

GUARDIANS OF IMMUNIZATION ADHERENCE: COSMIC REMINDER/**RECALL**

Docket® Objectives

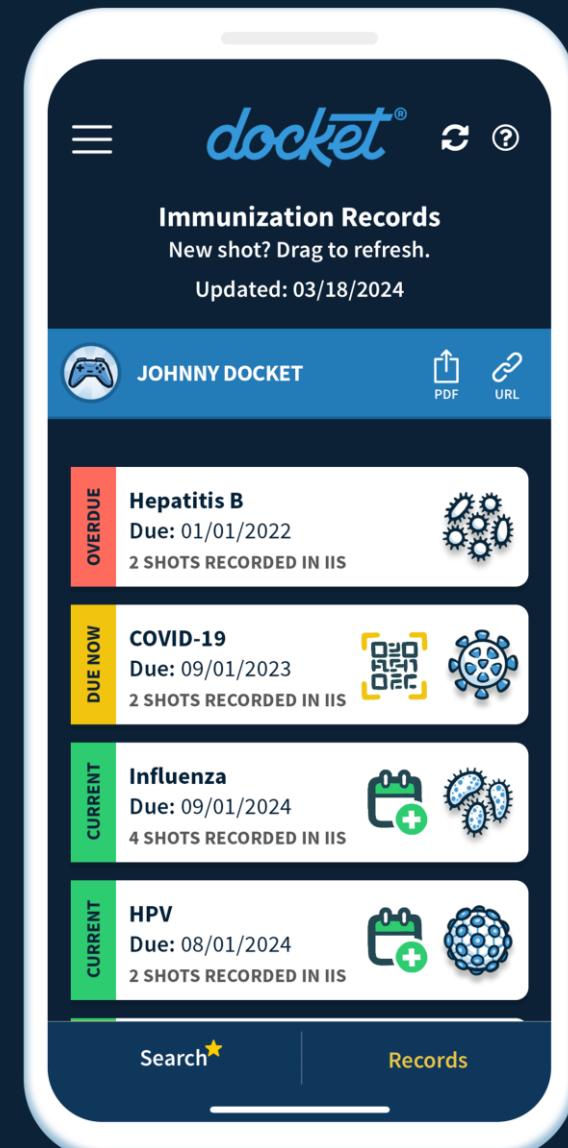
- 1. Expand consumer access to personal and family immunization records**
- 2. Improve adherence to recommended immunizations at scale**



Project Team Partners:
Federal and Strategic
Advisory Services

**AUDACIOUS
INQUIRY**
A PointClickCare® Company

The Commons Project
FOUNDATION



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Over 3,000,000 Active Users



IZ Gateway



IZ Gateway Connectivity

Direct-to-IIS

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Breakout Session Goals

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

Not covered: authentication, patient matching, proxy access, troubleshooting, SMART® 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**.

