessment.

Overview:

User groups :



Data utilized:



HQ/Field Office issues identified:



Customer issues identified:



Consular Affairs: Passport Agency

1. Approach: How we framed the problem, goals, and research methods to deliver measurable improvements to CA/PPT

Data gathered allowed for a comprehensive understanding of the organization structure, workload and workforce, processes, and customer experience, identifying key themes and pain points throughout the organization.



MY ROLE: As the Research Lead, I was responsible for conducting all the user interviews, site visit planning and on-site interviews, journey mapping, and assisting the Lean Six Sigma Lead on the Process End-to-End maps and workshops. I created the client-facing decks, materials, and workshops. As the Project Co-Lead, I ran meetings on an agile framework, assigned tasks to my teammates, including their focus groups and org structure research, and worked closely with our sub-contractor teammates.

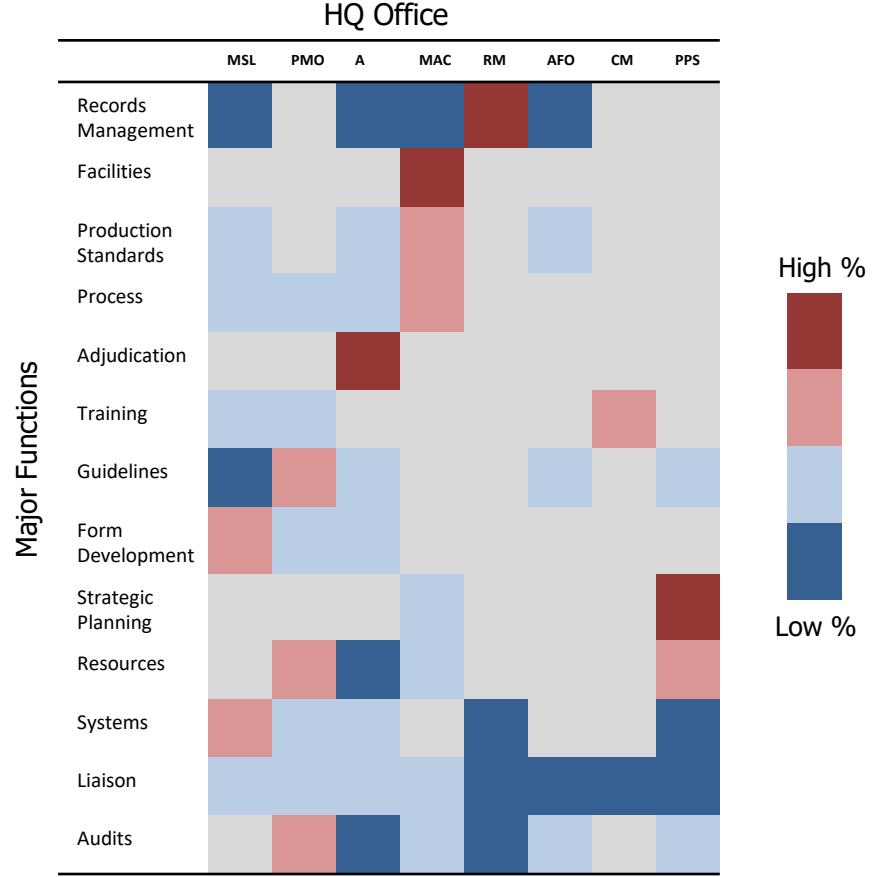
Consular Affairs: Passport Agency

2. Headquarter + Field Analysis Functional Analysis

A side-by-side functional analysis showing where HQ intentions and field realities diverge and where misalignment creates opportunity

HQ View: Identifying redundancies to define roles and enhance communication

Goal: identify any misalignment in office purpose + function, duplicated efforts, unclear accountability, and communication challenges. 13 tasks were chosen by leadership and then grouped by major functions + identified as a % of each function across HQ offices.



Key Insights:

- Liaison tasks just small part of office's functions – need to improve coord. / collab
- Strategic planning activities in just 2 offices (PPS and MAC) – contrasting field's expectations that HQ guides strategic direction comprehensively

HQ & Field : Streamlining Operation and Enhancing Communication

Fragmented coordination and unclear role delineation between HQ and Field Offices hinders consistent execution

HQ Major Functions

	Guidelines	Training	Adjudicate	Liaison	Production Standards	Records Mgmt	Form Dev.	Process	Audits	Systems
Book Printing/ Quality Check/ Mail Out/ Achieve (BQMA)	✓					✓				✓
Case Adjudication (Adj)	✓	✓	✓	✓	✓				✓	
Customer Service (CSX)	✓			✓	✓		✓	✓		
Data Entry / Batching / Image (DBI)	✓						✓			✓
DS-5055 Corrections (5055)	✓	✓	✓	✓	✓	✓				
Fraud Review (FR)	✓	✓						✓	✓	
Potentially Fraudulent Birth Docs (PFBD)	✓	✓	✓			✓				
Special Issuance for Military(SIM)	✓	✓		✓	✓					

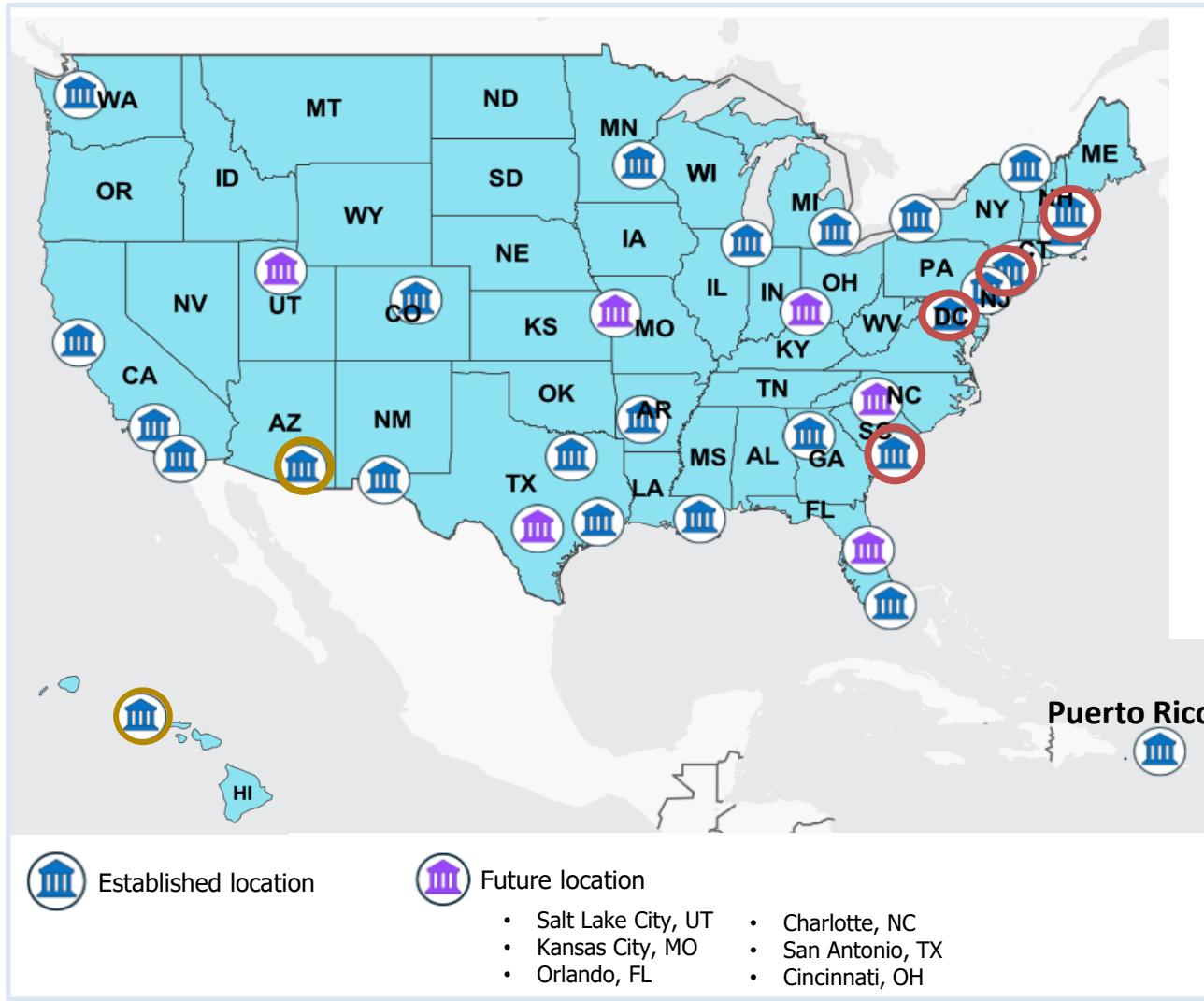
Resource & Strategic Planning

Disconnected Functions

Consular Affairs: Passport Agency

3. Site Visits for Processes, CX, and EX Analysis

Lessons from the field: real user behaviors, operational limits, site priorities based on specialty, employee concerns, process redundancies, and vision for the future



