

# Risk Evaluation and Mitigation Strategy (REMS) Integration and Innovation Project Update

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Office of Surveillance and Epidemiology  
U.S. Food and Drug Administration

# Outline

- **Describe REMS Integration Use Case and prototype updates**
- Summarize January 2025 and 2026 Health Level 7 (HL7<sup>®</sup>) Fast Healthcare Interoperability Resources (FHIR<sup>®</sup>) Connectathons for REMS medications
- Summarize July 2025 NCPDP REMS pharmacy intermediary test event, and February 2026 colLAB / Work Group updates
- Discuss the US Medication REMS HL7 FHIR Implementation Guide (IG) and August 2025 updates
- Review REMS SPL submission updates
- Discuss future HL7<sup>®</sup> CodeX<sup>™</sup> REMS integration pilots

# REMS Modernization through Integration and Standardization



## REMS – Current State

- Manual phone and fax implementation
- Not integrated into prescriber and pharmacist workflow
- Suboptimal patient engagement and transparency
- Lack of quality standardized data submission for feedback and evaluation
- No unified way to share data between REMS stakeholders
- Delays in therapy for patients

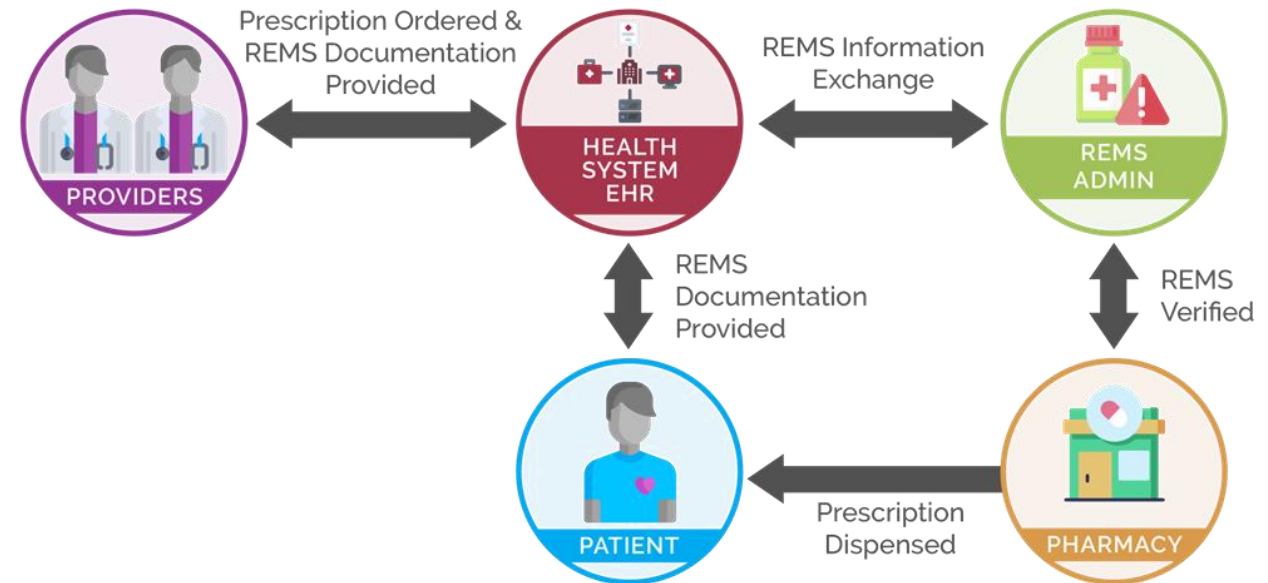
## REMS – Future State

- Automated, low burden implementation
- Integrated into clinician workflow
- Patients complete requirements, report & monitor status through apps
- Standardized, quality data submission for timely feedback and more robust evaluations
- Reduced friction in exchange of REMS data
- Patients achieve timely access to medications

