



# GUARDIANS OF IMMUNIZATION ADHERENCE:

COSMIC REMINDER ⚡ RECALL

# Docket® Objectives

1. **Expand consumer access** to personal and family immunization records
2. **Improve adherence** to recommended immunizations at scale

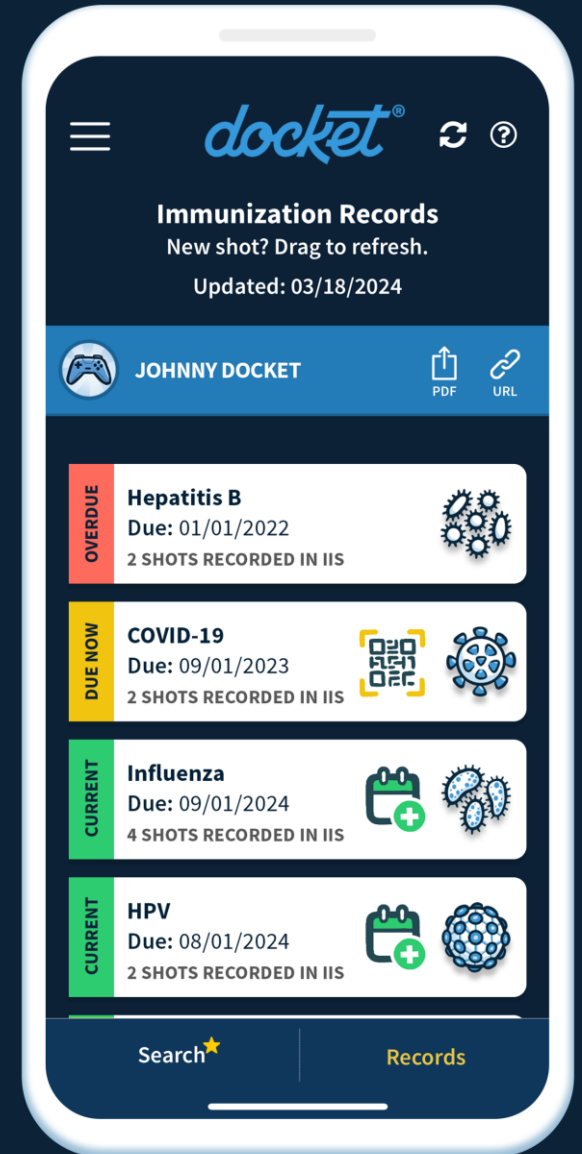


**Project Team Partners:**  
Federal and Strategic  
Advisory Services

**AUDACIOUS  
INQUIRY**  
A PointClickCare® Company



**The Commons Project**  
FOUNDATION



*docket*®



# Over 3,000,000 Active Users



IZ Gateway



IZ Gateway Connectivity



Direct-to-IIS

## Breakout Session Goals

1. Recap **project requirements**
2. Share our **design thinking**
3. Explore **opportunities**

**Not covered:** authentication, patient matching, proxy access, troubleshooting, SMART<sup>®</sup> Health Cards and Links, etc.



# Project Requirements

## Project Requirement #1

Reminders need to be **relevant**.

- Based on IIS and/or ICE forecasting
- Avoid wasteful reminders
  - Forecasting doesn't always capture the full story
  - Target existing users that become age-eligible



## Project Requirement #2

Settings need to be **configurable**.

- **Users:** Manage preferences across devices
- **Jurisdictions:** By immunization series
  - a) After a certain number of days
  - b) On the past due date
  - c) E.g., on 12/31

## Project Requirements #3 – 5

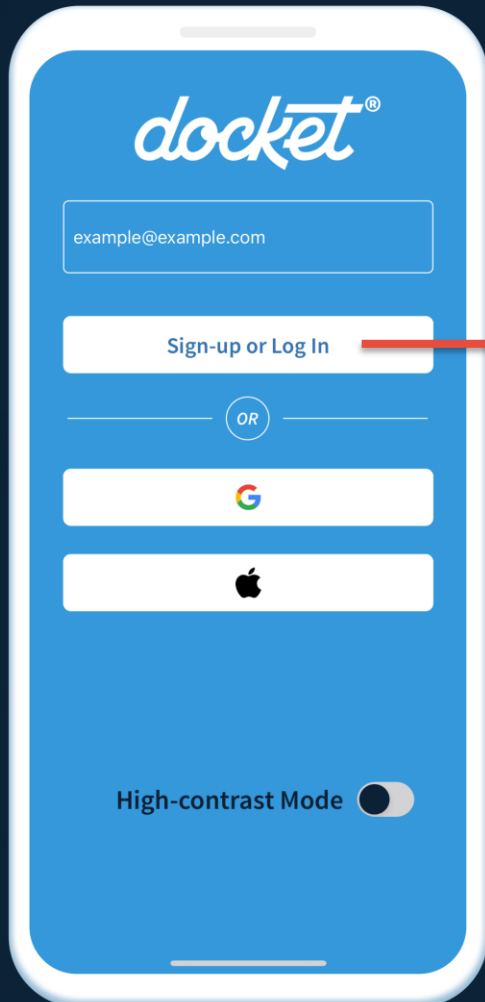
- Maintain **system availability**
- Protect **users' privacy**
  - Direct users to the app for specific information
- Quantify **adherence**
  - Are folks getting vaccines after being notified?
  - How can we improve our service?



