

Product Design Portfolio

ARVIN DANG

CLIENT

AbbVie

DURATION

9 Months

TEAM

11 Engineers

1 Product Lead

1 Lead Designer +
Researcher (Me)

LANGUAGES

Python

React

Accelerating Drug Discovery and Streamlining Research

This product has become a cornerstone in the early stages of research and development at AbbVie. Its implementation marks a shift towards a more streamlined approach in the drug discovery process. However, it's important to note that the metrics to definitively measure its success are long-term and still evolving.

KEY CONTRIBUTIONS

- 1. Design Lead:** I worked closely with biochemists and pharmacists to understand the intricacies of their research needs. This collaboration was pivotal in identifying opportunities to enhance the platform, making it more conducive to accessing clinical trial data.
- 2. Feature Enhancement:** A significant addition I spearheaded was the development of a feature that allowed scientists to conduct comparative analyses of molecules, genes, and health conditions.
- 3. Redesign and Simplification:** As the platform evolved and its complexity grew, my role expanded to include the redesign of the user interface. My focus was on simplifying the user experience while incorporating new features, ensuring the platform remained intuitive and user-friendly.

ARCH Search

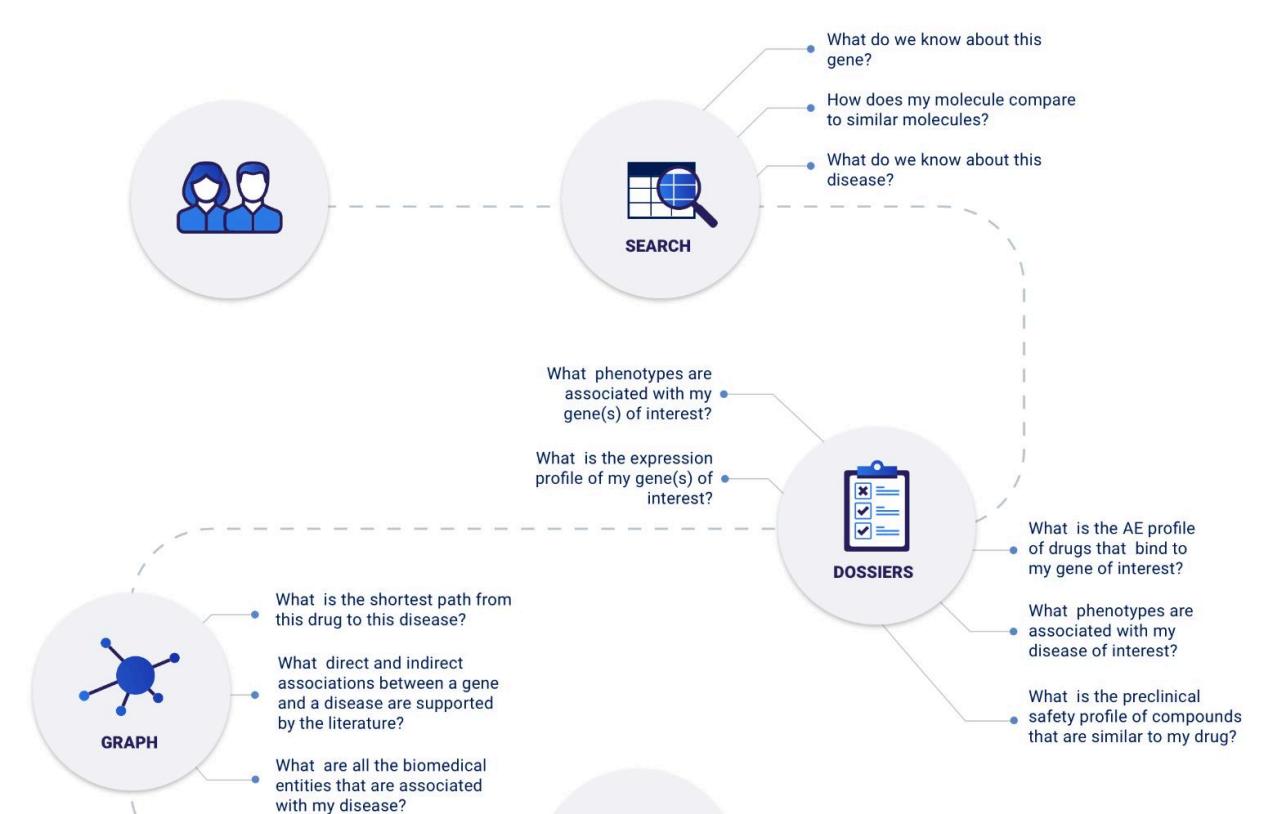
Biochemists can search for specific molecules, drugs, genes and health conditions.

MOLECULE HIERARCHY

ARCH UI COLORS

What can I do in ARCH?