# Proof-of-Concept Prototype



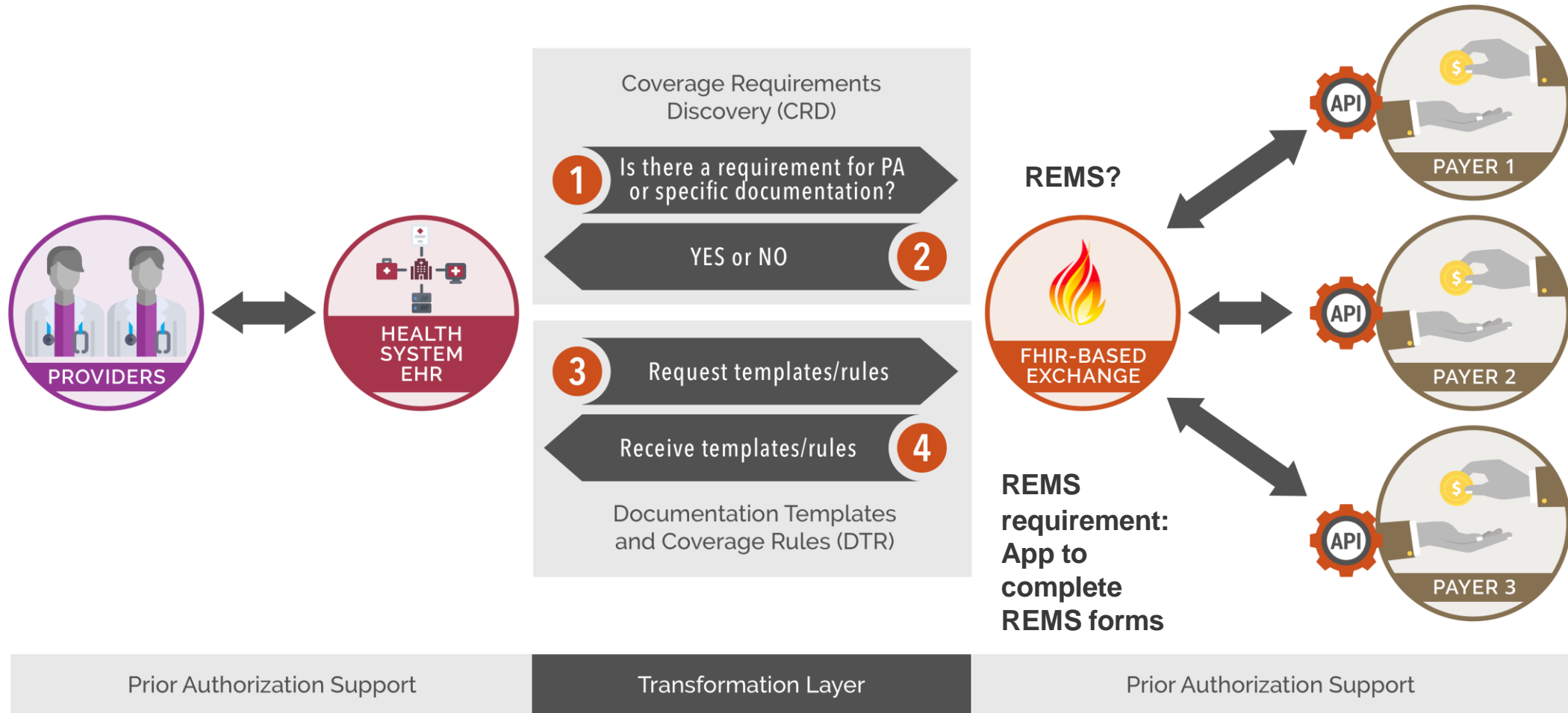
- MITRE and FDA are working together with REMS stakeholders under the HL7® CodeX™ FHIR Accelerator<sup>1,2</sup> to expand on an open-source proof-of-concept prototype that leverages data standards and technology to integrate REMS into the health care system
- Goal is to model data transactions and workflows to demonstrate the art of the possible
  - Aims not to develop an interface for users but instead focus on how data can be exchanged and used
  - Used to engage the broader REMS community to help drive conversations around opportunities to enhance REMS



<sup>1</sup>HL7 FHIR – Health Level 7 Fast Healthcare Interoperability Resources

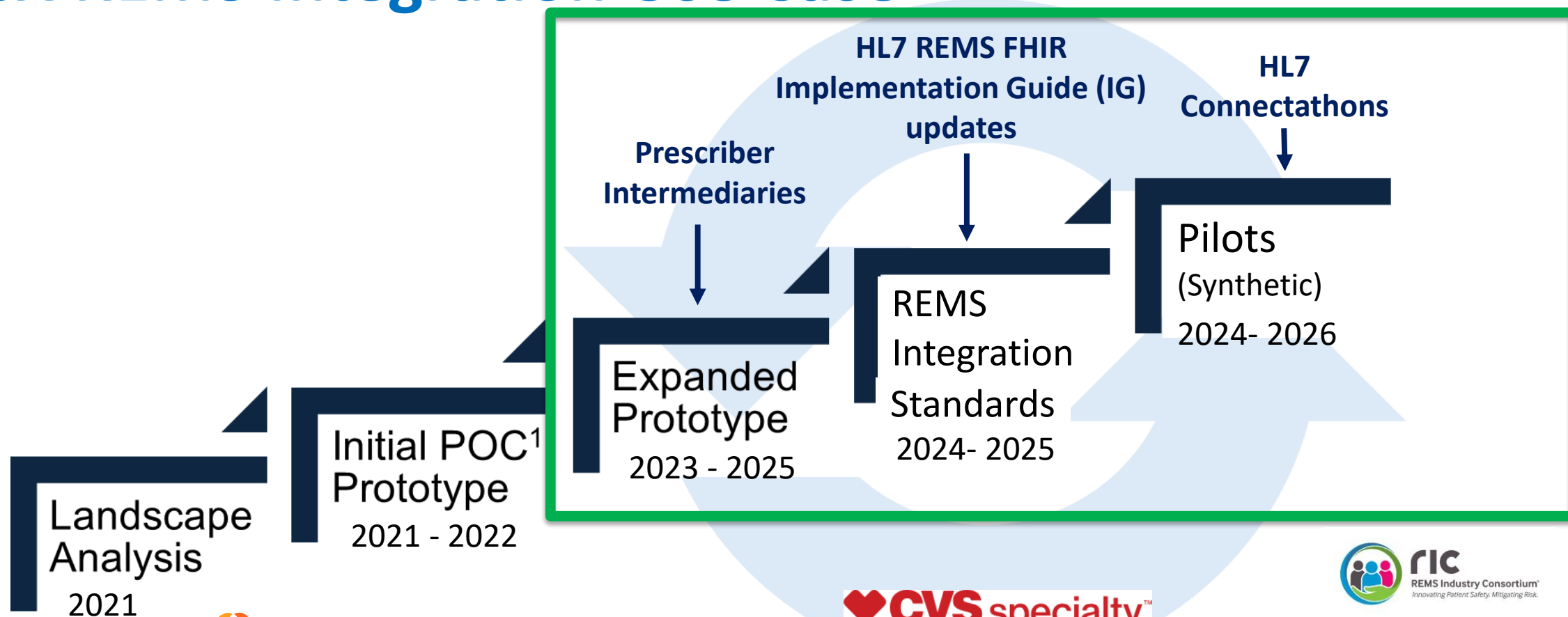
<sup>2</sup>CodeX: Member-driven HL7 FHIR Accelerator hosting a growing community working together to enable FHIR-based interoperability that drives substantial improvements around the most important challenges and opportunities in patient health.