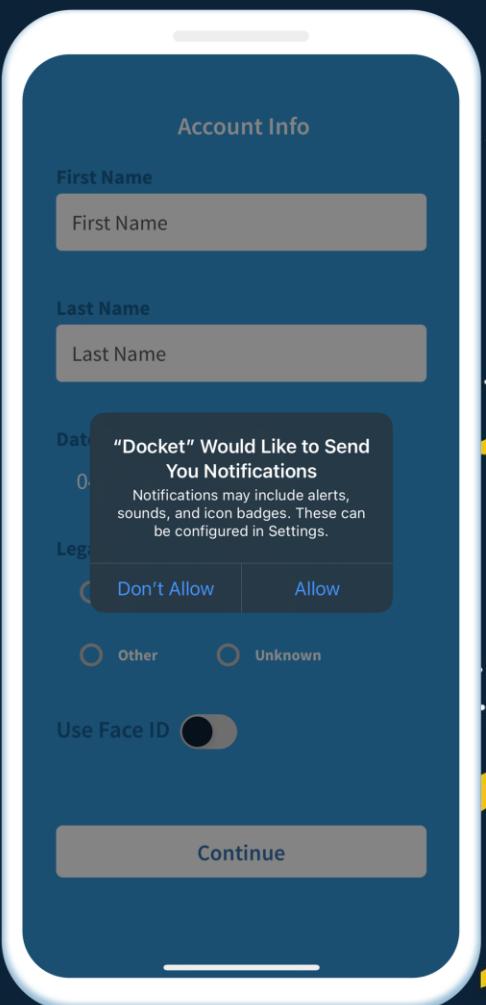
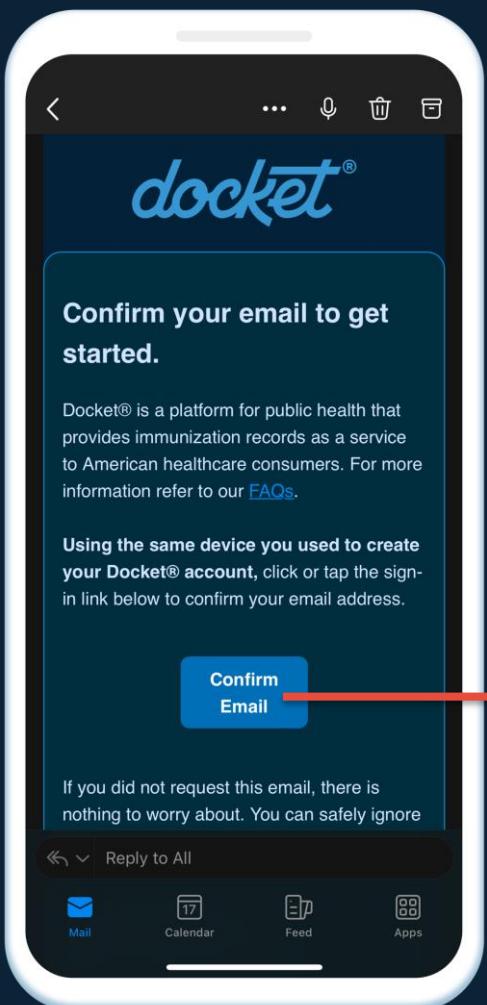
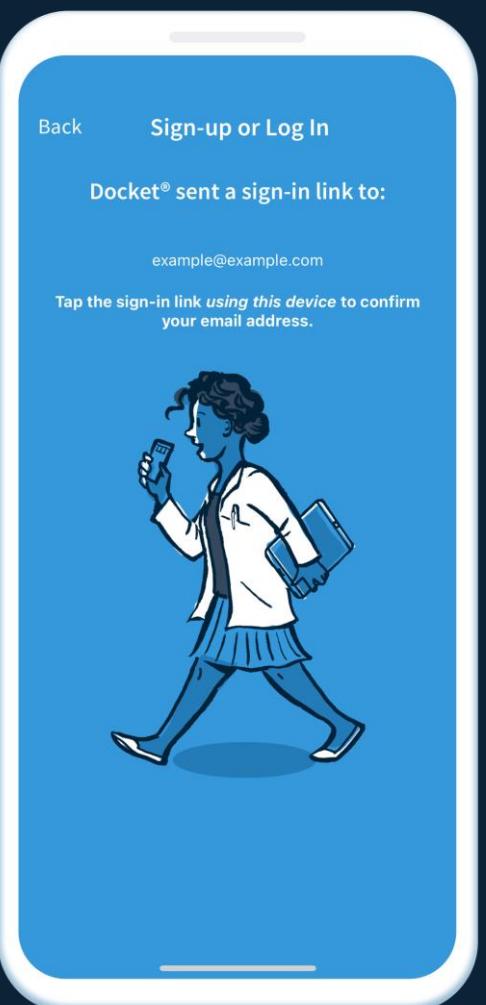
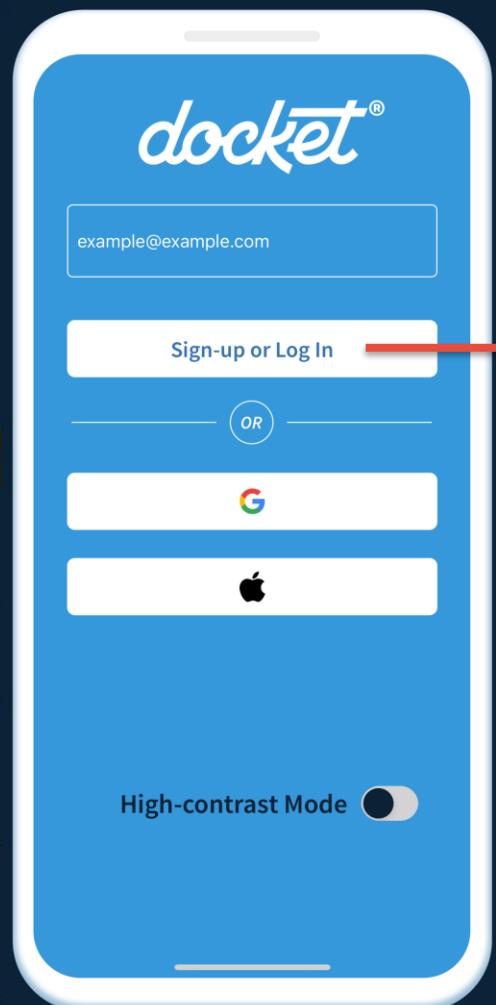
- **Users:** Manage preferences across devices
- **Jurisdictions:** By immunization series
 - a) After a certain number of days
 - b) On the past due date
 - c) E.g., on 12/31

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?