ARCH offers a suite of tools for exploring, visualizing and analyzing different types of scientific questions—from broad to highly focused. [Watch Videos](#)



FEATURE ENHANCEMENTS

ARCH

A-861695.0

A-861695.0
Veliparib

All Forms .0 No Salt .1 HCl .12 salt name .15 L20 .19 salt name .25 salt name .29 salt name .32 salt name Filters

Chemical Similarity

Views: Heatmap Grid Table Learn More

No Data Strength 0 Strength 1 Strength 2 Strength 3 Strength 4

ECFP6 4096-bit Structural Similarity Bioprofile

A-10042 A-26830 A-1702 (Drug Name) A-778168 (Drug Name) A-912483 (Drug Name) A-1753791 (Drug Name) A-1753731 A-424097 A-10042 A-26830 (Drug Name) A-1702 A-912483 (Drug Name) A-778168 A-1753791 A-1753731 (Drug Name) A-424097 A-10042 A-26830 A-1702 A-10042 A-778168 (Drug Name) A-912483 (Drug Name) A-1753791 A-1753731 (Drug Name) A-424097 (Drug Name) A-1702 A-10042 A-778168 A-912483 A-1753791 A-1753731 (Drug Name) A-424097 A-10042 A-26830 (Drug Name)

Chemical Similarities

Selected Molecules (Limit 10)

Search a Molecule or Drug Name

250 Total Chemical Similaries for A-861695.0

A-861695 Veliparib CHEMBL1094636 A-424097 Exalamide A-1702 A-1702019 A-2910313

CHEMBL3137... Peficitinib CHEMBL1201284 A-26830 A-10042 A-1702019 A-2910313

A-861695 Veliparib CHEMBL1094636 A-424097 Exalamide A-1702 A-1702019 A-2910313

CHEMBL3137308 Peficitinib CHEMBL1201284 A-26830 A-10042 A-1702019 A-2910313

A-861695 Veliparib CHEMBL1094636 A-424097 Exalamide A-1702 A-1702019 A-2910313

Target Comparisons

Empower scientists with the ability to conduct direct, custom comparisons, facilitating deeper insights into molecular and genetic relationships.

DESIGN IMPROVEMENT

ARCH > A-861695.0 > A-1195425.0 - Adverse Events

A-1195425.0 Venetoclax

Salt: All

Chemical Similarities

Views: Grid 32 Total Learn More Filters Molecule Comparison

Rifabutin + Amoxicillin + Omeprazole Peficitinib Reference A-921303.0 Strength 4 Tanimoto 1.2 Copy SMILE 1 of 3

A-424097 Peficitinib Reference A-921303.0 Strength 4 Tanimoto 1.2 Copy SMILE 1 of 3

A-1702 Peficitinib Reference A-921303.0 Strength 4 Tanimoto 1.2 Copy SMILE 1 of 3

A-424097 Peficitinib Reference A-921303.0 Strength 4 Tanimoto 1.2 Copy SMILE 1 of 3

A-10042 Peficitinib Reference A-921303.0 Strength 4 Tanimoto 1.2 Copy SMILE 1 of 3

A-778168 Peficitinib Reference A-921303.0 Strength 4 Tanimoto 1.2 Copy SMILE 1 of 3

A-1702 Peficitinib Reference A-921303.0 Strength 4 Tanimoto 1.2 Copy SMILE 1 of 3

CHEMBL1201284 Peficitinib Reference A-921303.0 Strength 4 Tanimoto 1.2 Copy SMILE 1 of 3

View: 10 20 325-350 of 450

Design Refresh

This refresh brought about a more efficient and user-friendly interface, achieved by consolidating actions, creating a sidebar for secondary functionalities, and enlarging card components—ultimately enhancing navigation ease and decreasing load times.

Interest Management

I led the research and design of a new subscription-based tool for scientists, focused on managing their key interests. This new product features a personalized dashboard, designed to keep scientists aware of the latest developments in scientific journals and clinical data, specifically tailored to their interests in genes, molecules, and health conditions. By offering a customizable, inbox-style interface, the tool allows scientists to select and prioritize information from preferred resources, greatly enhancing their ability to access relevant and up-to-date information efficiently.

The dashboard includes:

- Featured ARCH Apps:** ARCH Search, Target & Safety Dossier, Graph.
- Interest Newsfeed:** Filters, search bar, sections for THIS WEEK (e.g., 05.26.22 PARP1 TRFRET Binding Assay) and LAST WEEK (e.g., TIPARP PoC biology).
- Your Interests:** A list of selected entities (PARP1, PARP2, Psoriasis, Crohns, Venetoclax, TIPARP, Olaparib, Small Cell Lung Cancer, Risankizumab, Veliparib) with options to View All, Edit Interests, and Manage Interests.

INITIAL RESEARCH

Scientists are regularly sifting through articles, journals, etc—scattered across multiple internal tools. It's difficult for scientists to immediately gauge relevance, often wasting their time reading a non-related article, or worse, finding they've already read a resource.

By consolidating resources into a single “inbox” and allow users to subscribe to key terms, e.g. molecule type, and specify which resources to pull from, we can save them time and surface the most relevant resources.

Initial Wireframes & Research Prototypes

The wireframes illustrate:

- Initial Research:** Shows a grid of three cards (PARP 1, PARP 2, PARP 3) with news links and quick links to ARCH SEARCH.
- Your Saved Collections:** A list of collections (Current Research Project, Interesting genes, Research Group, Of interest, Follow-up) with edit and view options.
- ARCH Dashboard:** A summary page for saved molecules, genes, and health conditions, featuring a sidebar for filters and recent updates.