# REMS Integration is Informed by Prior Authorization (PA)



Da Vinci Prior Authorization IGs and Supporting Comment: <https://confluence.hl7.org/pages/viewpage.action?pageId=91980079>

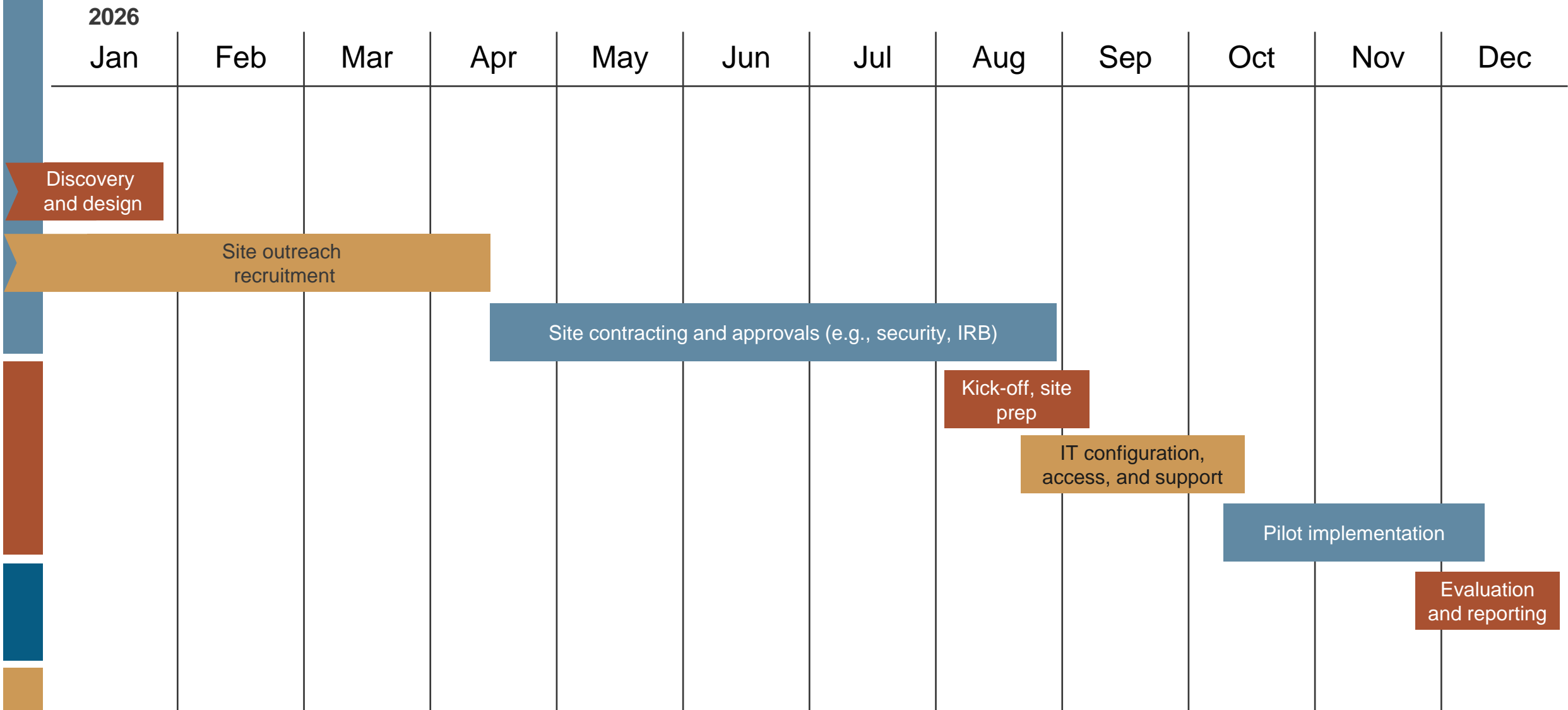
# Iterative Pilots and Standards Development in CodeX REMS Integration Use Case