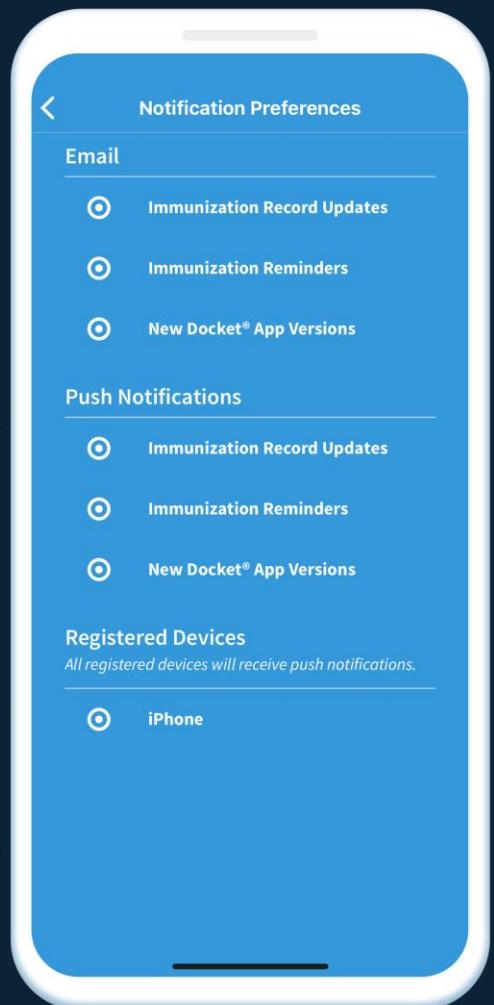
Onboarding Users

New User Sign-up



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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

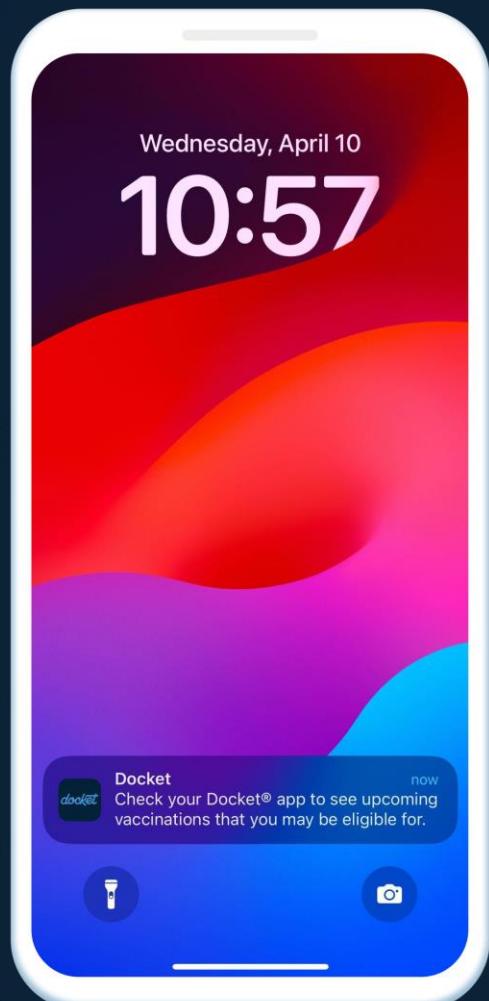
New Docket® App Versions

UPDATE NOTIFICATION PREFERENCES

Docket® Progressive Web App (PWA)

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Example Reminder Notifications and Emails



Docket® - Upcoming Immunization ▶ Inbox x

 Docket & support@mail.dockethealth.com 10:55 AM (14 minutes ago) ☆ 😊 ◀ ⋮

to me ▾



Immunization Reminder

This is an automated reminder that you or a loved one are due for a routine vaccination according to public health [immunization schedules](#) and IIS data. Check your Docket® account for more information. Remember to consult with your healthcare provider before receiving a new vaccine.

After you receive your next vaccine dose, be sure to refresh your Docket® app using drag-to-refresh. If you choose to access Docket® in your [web browser](#), click the recycle button to refresh your account. You will then see your new dose appear in your record so long as it was reported to your state's immunization information system (IIS) by your provider.

For more information about our service, please refer to our [FAQs](#). If you would like to no longer receive notifications of this type, please open the Docket® app, click the "hamburger" icon in the top left, select "Settings & Info" from the main menu, then adjust your notification preferences.