CLIENT

McKinsey

DURATION

1 Year

TEAM

6 Engineers

1 Product Lead

1 Lead Designer +
Researcher (Me)

LANGUAGES

Python

React

Summary View

Initial screen summarizes imported client balance sheet along with calculated KPIs.

The screenshot displays a user interface for a financial analysis tool. At the top, it shows a header with 'CLIENT' and 'McKinsey' on the left, and 'Last upload yesterday' and 'Upload EOT Input' buttons on the right. Below the header, the title 'Bank' is displayed, followed by a 'Balance Sheet Summary' section. A 'Filter by Business Group' dropdown is set to 'Retail'. The main area features several summary boxes and detailed tables.

Summary Boxes:

- PORTFOLIO BALANCE (Q4, 2021): **466,820,408 GBP**
- ASSETS: **233,410,204 GBP**
- RoRWA (Q4, 2021): **100,281,293 GBP**
- PPNR (Q4, 2021): **100,281,293 GBP**
- FINANCED EMISSIONS (Q4, 2021): **160,676.50 MtCO₂e**

DATE OF PROJECTIONS: Q4, 2021

Business Group Details:

BUSINESS GROUP	FINANCED EMISSIONS (MtCO ₂ e)	BALANCE (GBP)	YIELD (%)	RWA (GBP)
Retail	1,999.75	474,564	7.2	67,890
Asset	Home Loans	770.85	415,208	1.2
Personal Credit	452.45	–	–	–
Loan Brokers	318.40	–	–	–
Liability	Other Home Loans	1,228.90	59,356	6.0
Auto	1,999.75	474,564	7.1	67,890
Asset	Auto Loans	770.85	415,208	1.2
Personal Credit	452.45	–	–	–
Loan Brokers	318.40	–	–	–
Liability	Other Auto Loans	–	59,356	1.0
Liability	Other Liability	–	59,356	6.0
Mortgages	1,999.75	474,564	1.2	67,890
Other A	1,999.75	474,564	2.1	67,890
Other B	1,999.75	474,564	4.1	67,890
Other C	1,999.75	474,564	1.9	67,890

Pagination controls at the bottom indicate '1 of 10 pages'.

Harmonizing Environmental and Economic Rewards

Our dedicated team alongside McKinsey & Company embarked on a pioneering project to integrate financial decision-making with climate action. We developed a sophisticated tool that allows us to take a client's balance sheet and align it with industry-specific climate targets. This tool is capable of generating various scenarios, illustrating how different financial strategies can directly influence a company's ability to meet climate objectives.

KEY CONTRIBUTIONS

- 1. Design Lead:** This involved a comprehensive analysis of current market practices and an in-depth understanding of how companies formulate and implement financial decisions. As the sole designer on the project, I translated our strategic vision into a tangible product.
- 2. Led Climate Data Research:** This entailed researching and evaluating various datasets to ensure our tool was informed by accurate and relevant environmental information.
- 3. Innovative Mapping Methodology:** This involved creating a system to integrate data from third-party libraries, allowing us to assess the general climate impact associated with different business activities, such as fabric production, oil extraction, and real estate development.

1

BALANCE SHEET

Our current entry is to upload a clients Balance Sheet, mapped to regional industry codes, e.g. UK SICs.

2

CLIMATE + ECONOMIC SCENARIOS

To account for natural decarbonization, analysts upload a third party Climate Scenario, mapped to the SICs in a clients Balance Sheet. An McK derived Sim Cube provides a series of Scenarios to baseline projected assumptions financially against. Sim Cube's are simulations of varying economic factors and conditions, e.g. unemployment rates.

3

CLIMATE + VOLUME LEVERS

McK derived Climate Levers are a library of client controlled strategies they can enable or implement to see the net result on their projections— with the goal of reaching their 2030 climate goals faster.

McK derived Financial Levers to adjust the Balance across Products in a clients portfolio to better understand the impact growth might have on their financial targets.

4

PROJECTIONS

Now that a client has both their jumpoff financial and climate KPIs, climate targets, and "real-world" scenarios— we can combine these into a summary view to educate analysts on the models associated to a client.

CLIENT

Bank

Upload SIM Cube

Economic Scenarios

Mapped Products

Map Products

Title	Type	Business Group	Indicators	Actions
Product A	Asset	Retail	GDPGR.YOY CP IP PH ...	Edit Remove
Product B	Liability	Retail	GDPGR.INDEX CPI Lever 1	Edit Remove
Product C	Asset	Retail	GDPGR.YOY CP IP PH ...	Edit Remove
Product D	Liability	Retail	GDPGR.INDEX CPI Lever 1	Edit Remove
Product E	Asset	Retail	GDPGR.YOY CP IP PH ...	Edit Remove
Product F	Liability	Retail	GDPGR.INDEX CPI Lever 1	Edit Remove
Product G	Asset	Retail	GDPGR.YOY CP IP PH ...	Edit Remove
Product H	Liability	Retail	GDPGR.INDEX CPI Lever 1	Edit Remove
Product I	Asset	Retail	GDPGR.YOY CP IP PH ...	Edit Remove
Product J	Liability	Retail	GDPGR.INDEX CPI Lever 1	Edit Remove