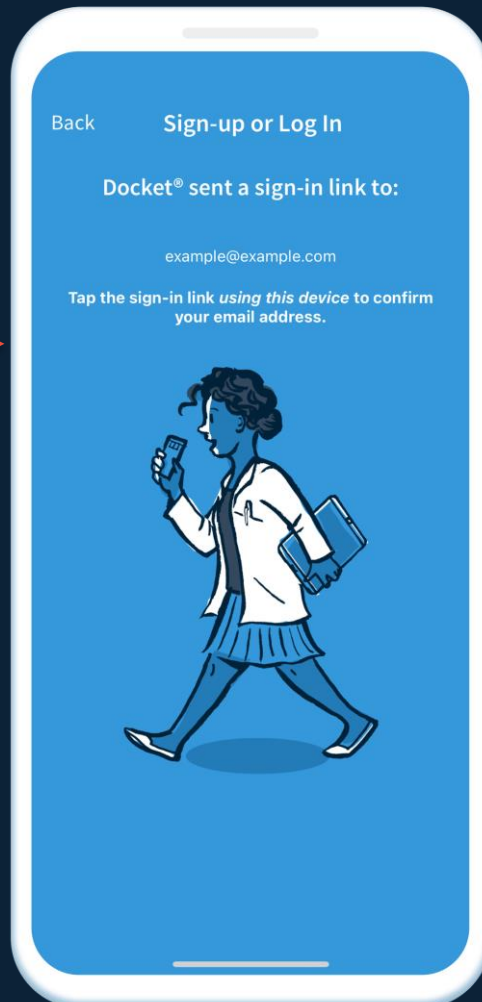


# Onboarding Users

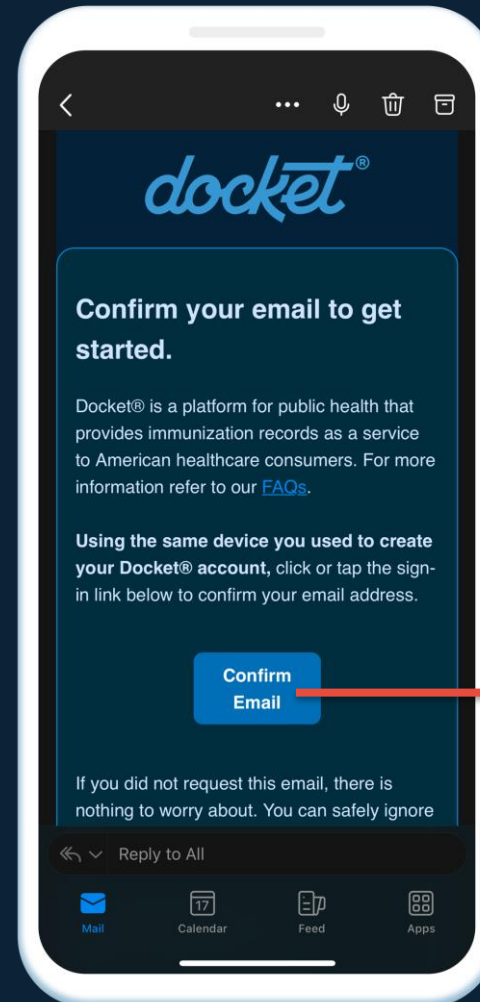
# New User Sign-up



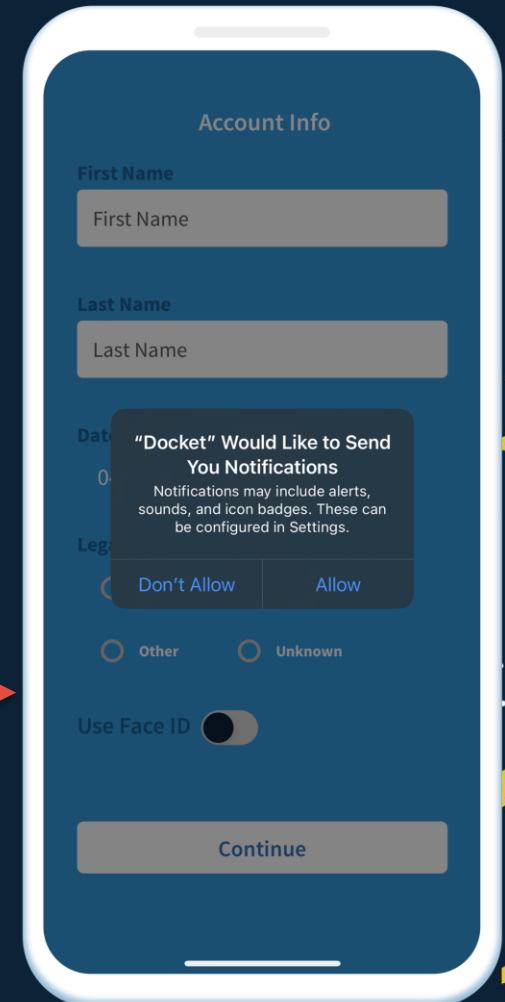
The first screen of the Docket app sign-up process. It features the Docket logo at the top. Below it is a text input field containing "example@example.com". Underneath the input field is a button labeled "Sign-up or Log In". Below this button is a horizontal line with a circle containing the word "OR" in the center. Below the line are two more buttons: one with the Google logo and another with the Apple logo. At the bottom of the screen is a toggle switch labeled "High-contrast Mode".