Sincerely,
Team Docket®

[in](#) [Twitter](#) [Instagram](#)

Overcoming Challenges

Top Three Challenges

1. Lifetime reminder tracking

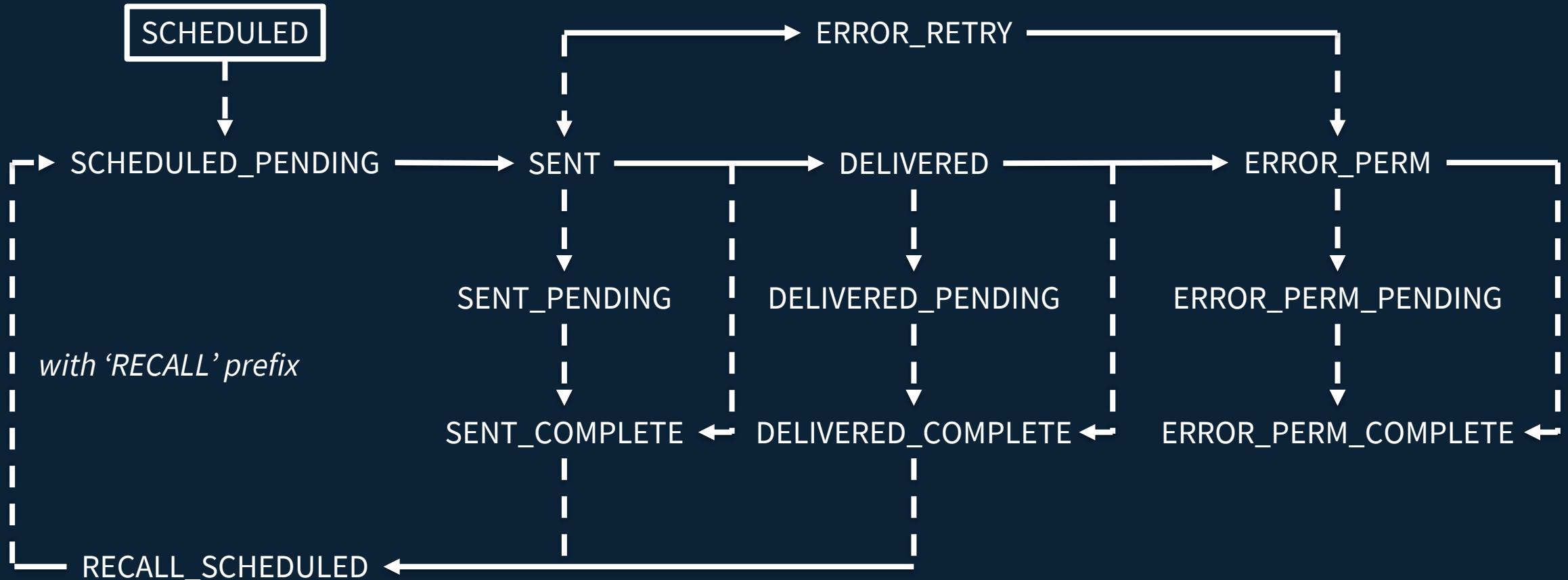
- Manage notification scheduling and delivery
- Target existing users that are age-eligible

2. Display updated forecasts

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

3. Prevent increased latency

Lifetime Reminder/Recall Tracking

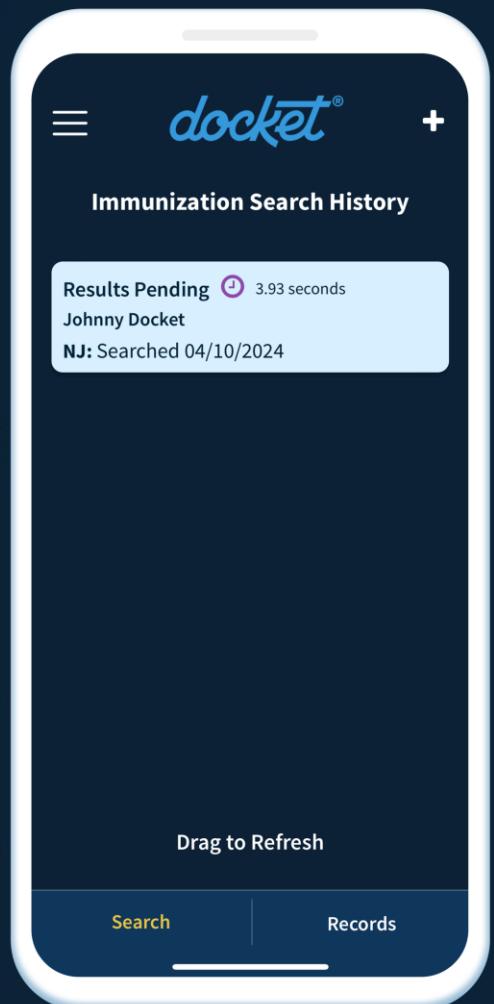


Notification sent. Now what?