<< < 1 - 10 of 25 > >>

Sim Cube Breakdown

INDICATOR

GDPGR.YOY (All Scenarios)

GDPGR.YOY ▾

SCENARIOS

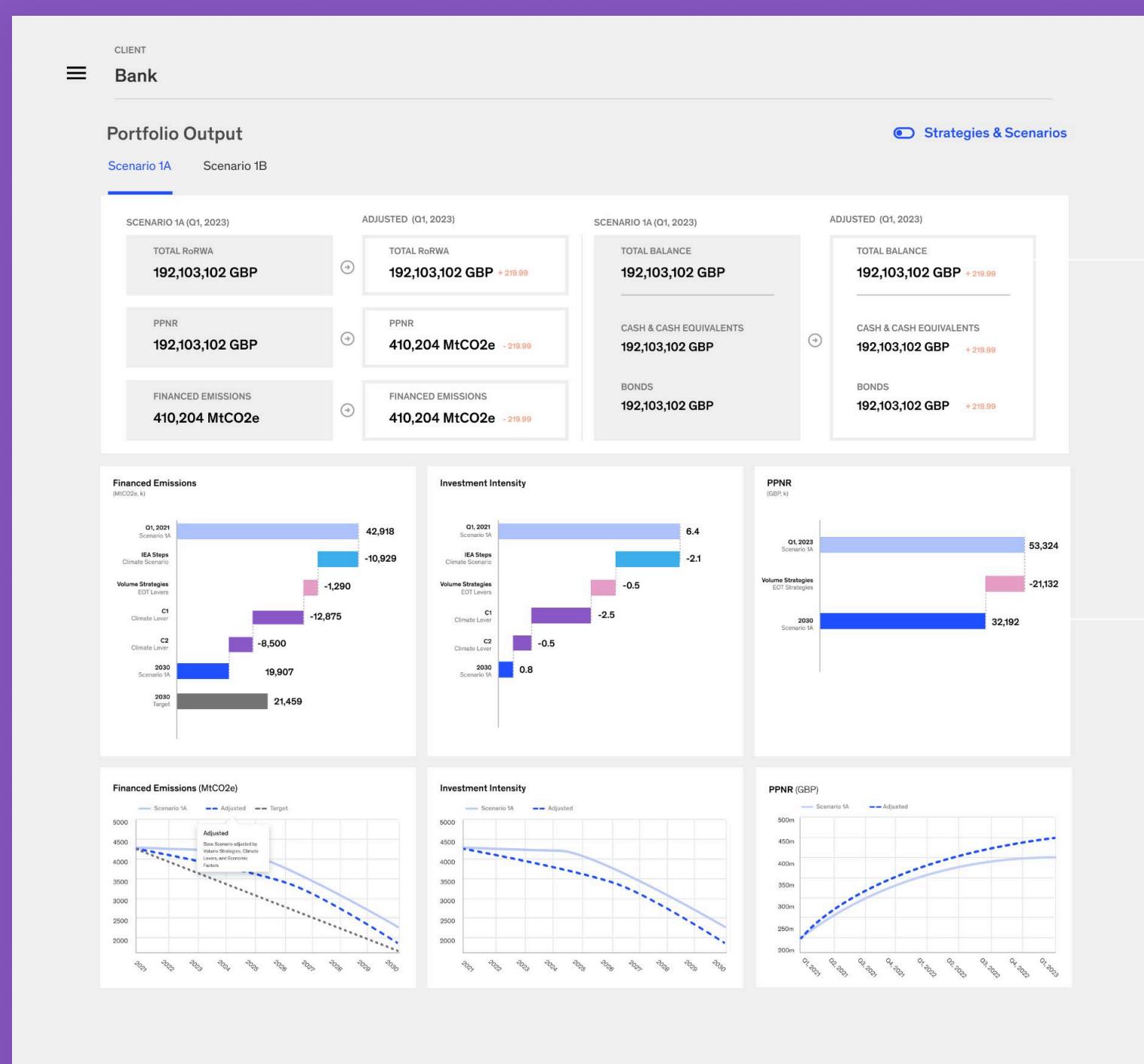
- 1B
- 2A
- 2B
- 3B
- 3C

Sim Cube Scenarios

Scenario	Name
1B	Constrained disruption with moderate policy response and temporary energy shifts
2A	Extended disruption with robust policy response and sustained energy policy shifts
2B	Extended disruption with moderate policy response and temporary energy shifts
3B	Severe, escalating disruption moderate policy response and temporary energy shiftst
3C	Severe, escalating disruption with restrained policy response and long term growth limitations

ANALYTICS & OUTPUT

The final component is an analytics dashboard that integrates all provided datasets. This dashboard enables analysts to simulate various economic and financial scenarios, allowing them to project key financial KPIs and assess the impact of these decisions on climate goals, from the upcoming quarters up to the year 2030.



Delta

Calculations based on user selected economic scenarios, volume levers, etc show the diff between current and forecasted models.