<sup>1</sup>POC = Proof of concept



# Notional Timeline for REMS Integration Real-world Pilot



Slide adapted from CodeX™ Pharmacovigilance and Risk Management Use Case Public Call on January 21, 2026.

See: <https://confluence.hl7.org/spaces/COD/pages/413048123/01-20-2026+Pharmacovigilance+and+Risk+Management+Public+Call+Meeting+Minutes>



# Prototype EHR Screenshot



**EHR Request Generator** | Jane Doe | LOGOUT

SELECT A PATIENT | John Snow

Patient ID: pat017

Demographics	Prefetched
Name: John Snow	practitioner Resources Practitioner: Practitioner/practitioner1234 ✓
Age: 29	patient Resources Patient: Patient/patient017 ✓
Gender: male	pharmacy Resources HealthcareService: HealthcareService/pharm0111 ✓
State: empty	request Resources MedicationRequest: MedicationRequest/patient017-mr- ✓
Code: _____	
System: RxNorm	
Display: 200 MG Oral Capsule	

LAUNCH SMART ON FHIR APP | SEND RX TO PHARMACY | SIGN ORDER

### Pharmacy Certification Status

Test Pharmacy (123 Main Street, Anytown, CA 12345) is certified for 200 MG Oral Capsule REMS dispensing. This medication can be dispensed at this location.

Source: CodeX REMS Administrator Prototype

### REMS Patient Requirements

Documentation Required, please complete form via Smart App link.

Required Forms

PATIENT ENROLLMENT FORM →

Suggestions

ADD "COMPLETION OF PATIENT ENROLLMENT QUESTIONNAIRE" TO TASK LIST

View documentation and guides ▾

Source: CodeX REMS Administrator Prototype

### REMS Prescriber Requirements

Documentation Required, please complete form via Smart App link.

Required Forms

PREScriber ENROLLMENT FORM →

PREScriber KNOWLEDGE ASSESSMENT FORM →

200 MG Oral Capsule

ETASU: PENDING

Last checked a few seconds ago  
1/14/2026, 11:38:21 PM

200 MG Oral Capsule

MEDICATION: N/A

Last checked a few seconds ago  
1/14/2026, 11:38:21 PM

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See: <https://confluence.hl7.org/spaces/COD/pages/413048123/01-20-2026+Pharmacovigilance+and+Risk+Management+Public+Call+Meeting+Minutes>

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# Prototype Shared SMART App Screenshot



Rems Patient Enrollment ⚙️

[Form Help](#)  
Only Show Unfilled Fields   
Ignore required fields   
Patient: John Snow

**Patient Information**

Patient Information

Last Name: *	First Name: *	Middle Initial: *	Date of Birth: *	Gender
<input type="text" value="Snow"/>	<input type="text" value="John"/>	<input type="text" value="Type a value"/>	<input type="text" value="06/01/1996"/>	<input type="text" value="male"/>

Address Line 1

Address Line 2

City

State

Zip

Telephone

Email

Body weight  lbs

**Body height**

ft

in

Race

Is the patient currently taking pexidartinib (i.e., started prior to REMS enrollment)?

If yes: When did patient start pexidartinib? Date (MM/DD/YYYY):

If yes: Was this part of a clinical study?

Comment

# Prototype Pharmacy Screenshot



**Pharmacy** DOCTOR ORDERS LOGIN

[NEW ORDERS](#) [VERIFIED ORDERS](#) [PICKED UP ORDERS](#)

### New Orders

John Snow  
DOB: 1996-06-01  
20 MG Oral Capsule

	Quantities	Drug Price	Total	Doctor Name	Doctor ID	Doctor Contact	Doctor Email	Pickup Date
Pending	90	200	1800	Dr. Jane Doe	1122334455	(555) 384-4444	jane.betty@motorcitysnf.com	Tue Dec 13 2022

VIEW ETASU VERIFY ORDER

REMOVE ALL

ⓘ Patient enrollment/certification required ×

# Prototype Improved EHR Communications



The screenshot displays the 'EHR Request Generator' interface for a patient named John Snow. A modal window titled 'Communications (2)' is open, showing two denied medication dispensing authorizations. The first authorization (ID: 140) is denied because the following REMS requirements must be completed: 1. Patient Enrollment (patient), 2. Prescriber Enrollment (prescriber), and 3. Prescriber Knowledge Assessment (prescriber). The second authorization (ID: 142) is denied for the same reasons but only lists the first two requirements. The background interface includes a patient selection dropdown, a 'Patient ID' field, a 'Demographics' section with fields for Name, Age, Gender, and State, a 'Coding' section with fields for Code and System, and a 'Pharmacy Certification Status' section. At the bottom, there are two '200 MG Oral Capsule' buttons with 'ETASU: APPROVED' and 'MEDICATION: PICKED UP' status, and a 'REMS Prescriber Requirements' section with links to 'PRESCRIBER ENROLLMENT FORM' and 'PRESCRIBER KNOWLEDGE ASSESSMENT FORM'.