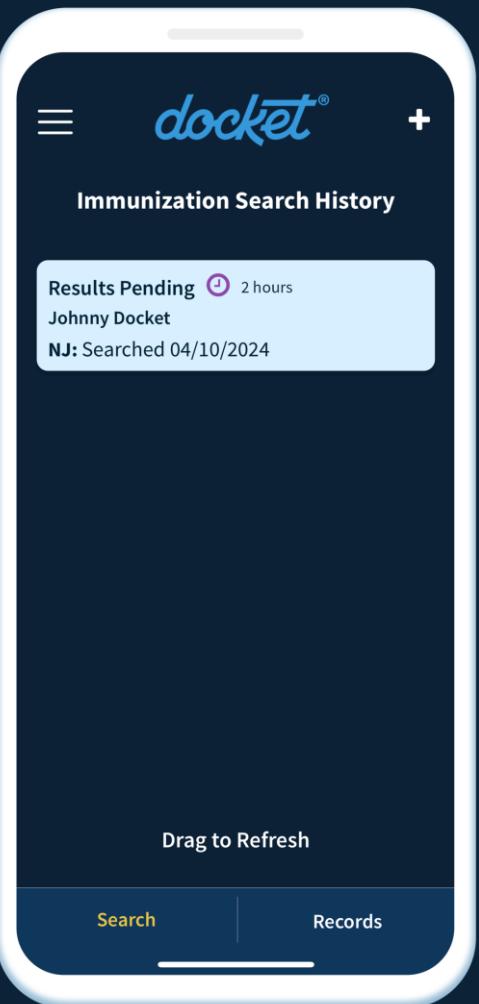
“My notification says I’m **due**, but the app still says I’m **current**.”

- **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

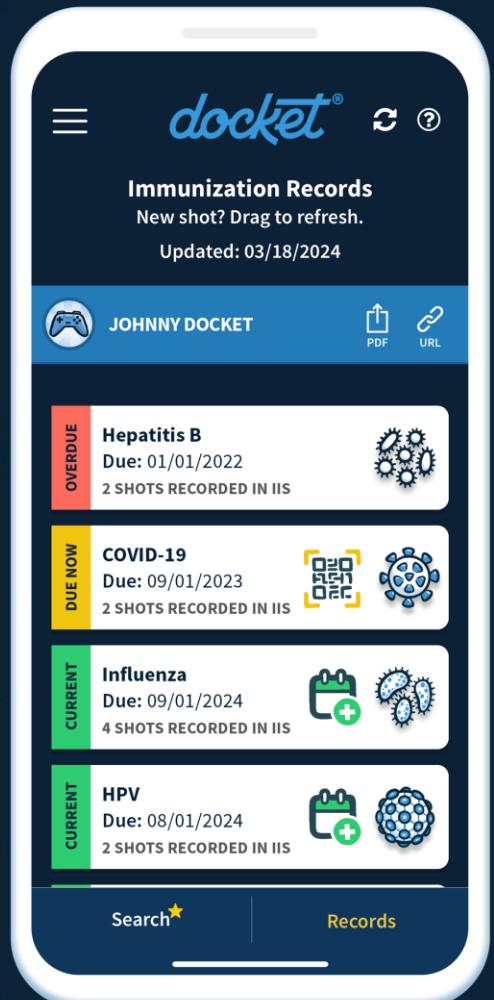
b) Refresh accounts only at night

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

c) Separate IIS queues by priority

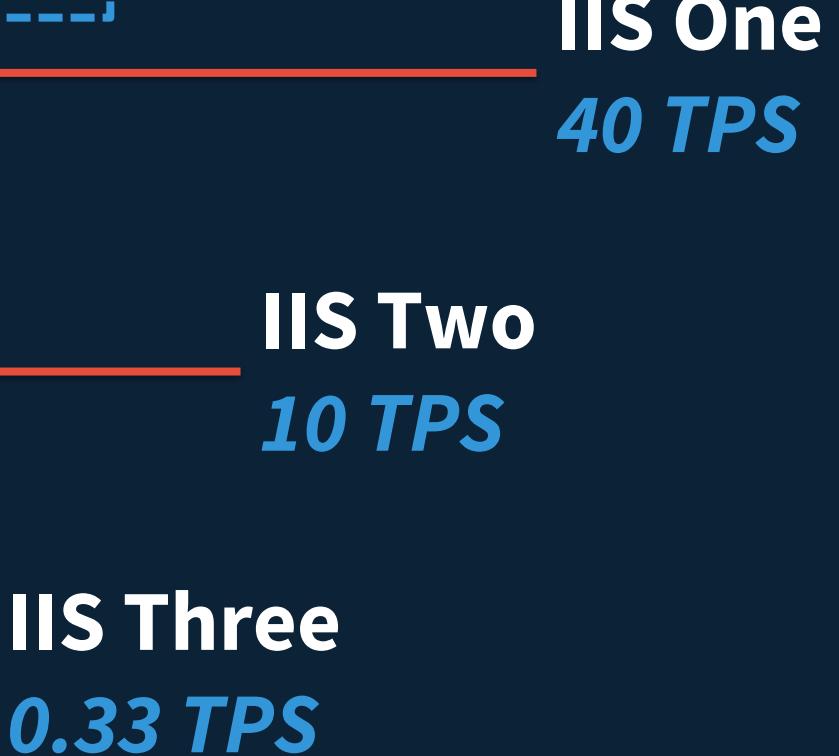
- **High-priority:** user-initiated queries
- **Low-priority:** background refreshes

Docket® Asynchronous IIS Queries



- Reliability for consumers
- Stability for IIS

Queuing System



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



RECOMMENDED DATE

DUE NOW

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.