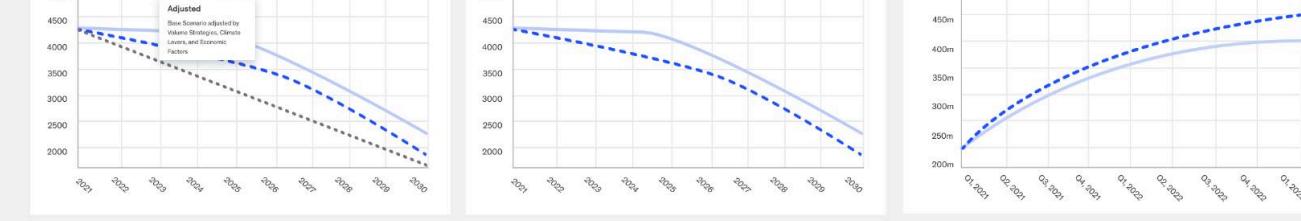
Projections

Based on the set criteria, analysts can see the gap in emissions required to meet a 50% reduction.

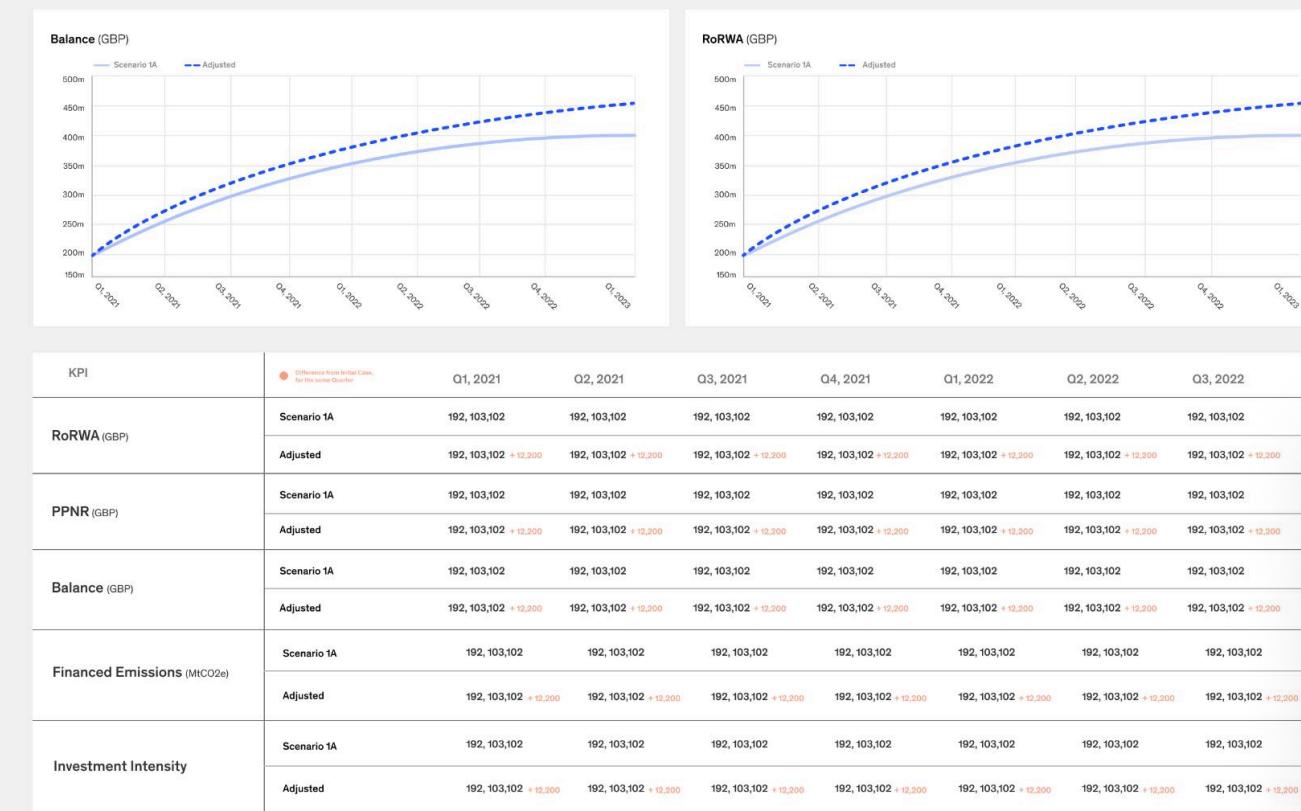
Quarterly Projections

While climate targets are forecasted out to 2030, financial targets can only be viewed a few years out.

Cont ...



Quarterly Projections



Product & SIC Breakdowns



Emissions by Industry Code & Portfolio Size

Bubble graph to quickly assess the delta in emissions, by industry category (SIC) and portfolio size (Balance).

Levers & Scenarios

Users can toggle between the many economic and climate strategies initially inputted to assess differing conditions.