The second screen of the Docket app sign-up process. It has a "Back" button in the top left corner. The title is "Sign-up or Log In". The main text says "Docket® sent a sign-in link to:" followed by "example@example.com". Below this is a line of text: "Tap the sign-in link using this device to confirm your email address." In the center is an illustration of a person in a white lab coat walking and talking on a mobile phone. At the bottom is a white bar.

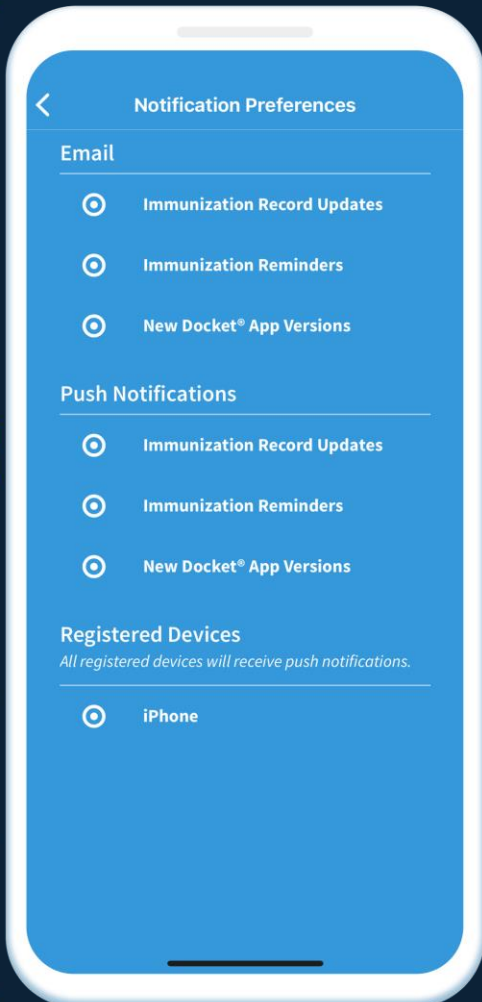


The third screen of the Docket app sign-up process. It has a "Back" button in the top left corner. The title is "Confirm your email to get started." Below the title is a paragraph of text: "Docket® is a platform for public health that provides immunization records as a service to American healthcare consumers. For more information refer to our [FAQs](#)." Below this is another paragraph: "Using the same device you used to create your Docket® account, click or tap the sign-in link below to confirm your email address." At the bottom is a blue button labeled "Confirm Email".



The fourth screen of the Docket app sign-up process. It has a title "Account Info". Below the title are two text input fields: "First Name" and "Last Name". Below these is a notification banner that says "Docket® Would Like to Send You Notifications" with a subtext: "Notifications may include alerts, sounds, and icon badges. These can be configured in Settings." Below the banner are two buttons: "Don't Allow" and "Allow". Below these are two radio buttons: "Other" and "Unknown". Below these is a toggle switch labeled "Use Face ID". At the bottom is a "Continue" button.

# Notification Preferences



## Update Your Contact Phone Number

Current contact phone number: (203) 273-5368

Enter your mobile phone number:

(xxx) xxx-xxxx

We will text a verification code to this number. Standard SMS fees may apply. Docket® may use your verified cell phone number to search public health databases and other trusted sources to locate your personal and/or family health records at your request.

SEND

## Notification Preferences

☐ Disable All Notifications

*This will not disable transactional emails. Transactional emails may be sent as you use the app. However, you will no longer receive reminders for upcoming and overdue immunizations based on state forecasting data and/or new app versions as Docket® introduces these capabilities as a state-by-state basis.*

### Email

- ☒ Immunization Record Updates
- ☒ Immunization Reminders
- ☒ New Docket® App Versions