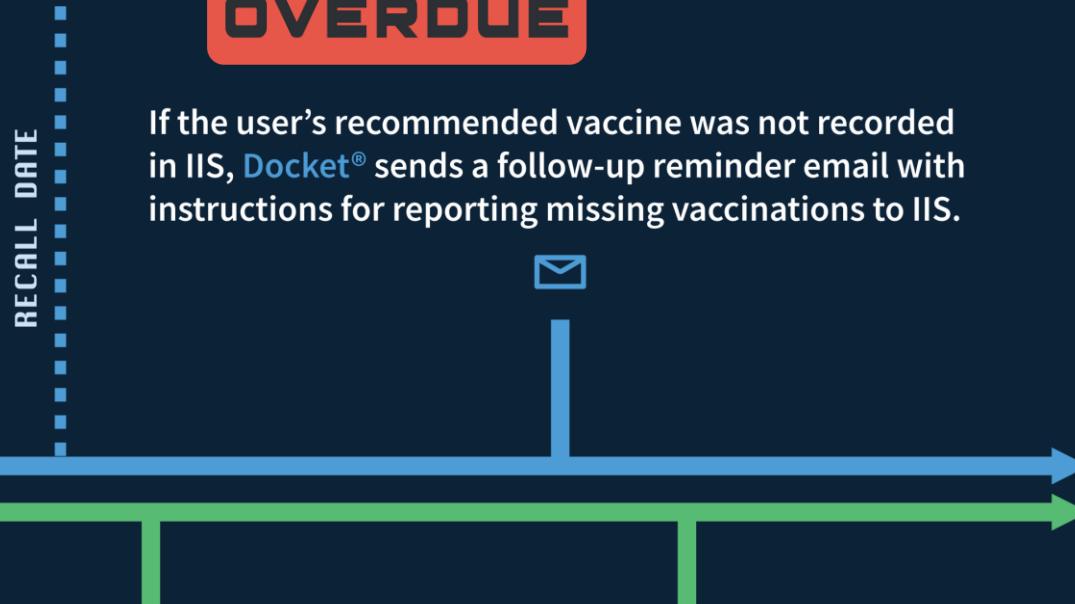
• LOW-PRIORITY QUEUE •

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Reminder/Recall User Journey Part Three