Strategies, Levers & Scenarios

Volume Strategies

STRATEGY

- Strategy A
- Strategy B

Volume Strategy

Climate Levers

LEVER

- C1. New Screening Criteria
- C2. Sales Funnel Priority

LEVEL OF ACTION

- Low (5%)

Climate Lever

Economic Scenarios

SCENARIO

- Scenario 1A
- Scenario 1B

Economic Scenario

Apply **Cancel**

CLIENT
cvs

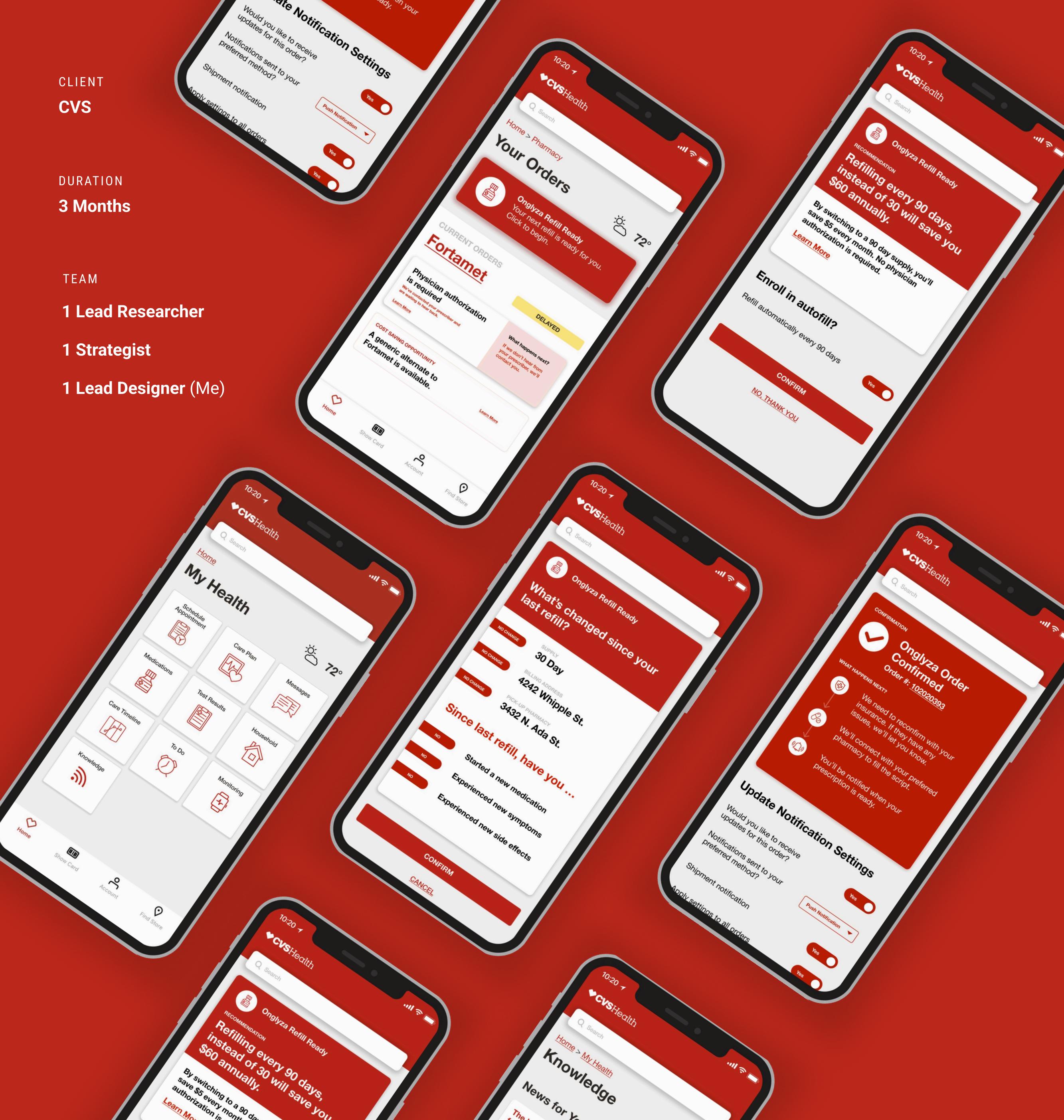
DURATION
3 Months

TEAM

1 Lead Researcher

1 Strategist

1 Lead Designer (Me)



Enhancing Prescription Management: A User-Centric Approach

Our small, agile team engaged directly with CVS customers to gain a deeper understanding of their experiences and needs in managing prescriptions. Our work closely aligned with the Pharmacy Benefit Management (PBM) team at CVS, allowing us to pinpoint areas ripe for improvement and innovation. The culmination of our research effort was the development of a prototype that offered a revamped customer experience in prescription management and a more efficient PBM interface.

KEY CONTRIBUTIONS

- 1. Design Lead and Prototype Development:** I was responsible for the overall design direction of the project. I developed comprehensive prototypes that visualized potential improvements in the CVS prescription management system. These prototypes served as both a communication tool and a testbed for ideas, enabling us to iteratively refine our designs.
- 2. Research Support and Workshop Facilitation:** I supported our research efforts by creating and utilizing prototypes to gather actionable feedback. I led workshops with CVS teams, where these prototypes were integral in stimulating discussion, garnering feedback, and refining our approach based on real user input.