- 7 / 29 Passport Agencies were toured, (4 in-person, 3 virtually)
- Tour sites were chosen based on ensuring coverage of all CA/PPT specialties, budget constraints, and sponsor accessibility
 - Western sites had to be toured virtually in order because of budget/time/notice
- Interviews with management were conducted in advance of each tour
- Leadership shadowing of day-to-day processes, group interviews, and widget process analysis conducted on-site

Toured:	Specialties:
Philadelphia	Amish / Mennonite Applications
CPC (Charleston) <i>Mega Print Center</i>	Potentially Fraudulent Birth Certificates (PFBD), 5504 (Corrections), Special Issuance for Military
Washington D.C.	Expedited Counter, "VIP" applicants (congress, senate, etc.)
Special Issuance Agency (SIA)	Diplomatic, Official, Service, Military no-fee, Military dependents, Emergency 1-yr
NPC (New Hampshire)	Military no-fee, airline crews
Virtually Toured:	Specialties:
Hawaii	Adjudicating nationals
WPC (Tucson) <i>Mega Print Center</i>	Repatriation

Consular Affairs: Passport Agency

Mapping the customer experience and widget processing + delivery to expose pain points and decision moments.

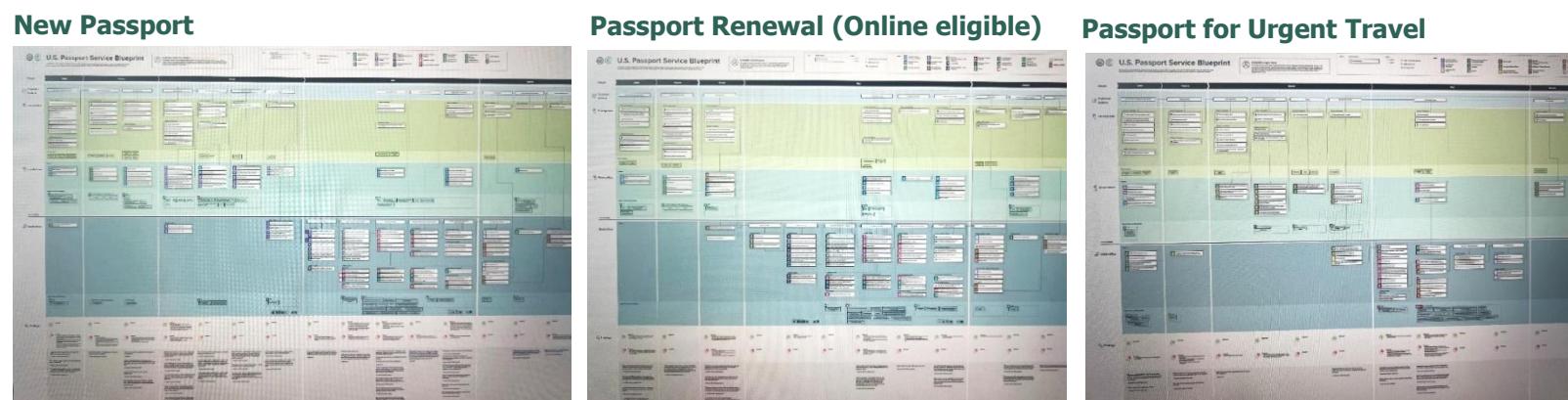
4a. Customer Experience Analysis: Service Blueprints Deep-dive

CA/PPT's concern: ensuring Passport experience **earns citizens' trust**, as it's the only interface a citizen may ever have with the fed gov.

Meanwhile, the **customer's goal is simply unencumbered travel**. A more transparent UX will help earn trust and make the process smoother.

Customer expectations:

- Online:** Digital co-pilot to assist completion of passport application, all from mobile phone or laptop. Zero paper or mailing.
- In-person:** For urgent travel, a quick experience in-person experience at a local agency, without long wait times. Any issues with application should be communicated immediately.
- Intuitive, fast, & informative** experience, ability to track process at each phase to know what is expected and what actions they need to take



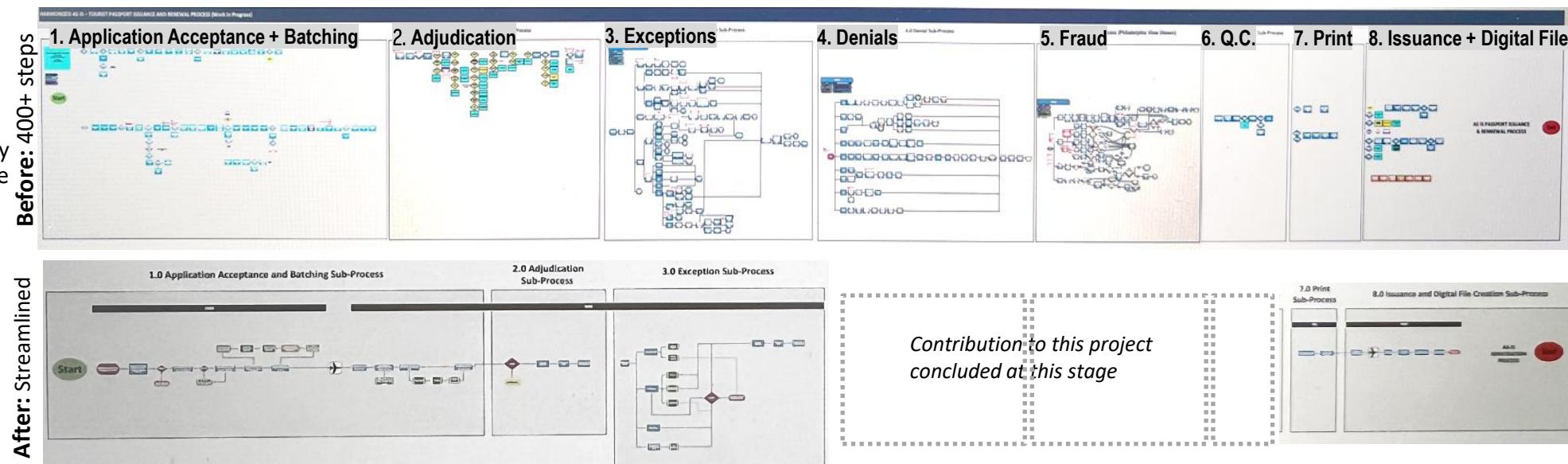
4b. Process Analysis: End-to-End Process Map Revisions

Lean Six Sigma best practices, site walk-throughs, and SME workshop validations shaped our initial end-to-end map

Since each of the 29 agencies had a slightly different process, it was imperative that the new 6 agencies had a concise, harmonized map to build their processes around.