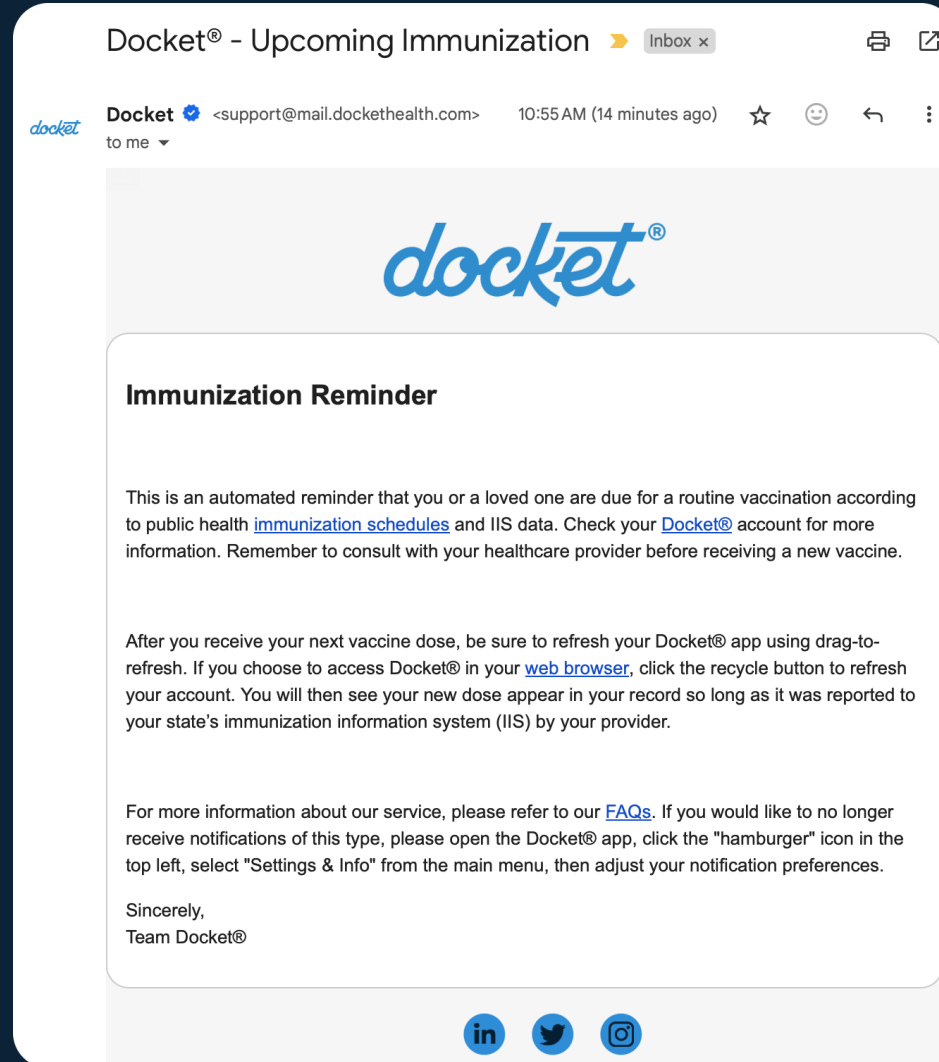
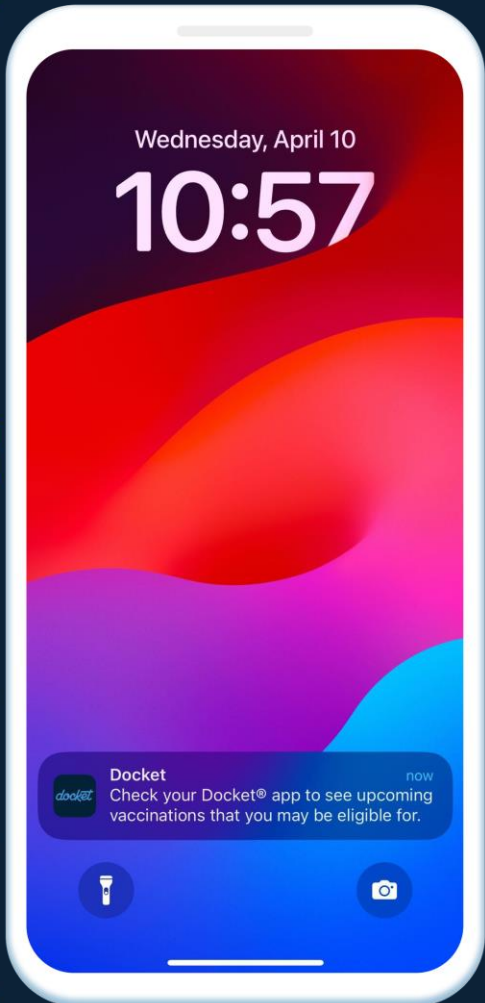
UPDATE NOTIFICATION PREFERENCES

Docket® Progressive Web App (PWA)

docket®



# Example Reminder Notifications and Emails



docket®



# Overcoming Challenges

## Top Three Challenges

### 1. Lifetime reminder tracking

- Manage notification scheduling and delivery
- Target existing users that are age-eligible

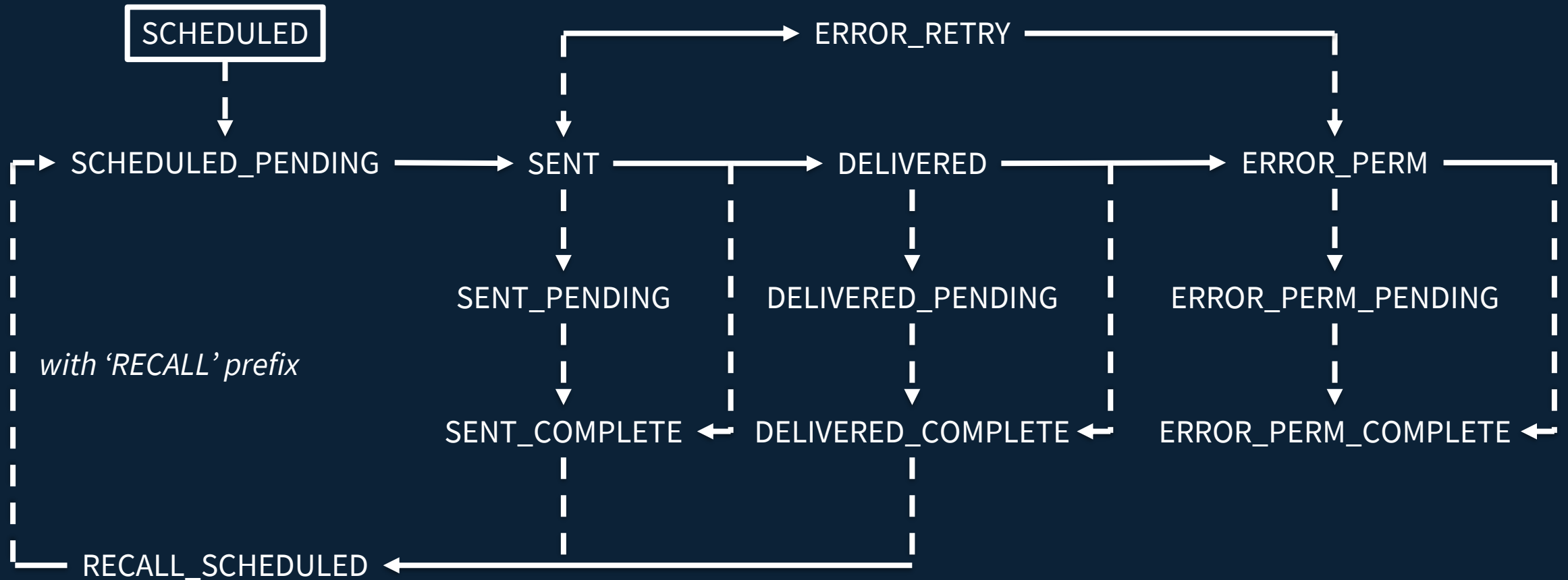
### 2. Display updated forecasts

- “Docket® says I’m due, but the app says otherwise.”