During our workshops, we presented key insights gathered from user interviews, encompassing both traditional CVS members and Pharmacy Benefit Management (PBM) advisors. Additionally, the workshops facilitated the development of a roadmap outlining key features and implementation strategies for the upcoming year, aiming to support both CVS members and PBM advisors more effectively.

MIRO WORKSHOP BOARDS

Member Profile

Concept explores an initial take on a member profile and references criteria surfaced through user interviews.

1

SINGLE MEMBER PROFILE

MEMBER NEED

Members expect agents to have visibility into the challenge at hand and want to feel understood and supported through the resolution process.

"In the system, there are like five billion places to look for notes and statuses... there are comments all over the system, comments under the order level, the prescription level, the general comments, and there's view problems on the notepad..."

CARE AGENT | TENURED

SINGLE MEMBER PROFILE

A single pane of glass that houses the data, insights, and recommendations/NBAs that agents and others need to understand and resolve issues.

INITIAL ASSESSMENT

AGENT HAT
How could these be better?
What features or capabilities are missing?

MEMBER HAT
What would need to be true for implementation?
What current initiatives are planned or in flight?

TEAM HAT
How might you want these to impact or influence your team in particular?

AGENT GAIN

- Increased speed to resolution
- Greater context and empathy
- Greater access and control over member information

MEMBER GAIN

- More personalized touchpoints
- Better, more seamless self-service
- Less confusion about which CVS apps/portals to use

CAREMARK GAIN

- Increase data accuracy and completeness
- Increase collaboration between teams to improve member health
- Decrease case handle time
- Provide insight at a population level

Agent Portal

Interviews with PBM agents surfaced ways to triage incoming support requests.

2

AGENT HUB

AGENT NEED

Agents need to be able to find the specific answers they are looking for easily so they can resolve member issues quickly.

"Once we're introduced to the Source, but again, it's like a black hole of a portal. You can just type in any word and 50 different options come up. So until you're comfortable knowing which one to look for, it's kind of like Google. You basically don't know what you're going to get..."

CARE AGENT | TENURED

AGENT RESOURCES (IN CALL)

The in-call landing page contains resources and tools that agents need to quickly resolve common requests, letting them devote more time and energy to more complex member issues.

INITIAL ASSESSMENT

AGENT HAT
How could these be better?
What features or capabilities are missing?

MEMBER HAT
What would need to be true for implementation?
What current initiatives are planned or in flight?

TEAM HAT
How might you want these to impact or influence your team in particular?

AGENT GAIN

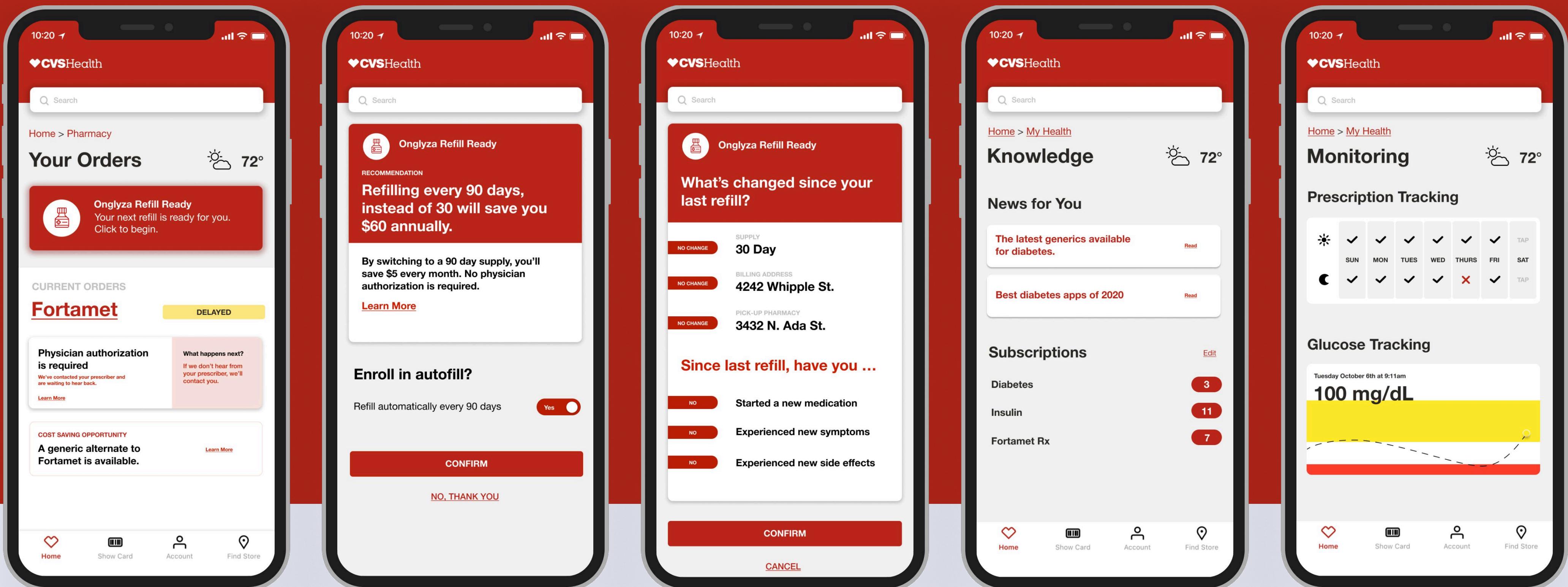
- Better ease of use and overall navigation
- Fostering a culture of collaboration
- Clear points of feedback and opportunity areas for growth