Also shaping the future ways of working are the **employee expectations**:

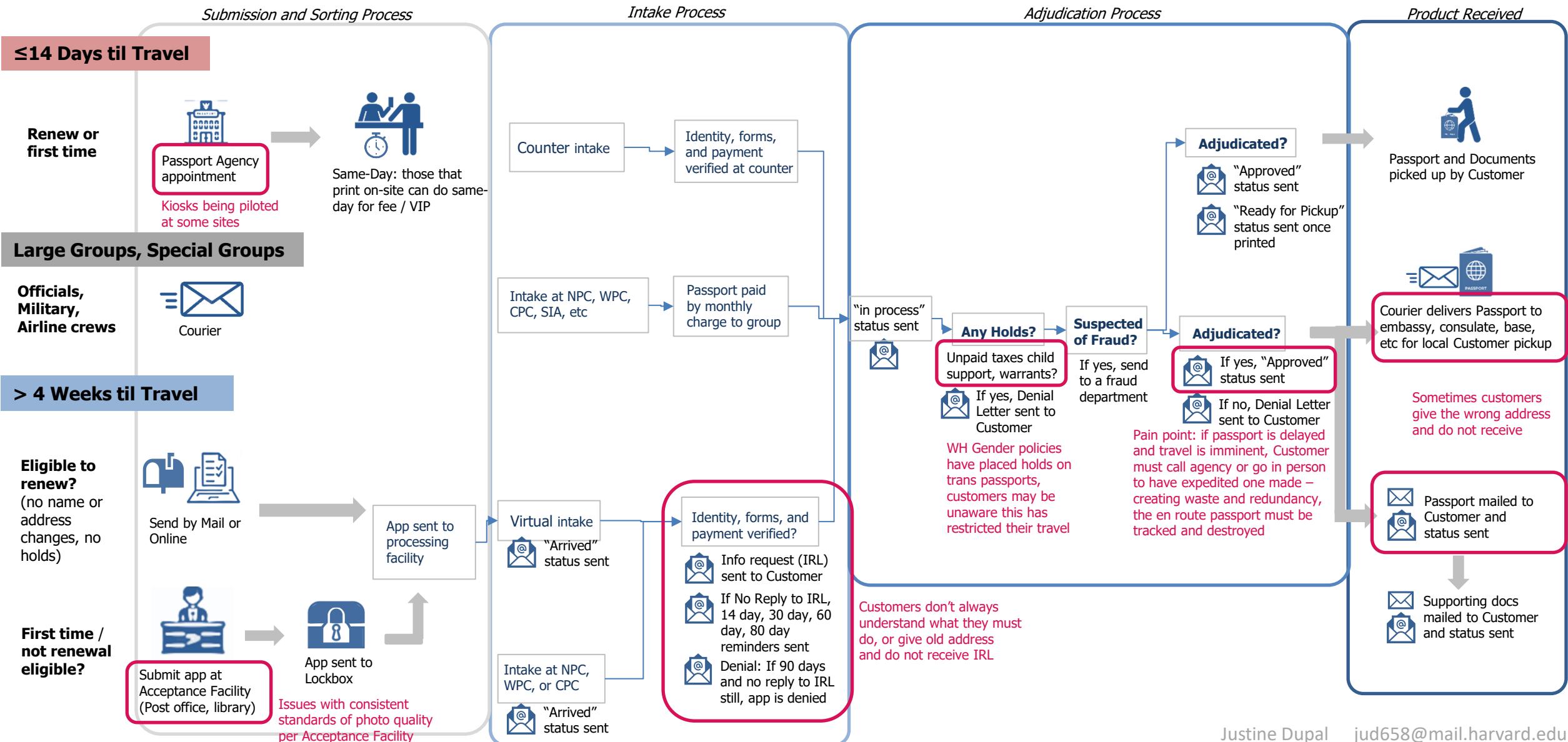
- Leveraging new technology
- Improved communications with HQ
- Better workload prediction models to help manage workload's flexibility and employee expectations



Consular Affairs: Passport Agency

4c. High-level Analysis of Widget Journey + Customer Touchpoints

Combining maps / data gathered for a high-level view of main touchpoints and pain points to reveal opportunities for better service and enhance customer trust during the process.



Veterans Affairs: VA Profile

Design Problem:

The Veterans' Experience Office (VEO) oversees **VA Profile** - the authoritative data source for 16 million+ **Veterans' customer data profiles** to **streamline Veteran interactions** with all VA benefits and services. Veterans rely on VA Profile for **healthcare benefits, financial assistance, medication delivery**, and other **resources**. VA Profile is expanding beyond its 40+ partners, to add millions more Veterans, dependents and caregivers to its database. VEO's goal of attaining at least 90% of customers' trust requires consistent and reliable operations of the tool and its support network of services.

VEO seeks to better understand the current state of business processes, information sharing, and knowledge management for integrating new lines of business + bidirectional flow of Veteran contact data between solutions.

VA Profile's main challenges are onboarding and integrating new lines of business, including:

Data conflicts across programs

Stakeholder buy-in and approval

Increasing awareness and adoption among internal customers

Defining clear roles and responsibilities for integration

Development, testing, and production deployment

Solution:

Conduct an assessment that will produce recommendations on how VA Profile can:

- Develop robust intake process for engaging and onboarding a new business line integrating with VA Profile
- Refine handoffs and increase stakeholder involvement to promote seamless execution
- Implement rigorous data validation and standardization to improve consistency and reliability across systems

36 recommendations were developed and prioritized through a combination of assessing potential impact, level of effort to implement, and timeframe to execute. The recommendations and prioritizations were validated through a human-centric design (HCD) Importance-Difficulty exercise with representatives from key roles.

Overview:

User groups :



Veterans



Family /
guardians
of Veterans



Internal
Customers



External
Customers



VA Profile
Staff-
Backend



VA Profile
Staff -
client-facing

Data utilized:



Best Practice
Research



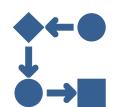
Interviews



Workshops



RACI +
Org Roles



Process
Mapping

Primary factors addressed:



Business /
IT Process
Integration



Data
Management



Partner
Experience



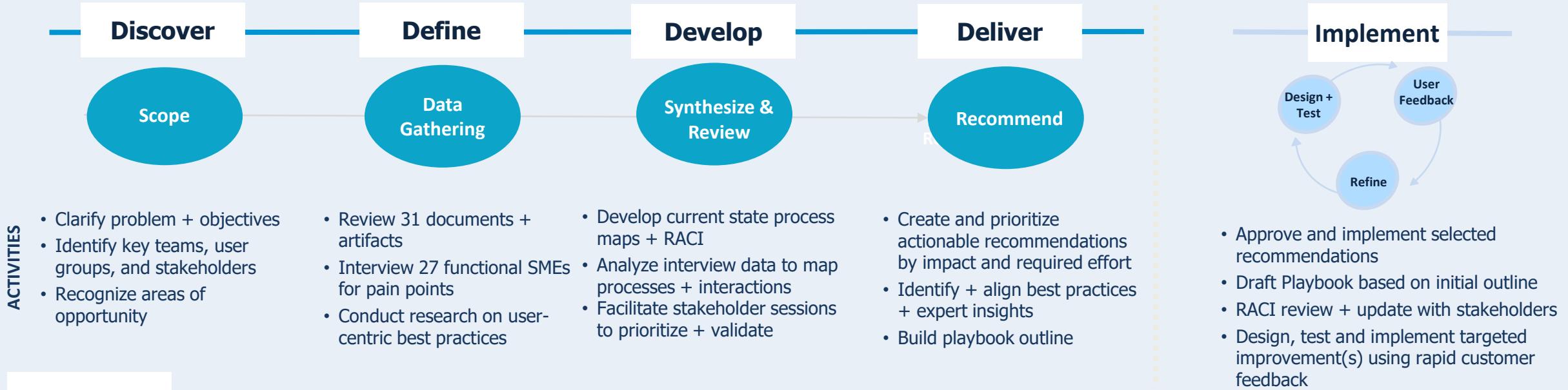
Knowledge
Management



Change
Management

Veterans Affairs: VA Profile

Assessment Framework:



1. Discover

The **Veterans Experience Office** (VEO) provides strategic and operational oversight of the VA Profile Program and is Data Steward over Veteran, associated individuals, and guardian contact information. VEO's Multi-Channel Technology (MCT) Customer Information Services (CIS) Division champions the VA Profile Program and its Master Data Management Solution in collaboration with other VA entities.