Slide adapted from CodeX™ Pharmacovigilance and Risk Management Use Case Public Call on January 21, 2026.  
See: <https://confluence.hl7.org/spaces/COD/pages/413048123/01-20-2026+Pharmacovigilance+and+Risk+Management+Public+Call+Meeting+Minutes>

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# Current REMS Integration Use Case Updates



- **January 2025 (HL7®):**
  - Additional synthetic data pilots (2<sup>nd</sup> HL7® Connectathon); **REMS prescriber intermediaries for routing REMS via synthetic SPL FHIR endpoints,**
  - **Updated the HL7® FHIR<sup>1</sup> implementation guide** (integration of prescriber intermediaries), and
- **July 2025 (NCPDP)**
  - Expanded to **test integration into pharmacy workflow by connecting FHIR** (medical data/EHR) **and NCPDP SCRIPT<sup>2</sup>** (prescription drug data/e-prescribing) standards
- **January 2026 (HL7®):**
  - Piloted (3<sup>rd</sup> HL7® Connectathon) test integration with the PACIO Project<sup>3</sup> for transitions of care from a health system to a skilled nursing facility

<sup>1</sup>HL7® FHIR – Health Level 7 Fast Healthcare Interoperability Resources

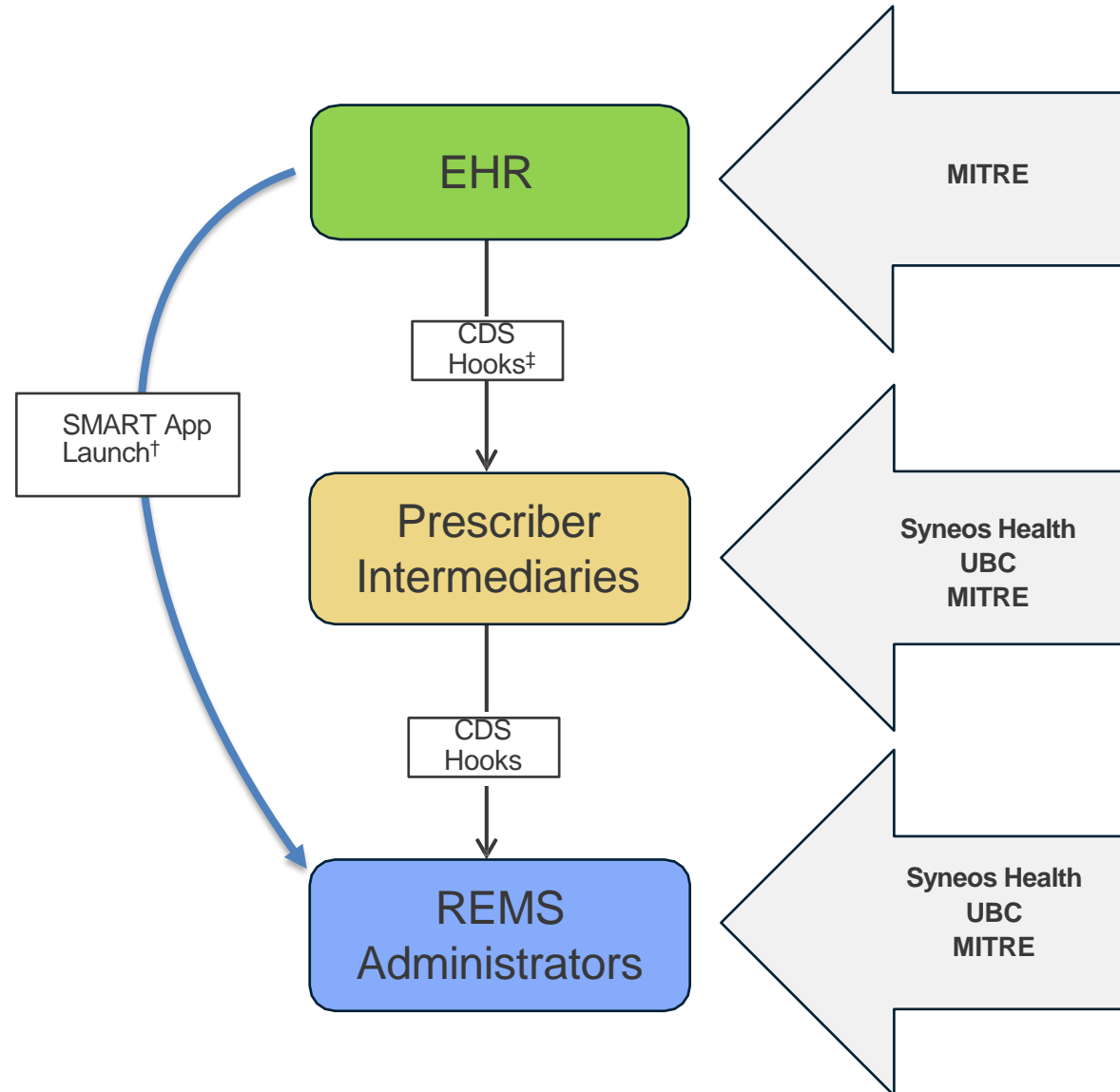
<sup>2</sup>NCPDP - National Council for Prescription Drug Programs