### 3. Prevent increased latency



# Lifetime Reminder/Recall Tracking

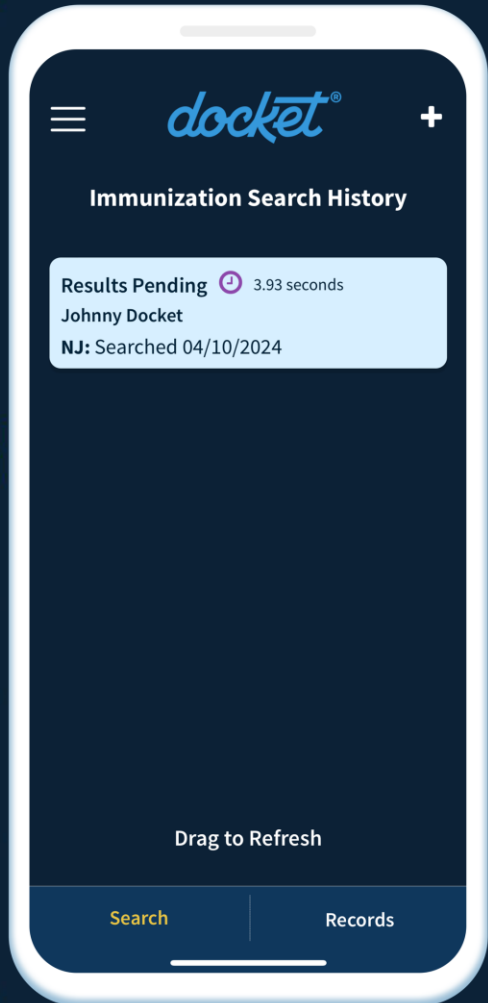


## Notification sent. Now what?

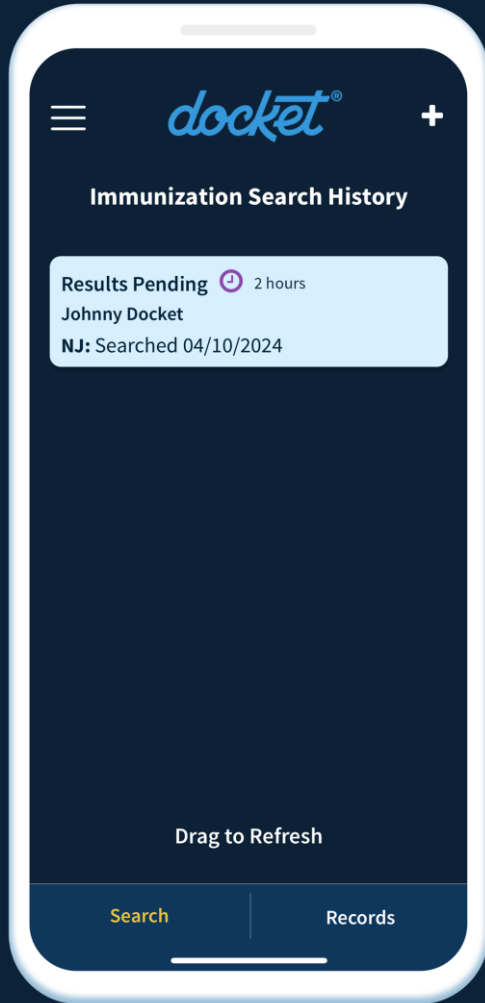
“My notification says I’m **due**, but the app still says I’m **current**.”

- **Docket® *must* refresh accounts** before notifying:
  - a) Determine whether a notification is still valid.
  - b) Ensure the app reflects their true status.
- **Problem:** increases wait times for new users.

# Longer Search Wait Times for New Users



VS.



- Typically, users only wait a few seconds for records
- Automated background refreshes cause delays