Goal: Deliver an assessment that provides sufficient analysis and information to inform VA Profile's strategic planning and decision-making. Ensure adequate understanding of existing processes, performance, and resources to identify meaningful opportunities for improvement and impact.



VA Profile is the authoritative data source for 16 million+ Veterans' **customer data profiles** to streamline Veteran interactions with all VA benefits and services.



Veterans rely on VA Profile for **healthcare benefits, financial assistance, medication delivery, + other resources / support**.



VA Profile is expanding beyond its 40+ partners, to add millions more **Veterans, dependents and caregivers**.



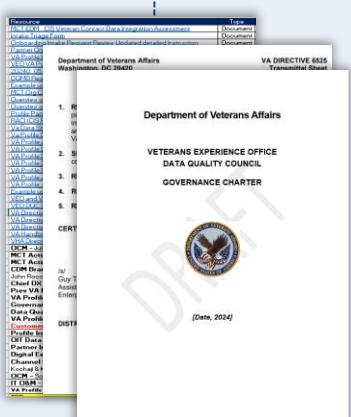
VEO's goal: **90% of customers' trust**. This requires **consistent and reliable operations** of the tool and its support network of services.

Veterans Affairs: VA Profile

2. Define

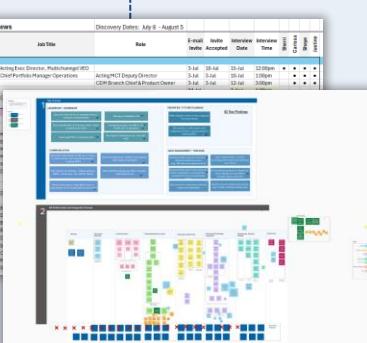
Background Research

Research + review existing artifacts and materials, industry best practices



Data Collection

Functional interviews + whiteboarding sessions



18 Interviews
27 Key Stakeholders
31 Artifacts Reviewed

Best Practices:

- Business / IT Process Integration
- Data Management
- Partner Experience
- Knowledge Management
- Change Management

3a. Develop

Analyze + Synthesize Key Findings

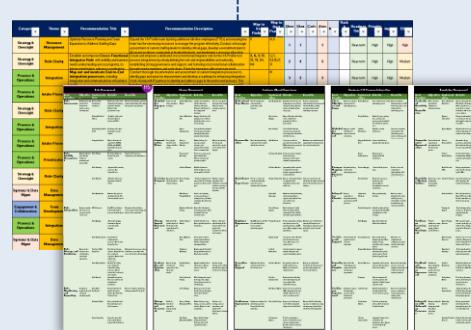
Qualitative methods to identify valuable insights + common themes



Validity + Priority
Whiteboarding Sessions
with key stakeholders

Develop Actionable Recommendations

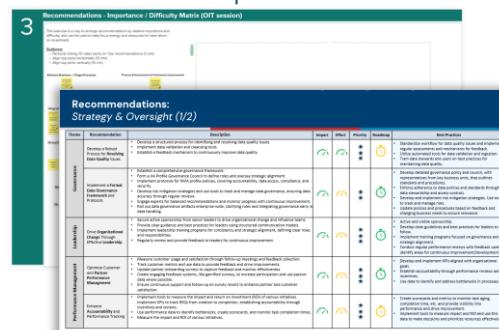
Summarize key findings, align themes with objectives, prioritize themes and create recommendations



4. Deliver

Communicate Top Recommendations

Apply prioritization framework to rec's, map to best practices, create implementation timeline



150+ insights clustered into 15 common themes, with top 36 recommendations, informed by best practice research across 5 main areas.

3b. Develop – Summary of Current VA Profile Intake and Integration Process

Current State Process Map (high level)

6 phases work in conjunction to continuously progress and develop the VA Profile for implementation while meeting regulatory requirements.



Awareness

Identify VA Profile requirement

Gather and document business requirements and needs related to the VA Profile Intake and Integration.

- Objectives:**
- Facilitate stakeholder engagement in defining business needs
 - Verify use cases align with business requirements

Business Intake

Stakeholders are informed about the VA Profile Intake and Integration process, its importance, and their roles within it.

- Objectives:**
- Increase understanding + visibility of process
 - Foster culture of proactive engagement + participation
 - Comm. to all stakeholders process benefits+ impacts

Data Intake

Identify, assess, and integrate technological solutions that support VA Profile function and implementation.

- Objectives:**
- Validate data and user stories for security implications
 - Implement and configure technology solutions effectively

Technology Intake

Collect, validate, and integrate data necessary for the VA Profile Intake and Integration process.

- Objectives:**
- Verify data accuracy, completeness, and consistency
 - Enact data governance + QC measures

Development, Testing, Fielding

Maintain and continuously improve the VA Profile Intake and Integration process over time

- Objectives:**
- Monitor + evaluate process performance
 - Request Partner feedback for continuous improvement

Continuous Sustainment

Develop, test, and validate the user stories and processes required to integrate VA Profile.

- Objectives:**
- Address and resolve any issues or defects identified during testing
 - Conduct rigorous testing to verify quality and performance

MY ROLE: My two-person team worked closely with a 2-person co-contracting team at Deloitte. Our team of 4 ran the interviews, analyzed the data, researched best practices, and developed a comprehensive 35-page report of recommendations, as well as drafted a 15-page playbook.

Continuous Strategy Oversight and Communications across processes

Boston Scientific Mobility Program

Design Problem:

While updating their design guidelines, Boston Scientific discovered their headquarters were heavily underutilized. Compounding on the popularity of their current work-from-home program, **a new program for "Agile Work"** - where employees will have unassigned seating when in the office - **was requested, as well as a \$3 million renovation to support the program and refresh the space.**

Solution:

Based on research identifying potential for seat leveraging, employee badge data illustrating workplace utilization, and Boston Scientific's renovation constraints, an Agile Work program and accompanying redesign of the work floor were created for the IT team.

Overview:

User groups were identified:



Workplace Functions



Specialty Functions



Workplace + Specialty

Data utilized:



Previous Pilot Data



Site Visits



Interview + Surveys



Best Practice Research



Phone calls + e-mails



Follow-up Visits

Primary issues identified:



Low Utilization



Outdated Tech



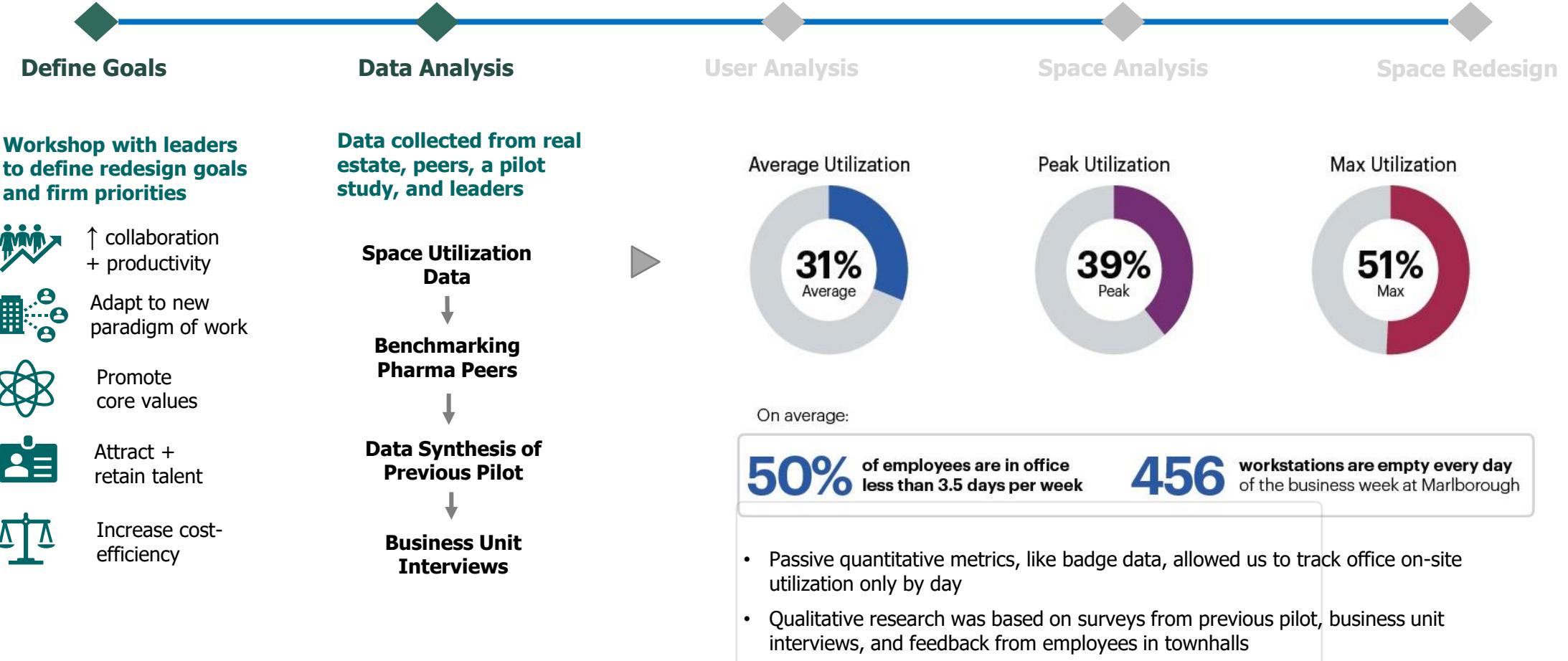
Uninspiring Space



Visual + Acoustical Privacy

Boston Scientific Mobility Program

Strategy Process Steps: Define goals, data analyses, user analysis, space analysis, space redesign



Boston Scientific Mobility Program



A. User Profiles:



B. Agile Work candidacy considerations

User profiles evaluated based on:

- Paperwork, tech, phone usage
- Need for on-site resources
- Accessibility / collaboration
- Level of confidentiality

➤ Low Agile Work Potential:

- Need to be tethered to specific desk or bench
- Frequent need for specific equipment or resources that are only available in-office
- Desire for physical adjacency to team(s) or accessibility

➤ High Agile Work Potential:

- High locational flexibility
- Low need for workplace spaces or team adjacencies
- Low need for heavy technology, storage, or physical documentation

The 'Agile Work' Program

Classifications

Boston Scientific wanted to see if IT would be good candidates for an 'agile work' program that redistributed office real estate based on needs of the job description, allowing employees to have seating in:

1. **Permanent desk / office** – belongs to one user



2. **Group addresses** – unassigned seating with similar user types



3. **Touchdown benching** – unassigned benching for anyone: contractors, visitors, etc.

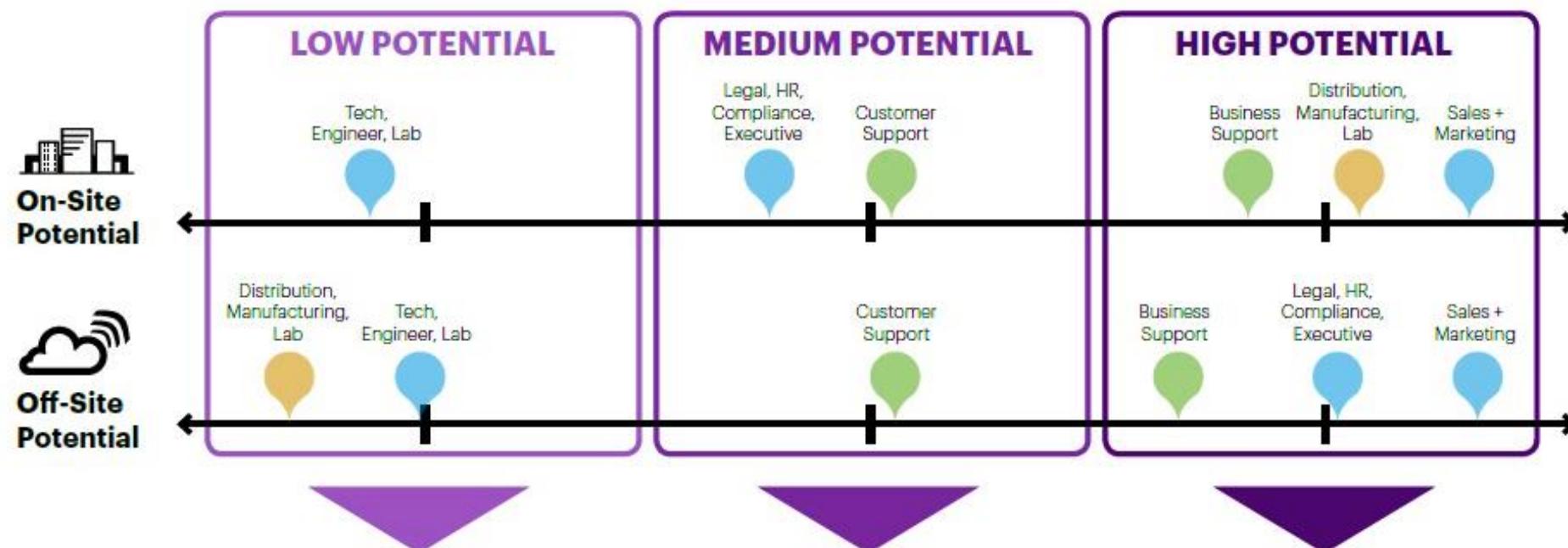


Boston Scientific Mobility Program



User groups were evaluated for Agile Work by anticipating spatial needs on- and off-site

Agile Work Candidacy Spectrum



Spatial Implication:

CASE-BY-CASE LIFESTYLE CHOICE

- Dedicated desk or touchdown
- Adjacent to similar User Profiles

GROUP ADDRESS (NEIGHBORHOOD)

- Unassigned seat with touchdown
- Adjacent to similar User Profiles

CENTRALLY-LOCATED TOUCHDOWN

- Unassigned seat anywhere

Boston Scientific Mobility Program



IT population: breakdown + anticipated growth

2016

Existing Distribution	Target Ratio / Quantity
Employees	125 people
Contractors	69 people
Existing Population	194 people

~ 2020

Projected Distribution	Target Ratio / Quantity
Growth Rate	5%
Time Period	3-5 years
Employees	131 people
Contractors	73 people
Estimated Population	204 people

New 'Agile Work' program: assumptions + seat leverage

Assumed Enrollment Distribution
Employees:
Assume all Workflex participants plus an additional 10% will enroll
Non-Employees:

Assume all Workflex participants plus an additional 10% will enroll

30% employees in Workflex
80% non-employees

Population Distribution	Estimated Enrollment
Employees	39 participants
Contractors	58 participants
AgileWork Population	97 participants
1 flex station: 1.80 AgileWork participants	
*Seat leverage ratio built from an average of the Agility Assessment benchmarked range (1:1.1-1:3.0) and Spencer pilot goal (1:2.0)	
Flex Seat Demand	54 flex seats

*Seat leverage ratio built from an average of the Agility Assessment benchmarked range (1:1.1-1:3.0) and Spencer pilot goal (1:2.0)

Boston Scientific Mobility Program



Define Goals

Data Analysis

User Analysis

Space Analysis

Space Redesign

Design Problems identified in walkthroughs + interviews:

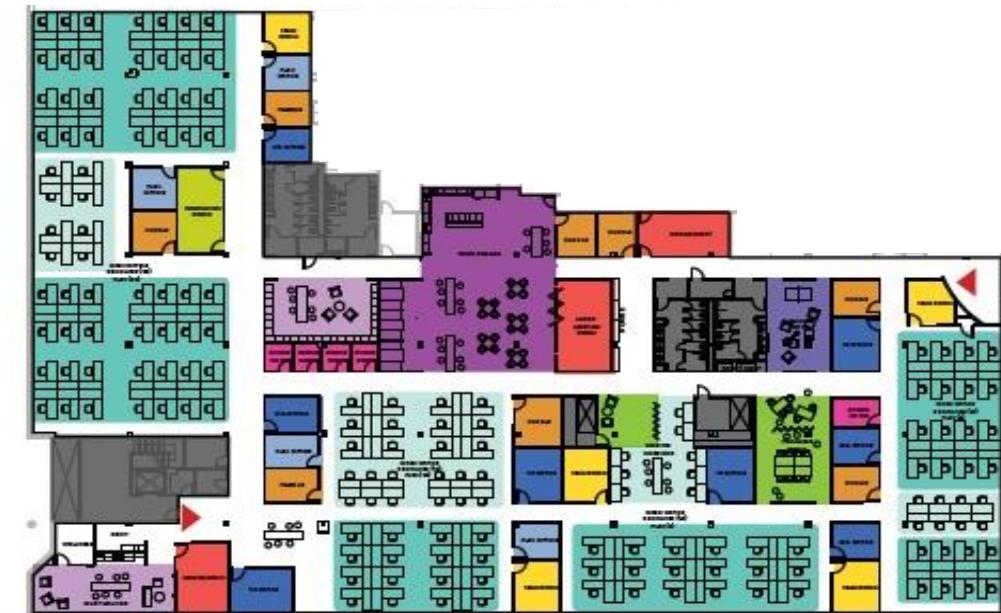


1. Project Room: Isolated, divides team + bars natural light

2. Team Rooms underutilized: poor layout + poor lighting

3. Town Square + Huddles underutilized: poor adjacencies + lack of technology / amenities

Design Solution, new collab spaces + seat sharing:



Space Type

► Point of Entry	Huddle Room
■ VP Office	Team Room
■ Director Office	Medium Conf. Room
■ Flex Office	Large Conf. Room
■ Standard Workstation	Innovation Room
■ Flex Desk	Hackable Zone
■ Flex Bench	Town Square
	Community Hub
	Game Space
	Phone Room

New collab spaces:

- More Team rooms
- 2 Innovation rooms
- Community Hub
- Game space
- Expanded Town Square

Seat sharing configuration:

- flexible workstations for 'agile' employees

MY ROLE: As Design Strategist, I worked with my Manager, Architect, and fellow Strategist on a variety of projects. I conducted benchmarking, best practice research, user interviews, workshop facilitation and data synthesis / analysis for our clients, as well as designing deliverables and leading interns in tool kit developments.

Design Problem:

Bitcoin and Fidelity are looking to discover the next generation's solutions to transactions, participation, and trust among people by leveraging emerging technologies. **Explore the intersection of technology and human needs to identify new market spaces and prototype venture solutions. Plan and prototype a starter kit for transactions among peers.**

Solution:

Digital prototype of a new app for students was created. App addresses imbalances in social interactions by logging events as memories and gratitude as the method of reimbursement. App includes virtual gestures as well as offerings from local businesses in array of appreciative deeds available to users.

Overview:

User profiles were created:



Takers



Helpers



Forgetfuls



Tutors

Data collected over 3-day period:



Journey Mapping



Traces + Observations



Interviews



Text & e-mail surveys

Primary issues first identified:



Reciprocity



Accurate Records



Accountability



Gratitude



Connection



Partnerships

Primary issues identified after data:

1. User Profiles were created for transactions and borrowing among peer groups:



Taker Ted

borrowes but never
returns favors

FEEL: Expectant of others to help him
but doesn't feel obligated to reciprocate

DO: Never has any money on him,
always has others pay

SAY: "I forgot my wallet... thanks for
covering again!"



Helper Hannah

will do any favor asked

FEEL: Likes /doesn't mind helping
others, not comfortable asking for return
favors

DO: Routinely doing favors for others
without protest

SAY: "Oh, sure, whatever you need."



Forgetful Fay

wants to reciprocate but
forgets deeds others do

FEEL: Guilty when doesn't remember
if she owes friend

DO: Accidentally has others pitch in
more than she intended

SAY: "Did you get the tickets last time
or did I?"



Tutor Tina

likes to help others succeed

FEEL: Confident in her own abilities
and wants to help others reach goals

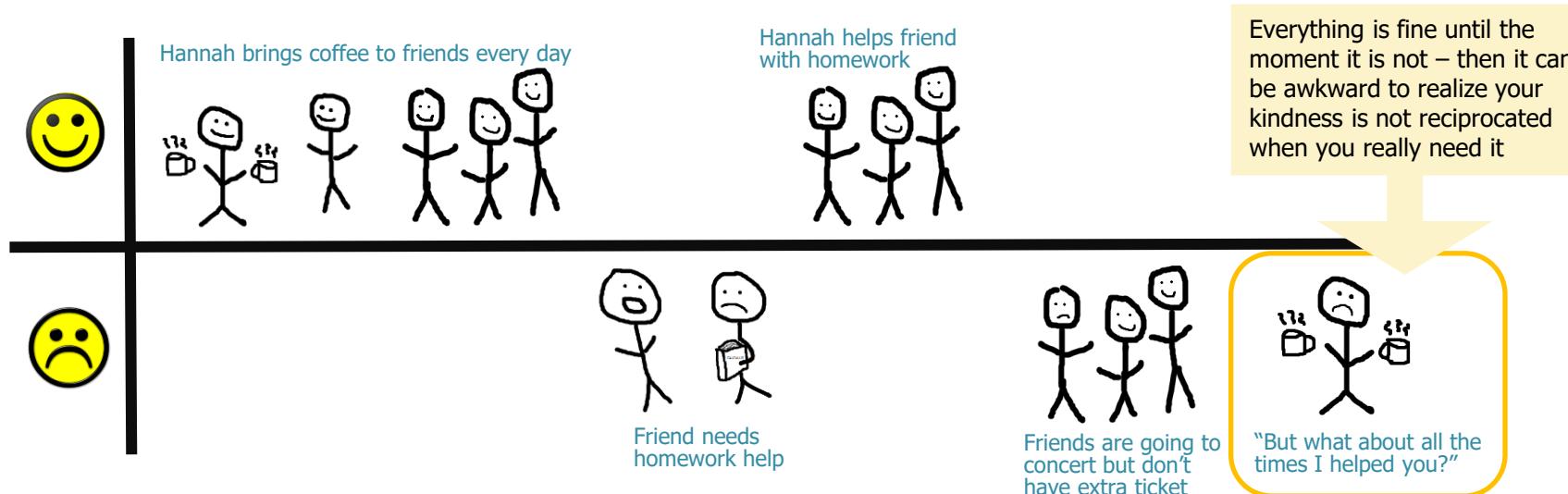
DO: Offers time for homework help,
leads study groups

SAY: "Tomorrow we can go over the
problem set after class."

What would incentive each one?