<sup>3</sup>PACIO - Post Acute Care InterOperability

# Improving Upon the IG for January 2025 Connectathon

- Created Prescriber Intermediary – To utilize the REMS medication implementation guide (IG) to send to a **Prescriber Intermediary** so that we can have information sent to the **correct REMS administrator**
- Once sent to **pharmacy**, create a **check point to make sure all REMS data are complete** before prescription adjudication (solution while waiting for NCPDP Foundation Grant for Pharmacy Intermediary<sup>1</sup>)

# January 2025 HL7<sup>®</sup> Connectathon Summary



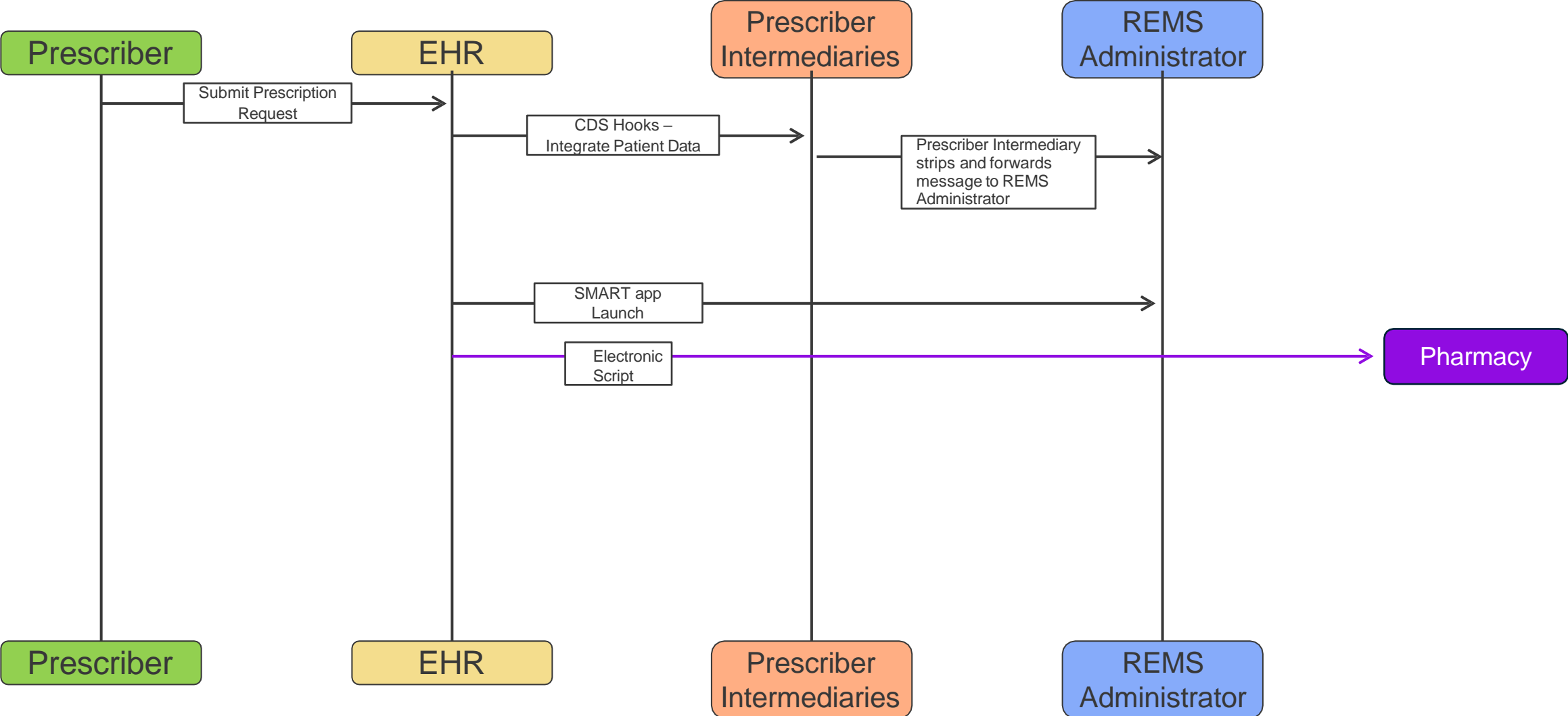
† Substitutable Medical Apps, Reusable Technology (SMART) App Launch is a framework for user-facing apps that connect to EHRs and health portals