# Options to Manage Additional IIS Calls

## a) Increase throughput to IIS

- **Blocker:** risks bombarding IIS

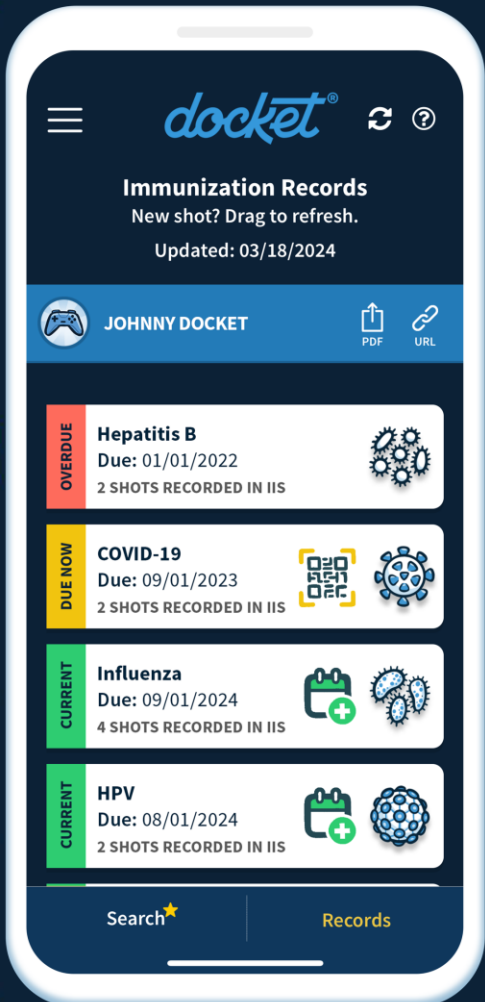
## b) Refresh accounts only at night

- **Problem:** users access Docket® 24/7

## c) Separate IIS queues by priority

- **High-priority:** user-initiated queries
- **Low-priority:** background refreshes

# Docket® Asynchronous IIS Queries



- Reliability for consumers
- Stability for IIS

Queuing  
System



IIS One  
40 TPS

IIS Two  
10 TPS

IIS Three  
0.33 TPS

# Managing Increased Latency

## Queue Status

IIS Provider	Priority	Depth
Alaska	high	2
Alaska	low	0
Idaho	high	1
Idaho	low	0
Minnesota	high	2
Minnesota	low	0
New Jersey	high	4
New Jersey	low	899,043



User Queries

Background  
Refreshes





# User Journey

# Reminder/Recall User Journey Part One



TIME



**CURRENT**

New users query IIS for personal and/or family immunization records using the **Docket®** iOS, Android, and/or web app(s).

**!! HIGH-PRIORITY QUEUE !!**

RECOMMENDED DATE

**Docket®** schedules reminders for *future* vaccinations based on IIS and/or ICE forecasting.

# Reminder/Recall User Journey Part Two



TIME



**DUE NOW**

RECOMMENDED DATE

Users receive **Docket®** immunization reminders according to their notification preferences: email, push notification, and/or SMS.



If the user receives their recommended vaccine (and if the dose was recorded in IIS), the user can update their **Docket®** account using drag-to-refresh.

**!! HIGH-PRIORITY QUEUE !!**

RECALL DATE

**Docket®** re-queries IIS to  
(a.) confirm the user's vaccine eligibility and  
(b.) update their account to accurately reflect their current immunization status.

• LOW-PRIORITY QUEUE •

docket®

# Reminder/Recall User Journey Part Three



TIME



**OVERDUE**

If the user's recommended vaccine was not recorded in IIS, Docket® sends a follow-up reminder email with instructions for reporting missing vaccinations to IIS.

RECALL DATE



Docket® re-queries IIS to determine whether the recommended vaccine was administered and recorded in IIS.