2. User Journeys

were explored to see where the pain points could be:



After examining user profiles and user journeys, we decided we wanted an app to reduce the awkwardness of giving / returning favors between friends (see Fig 1). **We wanted to create a way to hold friends accountable, with a reward system for reciprocating favors.**

3. Design Process:

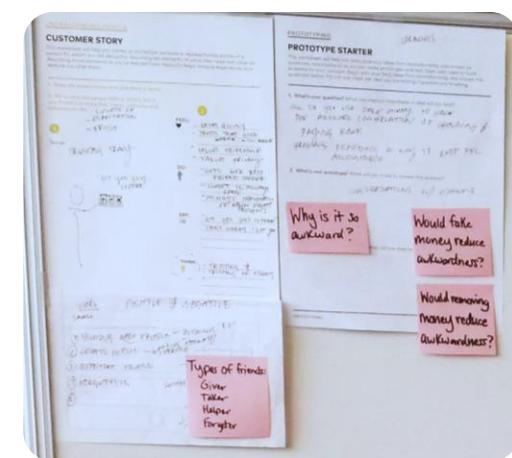
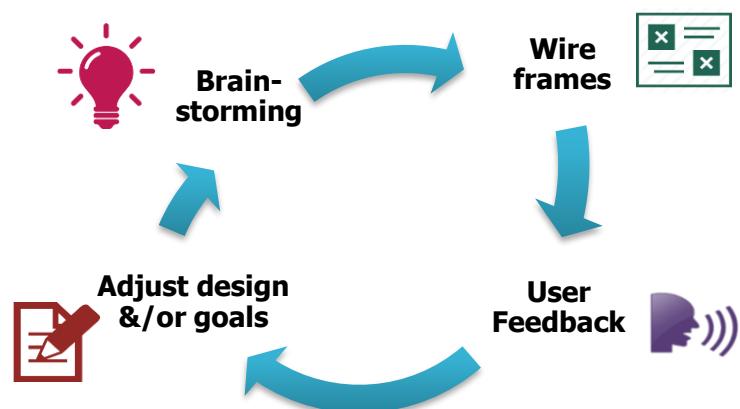


Fig 1



Creation: paper mock-ups of an app that keeps count of the favors a network of people perform (see Fig 2 & 3)

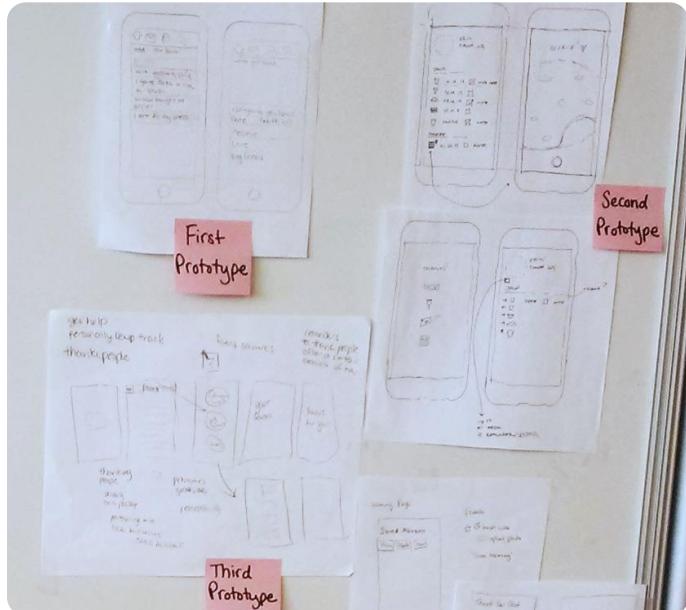


Fig 3



Fig 4



User Feedback: research via interviews and surveys

1) **Interviewed peers** on what was not working, what was missing, and what parts of the app would they not use:

- App was **easy** but needed to be more **fun**
- Liked how app **helps them remember** who did favors
- Don't want app to make them **feel like a bad friend**
- Unsure if favor records are **accurate** or **socially acceptable**

2) **Surveyed peers** via e-mail and text, asking what kind of reciprocity they expected after doing a favor:

- Most people told us a "**simple thank you is enough**"
- "**Few people bother to say 'thank you' these days**"

After creating wireframes and interviewing students on their feedback, we found that most people were not concerned with a tit-for-tat friendship. They did not have a problem with uneven lending among their friends; they only cared about feeling appreciated with a simple "thank you." We realized we had assumed the negativity of a pain point came from the lack of reciprocity, when in fact, the overwhelming feedback was that a 'thank you' was all a person wanted from their friend. We decided to shift the focus of our app and design around the concept of gratitude.



Goal Adjustment

Gratitude reduces stress and **improves**:

- grades
- immunity
- sleep patterns
- teamwork
- feelings of belonging
- social networks
- relationships

Chose two benefits of gratitude to focus and reclarify goals of product:

WHO we design for	Students age 18-30's , tech-savvy students / young adults
What we want to LEARN	How can we reduce awkwardness of reciprocity in friendships through showing gratitude?
What we're MAKING	An app that makes gratitude social and incentivizes people to track favors - monetary, emotional, educational, practical, etc. - through thanking friends



Brainstorm:

what gestures could thank friends and what student groups / businesses could assist in these gestures?

- How might we utilize local resources?
- How might we weave it into the design of the app?



Prototyped

physical thank you cards and candy boxes for 'candy grams' (see Fig 4 and 5)



Fig 5



Fig 6

MY ROLE: Our team of 4 consisted of a RISD design student, an HBS student, and a psychology student. I was the human factors grad student, servicing the team in user personas, journey mapping, user interviews, prototype design and testing, and presentation.

Outcome: Digital prototype was constructed in Illustrator.



To&From App allows people to customize their own list of favors (given and received) among their friend group(s), choose both physical and virtual ways to thank others, and log memories in a quick, easy, and fun way. While initially virtual, the app can partner with local businesses to offer creative ways to show appreciation for others, from hand-written notes to cards, gifts, and local collaborative events.