‡ Clinical Decision Support (CDS) Hooks is a specification that describes a "hook"-based pattern for invoking decision support from within a clinician's workflow

Slide adapted from CodeX<sup>™</sup> REMS Integration Use Case Public Call on November 20, 2024. See: <https://confluence.hl7.org/download/attachments/288396005/REMS%20Nov%202024%20Public%20Call.pdf?version=1&modificationDate=1732145107549&api=v2>

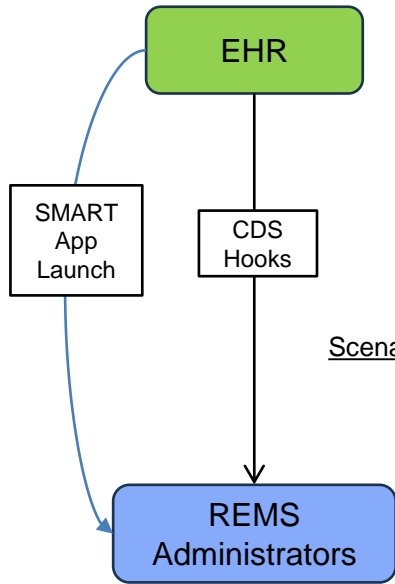


## - Processes to Implement

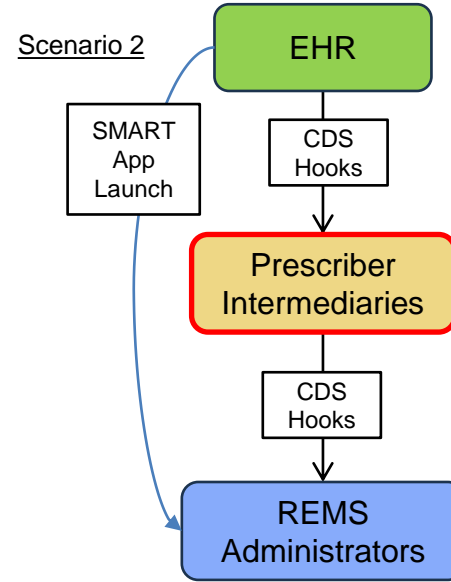


# January 2025 HL7® Connectathon Test Scenarios

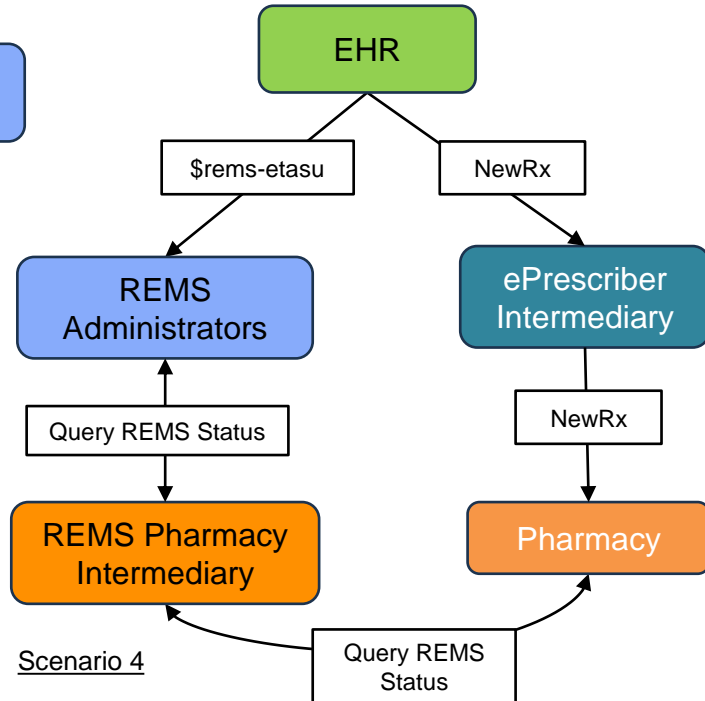
## - Validating the Approach Within Stakeholder Systems