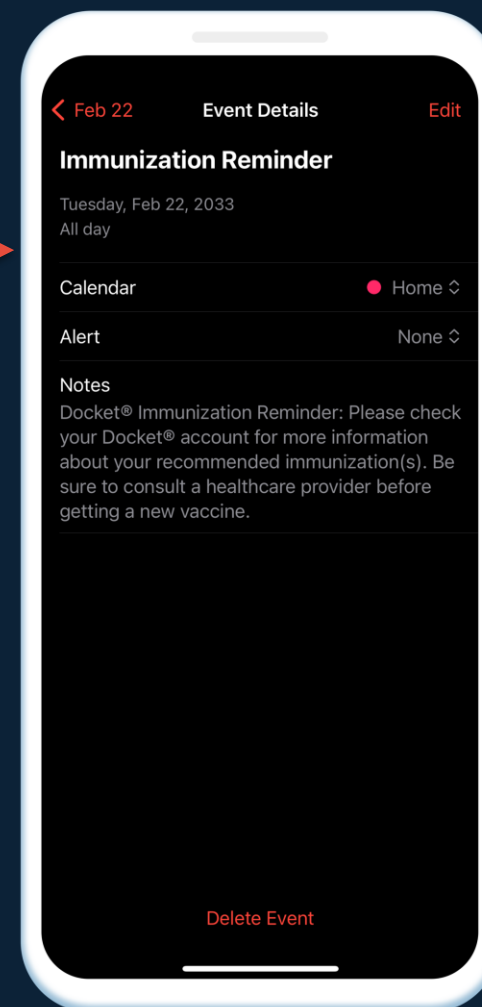
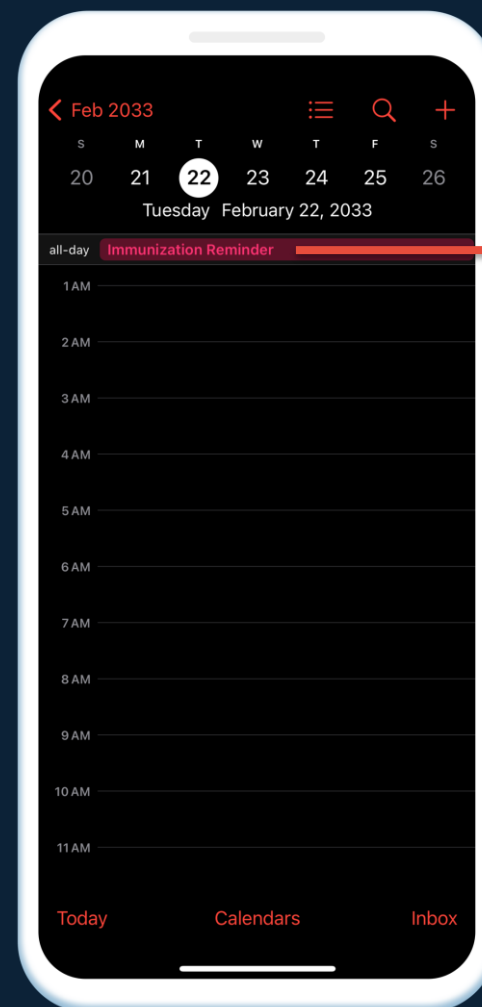
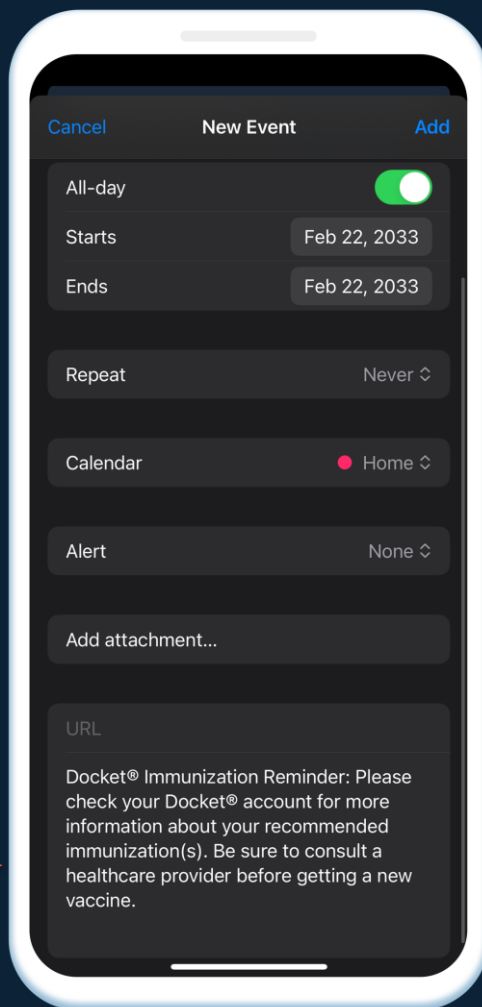
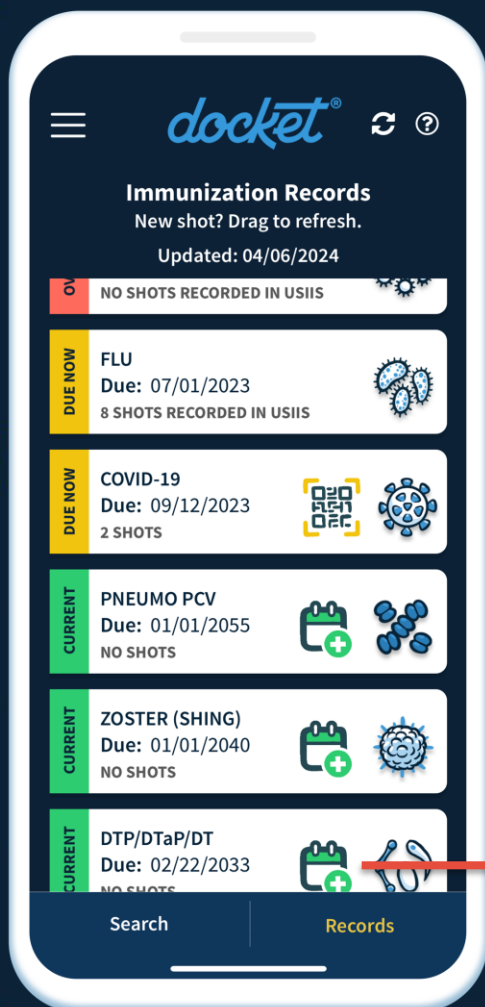
• LOW-PRIORITY QUEUE •

Docket® sends de-identified immunization compliance metrics to IIS stakeholders via daily and/or weekly emails reports.





# “What if I don’t have notifications enabled?”





# Early Results

# IIS Stakeholder Report with Early Results

NJIS Docket® Consumer Access Daily Report - 2024-04-10



Docket <info@mail.dockethealth.com>

To: Michael Perretta



Today at 7:04 AM

## Enhanced Reminder Recall Insights <sup>1</sup>

	04/07	04/08	04/09	04/10
Cumulative Total Forecasts Tracked <sup>††</sup>	1,558,673	1,559,068	1,559,567	1,560,117
Active Total Forecasts Tracked	1,519,323	1,519,627	1,520,040	1,520,508
Scheduled Forecast Trackers	938,264	938,542	938,903	939,349
Processed Forecast Trackers	5,296	5,325	5,374	5,406
Complete Forecast Trackers	575,763	575,760	575,757	575,740

## Sent Notifications

Cumulative Emails <sup>††</sup>	36,066	36,069	36,073	36,076
Cumulative Push Notifications <sup>††</sup>	2,501	2,501	2,502	2,502
Active Emails	33,476	33,475	33,478	33,479
Active Push Notifications	2,309	2,309	2,310	2,310
Active with Notifications Disabled	546,153	546,180	546,223	546,237