TIME

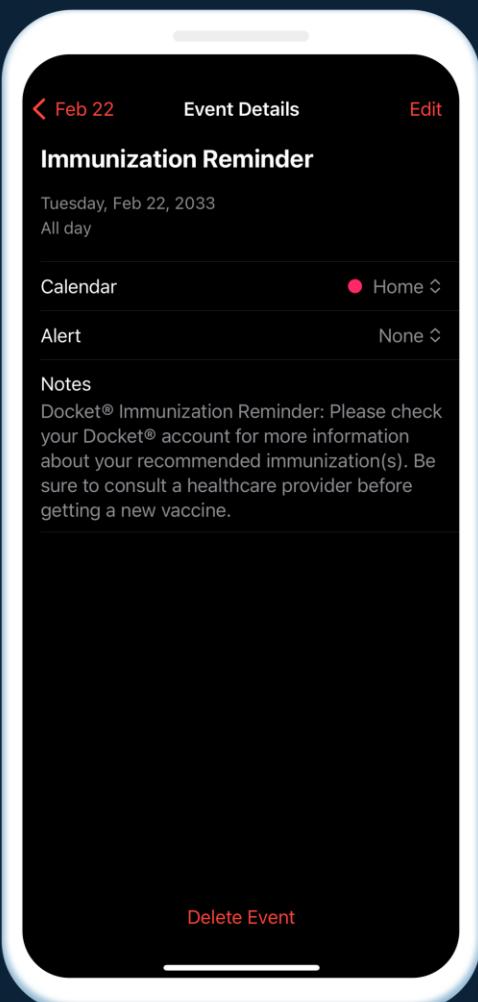
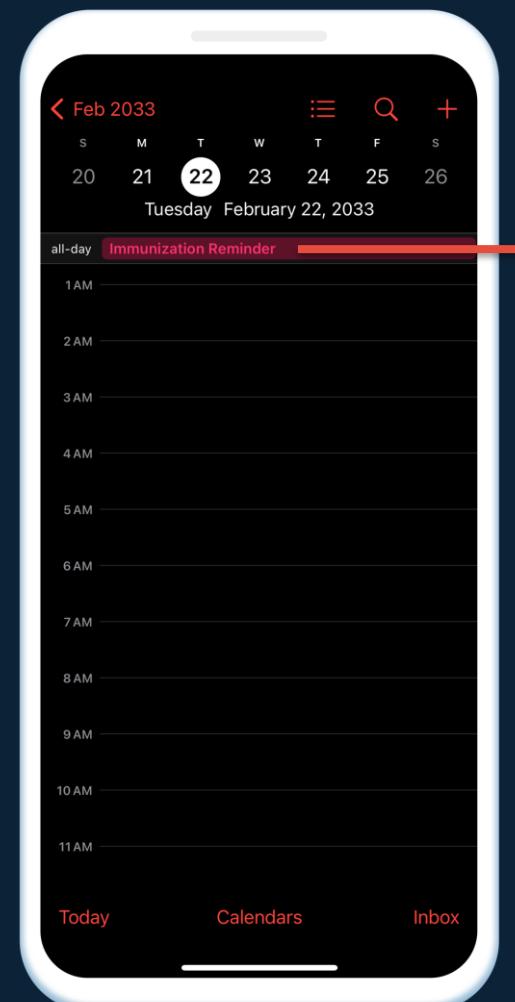
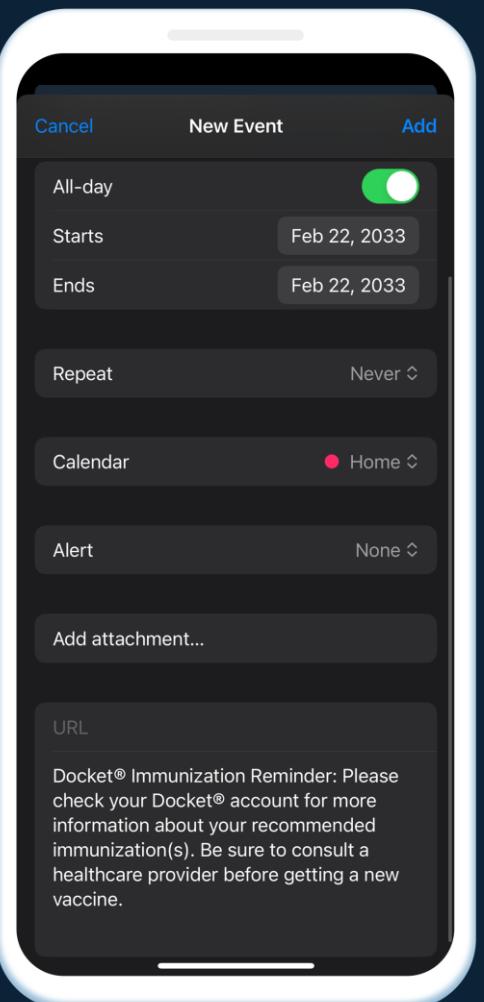
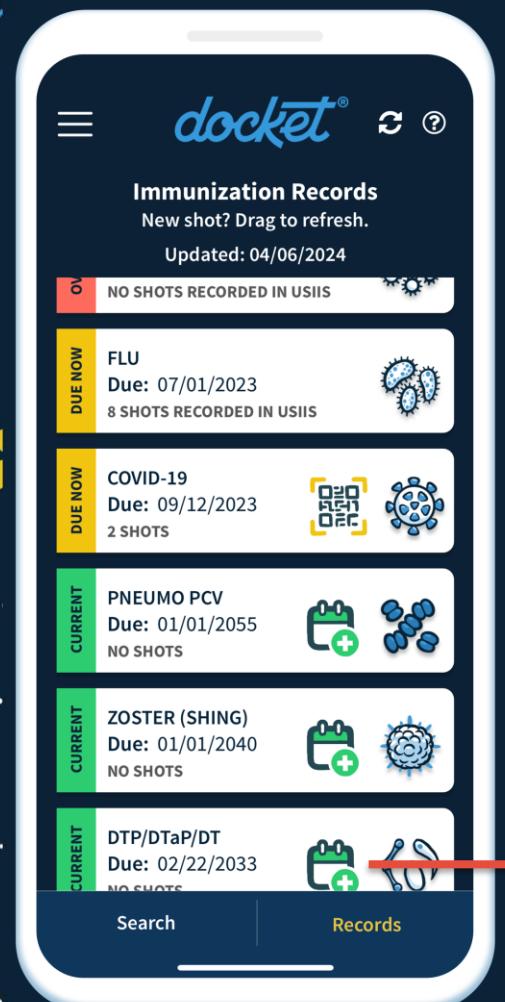


Docket® re-queries IIS to determine whether the recommended vaccine was administered and recorded in IIS.