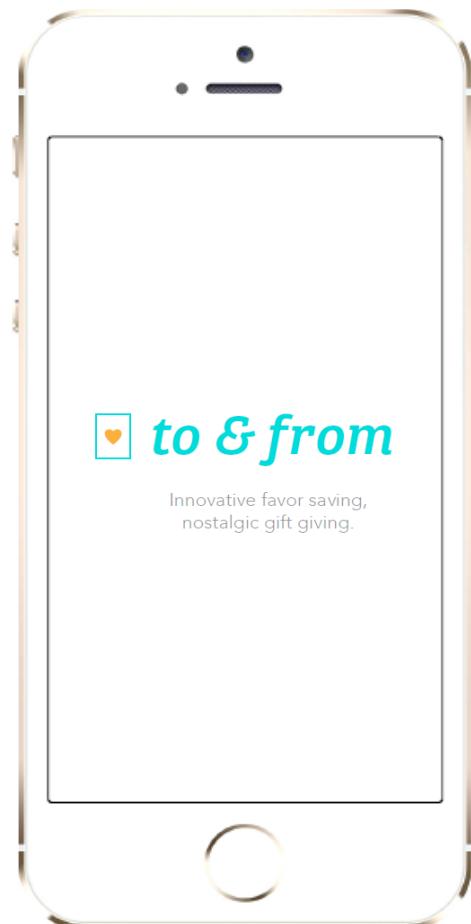


Fig 6:
Start Screen

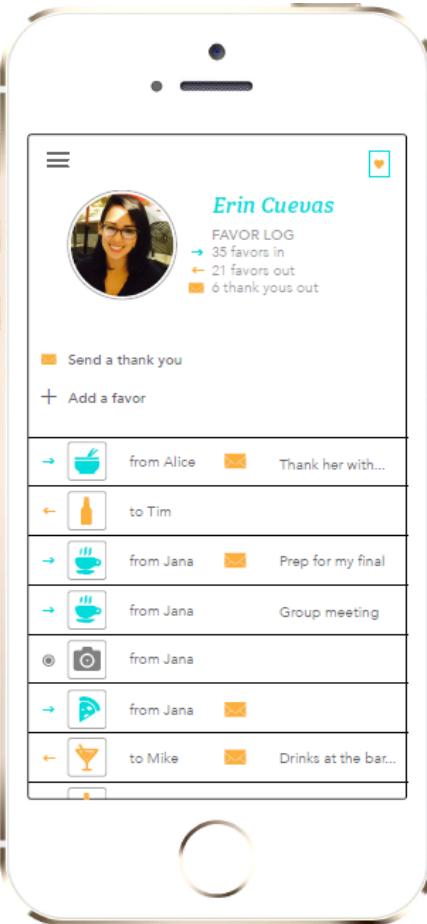


Fig 7:
Favor log screen

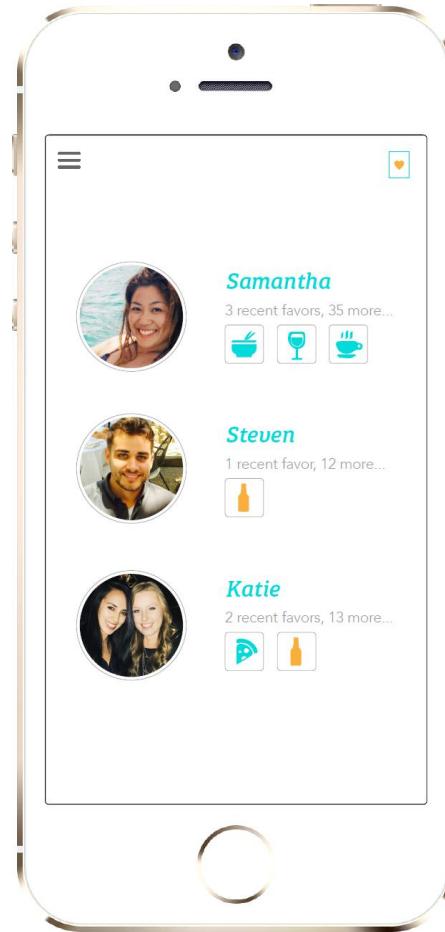


Fig 8:
List of friends screen

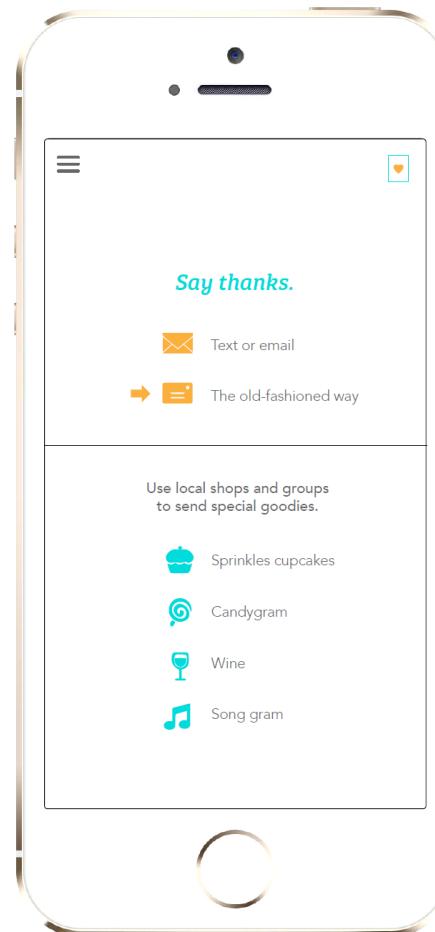


Fig 9:
'Thank You' options screen

APPENDIX – ERGONOMIC EXAMPLE - Laundry at Spaulding Rehab Center



Measure & examine carts, interview worker



Fig 1: Large custodial cart



Push/pull & distance measures, follow-up interview

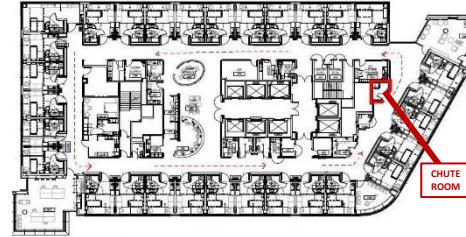


Fig 2: New motorized cart



Observations of shifts & linen collection

4th floor layout of Spaulding Rehabilitation Center



Strain Index Analysis

Bags taken out of motorized cart (white column) vs. non-motorized blue custodial cart (blue column):

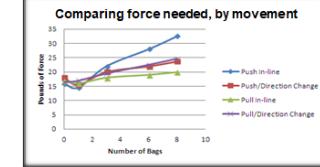
	Intensity of Exertion		Duration of Exertion (% of cycle)		Exertion per Minute		Hand/Wrist Posture		Speed of Work		Duration per Day		SI Score	
Criterion	Hard	Hard	<10%	<10%	9-14	>20	Very Bad	Bad	Fast	Fast	<1	<1	Motor Cart	Blue cart
Ratings	3	3	1	1	2	5	5	4	4	4	1	1	5.063	6.75
Multiplier	6	6	.5	.5	1.5	3	3	2	1.5	1.5	.25	.25	5.063	6.75
	SISCORE: 1 2 3 4 5 6 7													
	Probably safe Increased risk Hazardous													

Push-pull Force Gauge Analysis

Motorized cart:

	No Bags	1 Bag	3 Bags	6 Bags	7 Bags	8 Bags
Push In-line $y = 14.3 + 2.25x$	15.5-16 lbs	14.5 lbs	21.5-22 lbs	28 lbs	30.25 lbs	32.5 lbs
Push/Direction Change $y = 16.643 + .893x$	17-19.5 lbs	15.5 lbs	18-20 lbs	22 lbs	22.89 lbs	23.7 lbs
Pull In-line $y = 16.429 + .429x$	17 lbs	16 lbs	18 lbs	19 lbs	19.43 lbs	19.9 lbs
Pull/Direction Change $y = 16.286 + 1.036x$	15.5-16.5 lbs	17 lbs	19.5 lbs	22.5 lbs	23.54 lbs	24.6 lbs

Red = exceeds recommended max of 24 lbs of force



RULA Analysis

Pushing motorized cart
score: 5



medium risk

Pushing custodial cart
score: 6



medium risk

Loading either cart
score: 7



high risk

Unloading motorized cart
score: 7



high risk

Unloading custodial cart
score: 7



high risk

Rapid Upper Limb Assessment
(RULA) score:
1 2 3 4 5 6 7

Acceptable posture

Further investigation, change may be needed

Further investigation, change soon

Investigate now and implement change

NIOSH Lifting Equation

LOAD CONSTANT	VERTICAL MULTIPLIER 1 (lift start)	VERTICAL MULTIPLIER 2 (lift end)	DISTANCE MULTIPLIER	HORIZONTAL MULTIPLIER	COUPLING MULTIPLIER	ASYMMETRIC MULTIPLIER	FREQUENCY MULTIPLIER	RECOMMENDED WEIGHT LIMIT
Laundry Bin to Collection Cart	33 in		25.5 in	18 in	Poor	45°	0.5 lifts/min for 2-8 hrs	
	51 lbs	0.98	0.89	0.56	0.9	0.86	0.81	15.6 lbs
		58.5 in	25.5 in	18 in	Poor	45°		12.7 lbs
Collection Cart to Chute	28.5 in		25 in	18 in	Poor	45°	6 lifts/min for <1 hr	
	51 lbs	0.98	0.89	0.56	0.9	0.86	0.75	14.5 lbs
		45.8 in	25 in	18 in	Poor	45°		11.8 lbs
Motorized cart:	7 in (empty) 40 in (full)	1.0 0.87	0.56	0.9	0.86	0.81	0.5 lifts/min for 2-8 hrs	
	51	0.98	0.89	0.56	0.9	0.86		15.6 lbs 15.2 lbs
		7 in (empty) 40 in (full)	18 in	Poor	45°		0.5 lifts/min for 2-8 hrs	
Collection Cart to Chute	30 in (ideal) 70 in (full)	1.0 0.90 (full)	0.56	0.9	0.86	0.81	16.7 lbs (empty) 10.9 lbs (full)	
	51	1 (ideal) 0.70 (full)	0.93 (ideal) 0.90 (full)	0.56	0.9	0.86	0.75	14.4 lbs (empty) 10.4 lbs (full)
		45.8 in	15.8 in	18	Poor	45°	6 lifts/min for <1 hr	
	51	0.80	0.93	0.56	0.9	0.86	0.75	12.3 lbs