## Compliance

Received Shot	98,940	98,939	98,941	98,934
Received Shot (enabled notifications)	7,161	7,160	7,161	7,161
Received Shot (disabled notifications)	91,779	91,779	91,780	91,773
Received Shot After Overdue	1,175	1,175	1,175	1,175
No Shot, Overdue	475,205	475,215	475,231	475,226
No Shot, Overdue (enabled notifications)	27,114	27,112	27,113	27,112
No Shot, Overdue (disabled notifications)	448,091	448,103	448,118	448,114
No Shot, Not Overdue, Finished Tracking	432	423	410	405

## Pilot Summary:

- '23 NJIS pilot (3 series)
- 1.5M forecasts tracked
- 36K emails delivered
- 2,500 notifications
- 99K received shot

## Summary of Findings

- The system works as designed
  - Notifications sent on schedule
  - Docket® quantifies adherence
- Notifications are correlated with greater immunization adherence
  - More users received shots than were notified
  - Comparatively few users enable notifications



# Alaska's Top Three Priorities

## 1. Maximize Effectiveness

- One message does *not* yield significant results (Curtis 2011)

## 2. Avoid Fatigue

- Limit to 3-5 total outreach messages (Stockwell 2012)
- More than 5 messages could result in unenrollment

## 3. Evaluate/Compare

- Reports available to Immunization Program

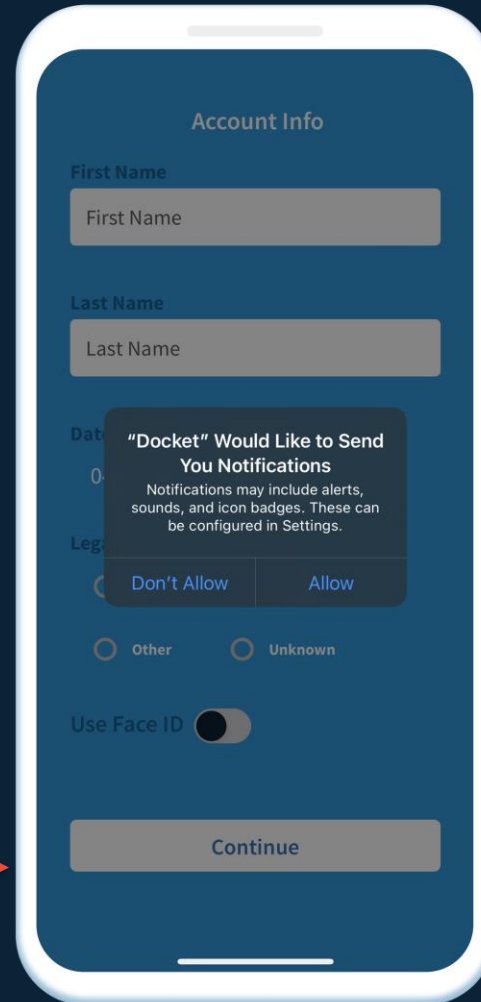
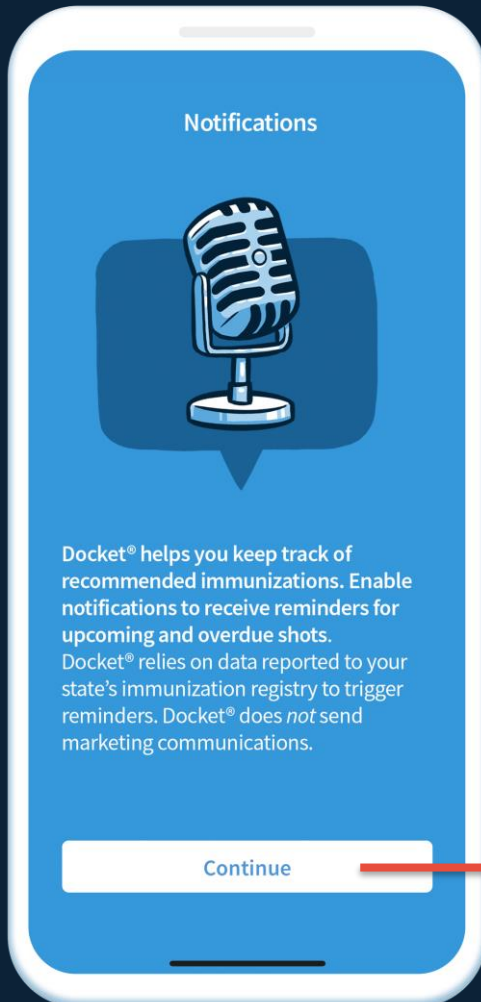
# How do we level up?



The background is a dark blue space-themed illustration. It features several bright yellow, jagged, comet-like streaks scattered across the frame. Interspersed among these are various blue icons: a satellite with three circular antennas in the top left, a portion of a planet with red and white stripes in the top right, and several small, stylized blue celestial bodies or viruses. The overall aesthetic is clean and modern.

# Opportunities

# Promote Notification Enrollment





## Reminder/Recall Outside the Docket® App

- Leverage Docket® platform
- *Not* limited to just Docket® app users
- **SMS and/or email**-based notifications
  - IIS program to identify target populations
  - Docket® to query IIS records in bulk
  - Automated adherence reporting
  - Requires ability to opt-out

# Docket® Reminder/Recall Roadmap

## 1. IIS stakeholder dashboard

- Configured basic settings
- Analyze adherence trends

## 2. Location-based reminders

- Nearby pharmacies with stock of specific vaccines

## 3. Care delivery coordination

- Ride share integration; dispatching mobile clinics



**Thank you**  
for giving us a “shot!”

*docket*<sup>®</sup>