• 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

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

Docket <info@mail.dockethealth.com>
To: Michael Perretta

Enhanced Reminder Recall Insights¹

| | 04/07 | 04/08 | 04/09 | 04/10 |
|---------------------------------------|-----------|-----------|-----------|-----------|
| Cumulative Total Forecasts Tracked ‡‡ | 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 ‡‡ | 36,066 | 36,069 | 36,073 | 36,076 |
| Cumulative Push Notifications ‡‡ | 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 NJIIIS 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

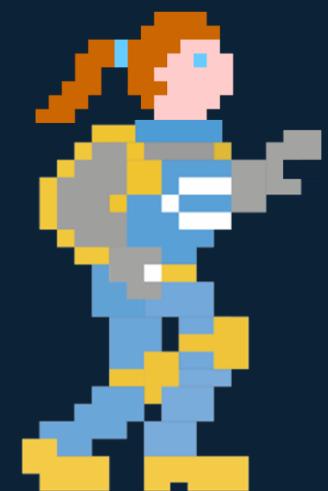
3. Evaluate/Compare

- Reports available to Immunization Program

How do we level up?



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+

Notifications

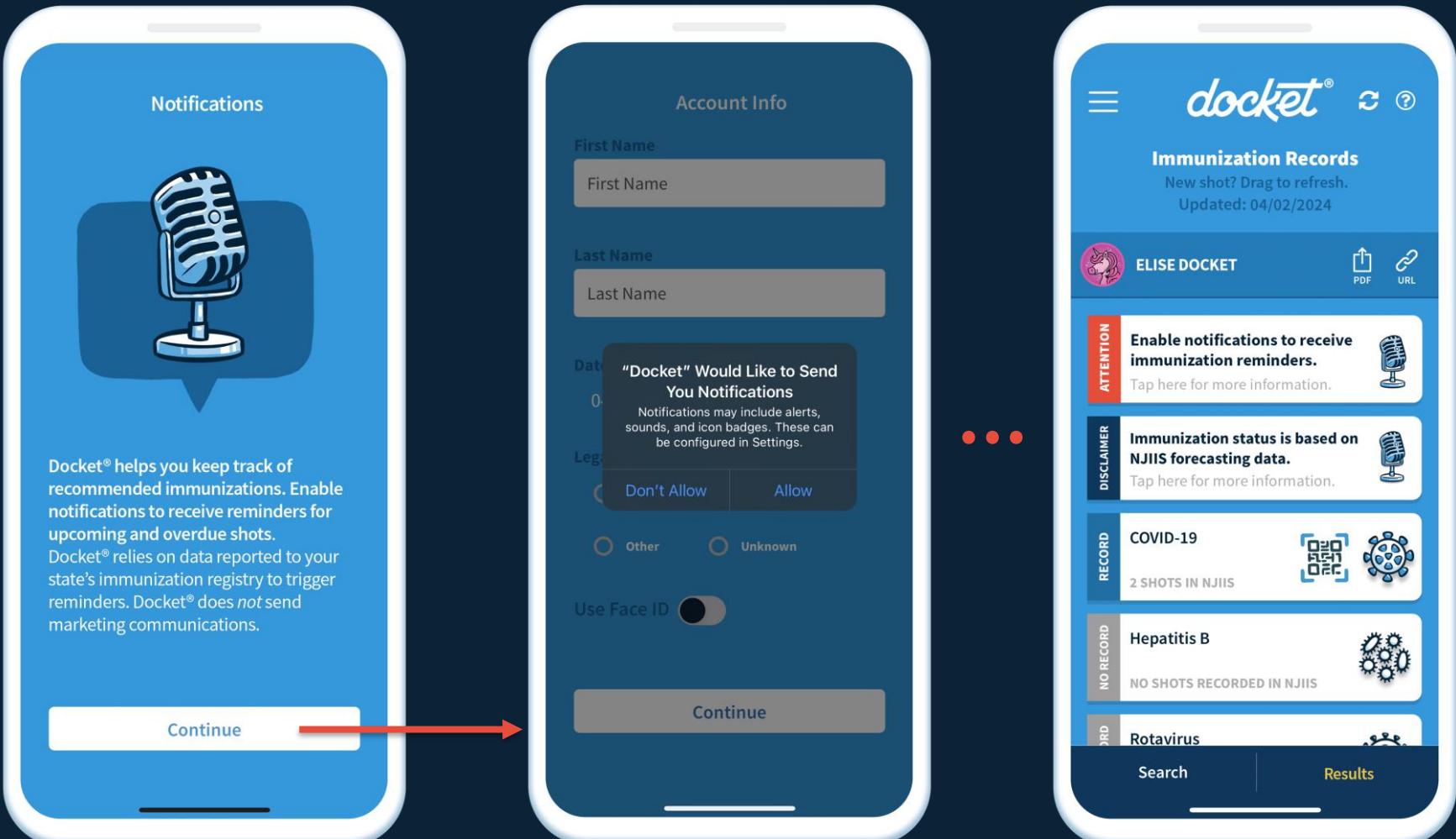


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Opportunities

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!”

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