MEMBER GAIN

- Faster troubleshooting and resolution
- More empathetic and attentive calls
- Fewer hand offs, time saved

- Increase first call resolution
- Fewer transfers due to more effective, streamlined assists
- Decrease call handle time

CONSUMER PROTOTYPE



Prescription Status

Provide people with clear status updates, preventing the need for automated calls and lowering calls to the pharmacy.

Autofill

Let people subscribe to medication as allowed by their medical providers.

Easy Renew

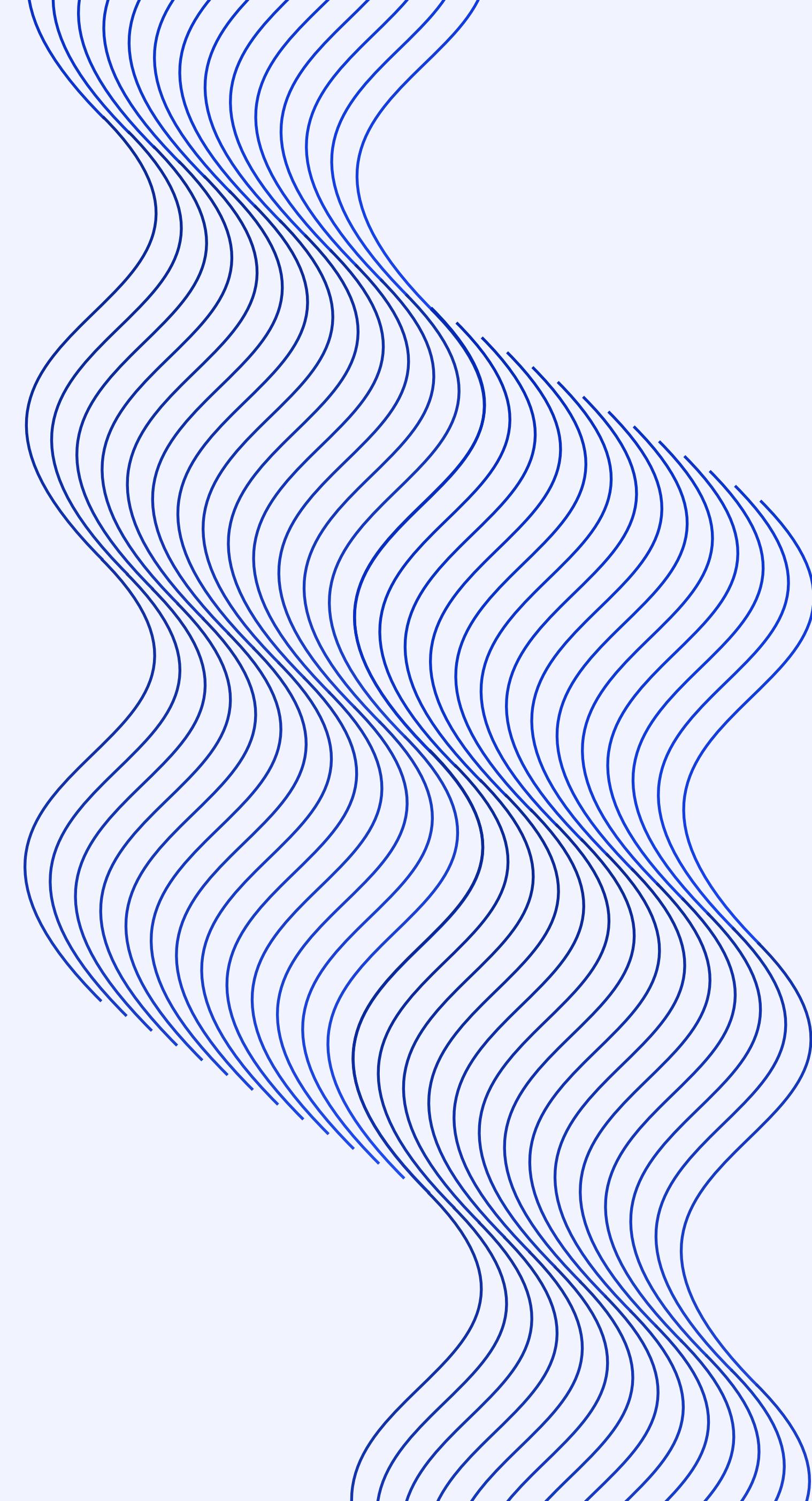
Make renewals one click instead of having to repeat information each and every time.

Knowledge Articles

Allow people to subscribe to specific terminology, or reference their prescriptions for news related to them.

Health Monitoring & Reminders

Instead of relying on third party health applications, people can quickly note if they're on course with their medications.



Thank You

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