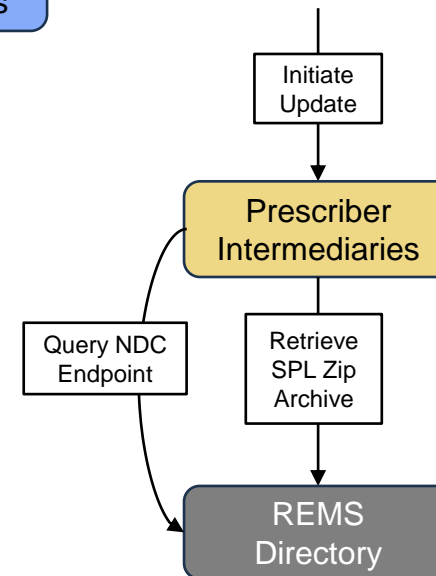
Scenario 1



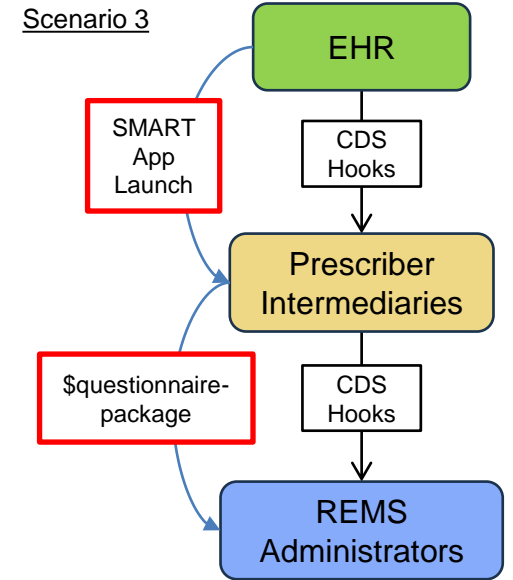
Scenario 2



Scenario 4



Scenario 5



Scenario 3

# January 2025 HL7<sup>®</sup> Connectathon - What Worked



## Five Scenarios, One Goal: Seamless, Standards-Based REMS Compliance

Scenario	What It Demonstrated
1. Direct Prescriber ↔ REMS Admin	A prescriber can <b>discover</b> REMS requirements and <b>launch</b> a REMS application
2. Intermediary Forwarding	An intermediary can <b>route</b> requests from multiple prescribers to multiple REMS admins
3. Shared SMART App	A <b>single app</b> can be used for multiple REMS admins using <b>standardized</b> questionnaires
4. Full Pharmacy Flow	REMS <b>status</b> can be requested and used to drive <b>dispensing decisions</b>
5. Admin Directory	<b>Standard</b> software interfaces can support REMS <b>admin discovery</b> and registration

All scenarios successfully executed with real software across vendors and roles

# January 2026 HL7® Connectathon



## Transition to Pharmacovigilance and Risk Management Use Case

REMS (Risk Evaluation and Mitigation Strategies) are drug safety programs that the FDA requires for certain medications with potential for serious adverse effects to help ensure the benefits of the medication outweigh its risks

This track is part of the REMS / Pharmacovigilance and Risk Management Use Case, which aims to

- reduce REMS implementation burden
- improve the quality of REMS data for feedback and evaluation, and
- optimize safe medication use and health outcomes

The use case is part of GenomeX within the CodeX FHIR accelerator



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# January 2026 HL7® Connectathon Goal Summary



- Focus on the prescriber, patient, and pharmacy REMS interactions
- Discover REMS Requirements using existing standards
  - Connect several REMS Administrators to an EHR using the REMS IG using:
    - CDS Hooks
    - SMART App Launch (Shared)
- Demonstrate connectivity using Intermediaries
- Educate on IG capabilities
- **Explore use case beyond Connectathon**
- **Build towards a real-world pilot**



# Post-Acute Care InterOperability (PACIO) Project



- Collaborative effort to advance interoperable health data exchange between post-acute care (PAC) and other providers, patients, and key stakeholders across health care
- Promote health data exchange in collaboration with policy makers, standards organizations, and industry through a consensus-based, use case-driven approach.
- Sponsored by the Centers for Medicare & Medicaid Services (CMS) and led by The MITRE Corporation
- For more information see: <https://pacioproject.org/>

# January 2026 HL7® Connectathon

## Track Roles and Systems (HL7 FHIR)

- **EHR**
  - Send CDS Hooks
  - Receive and process card
  - SMART App Launch
  - Send \$rems-etasu FHIR Operation
  - *Receive FHIR Communication Resource*
  - *Query and parse PACIO<sup>1</sup> Transitions of Care (ToC) Bundle*
- **Prescriber Intermediary**
  - Forward CDS Hooks
  - Receive and return card to client
  - Forward \$rems-etasu FHIR Operation
  - Host Shared SMART on FHIR App
    - Retrieve \$questionnaire-package
    - Render Questionnaire and execute CQL
    - Send completed QuestionnaireResponse
  - Query SPL and ndc.json endpoint to add/update REMS Administrator
- **REMS Administrator**
  - Respond to CDS Hooks
  - Host SMART App
  - Support \$rems-etasu FHIR Operation
    - Include REMS Case Number (if available)
  - Support \$questionnaire-package FHIR Operation
  - Receive QuestionnaireResponse
  - *Send FHIR Questionnaire Resource*
- **REMS Directory**
  - Host SPL Zip File
  - Support ndc.json endpoint
- **PACIO FHIR Server**
  - *Host Transitions of Care (ToC) FHIR Bundle*

<sup>1</sup>PACIO – Post-Acute Care InterOperability



# January 2026 HL7<sup>®</sup> Connectathon

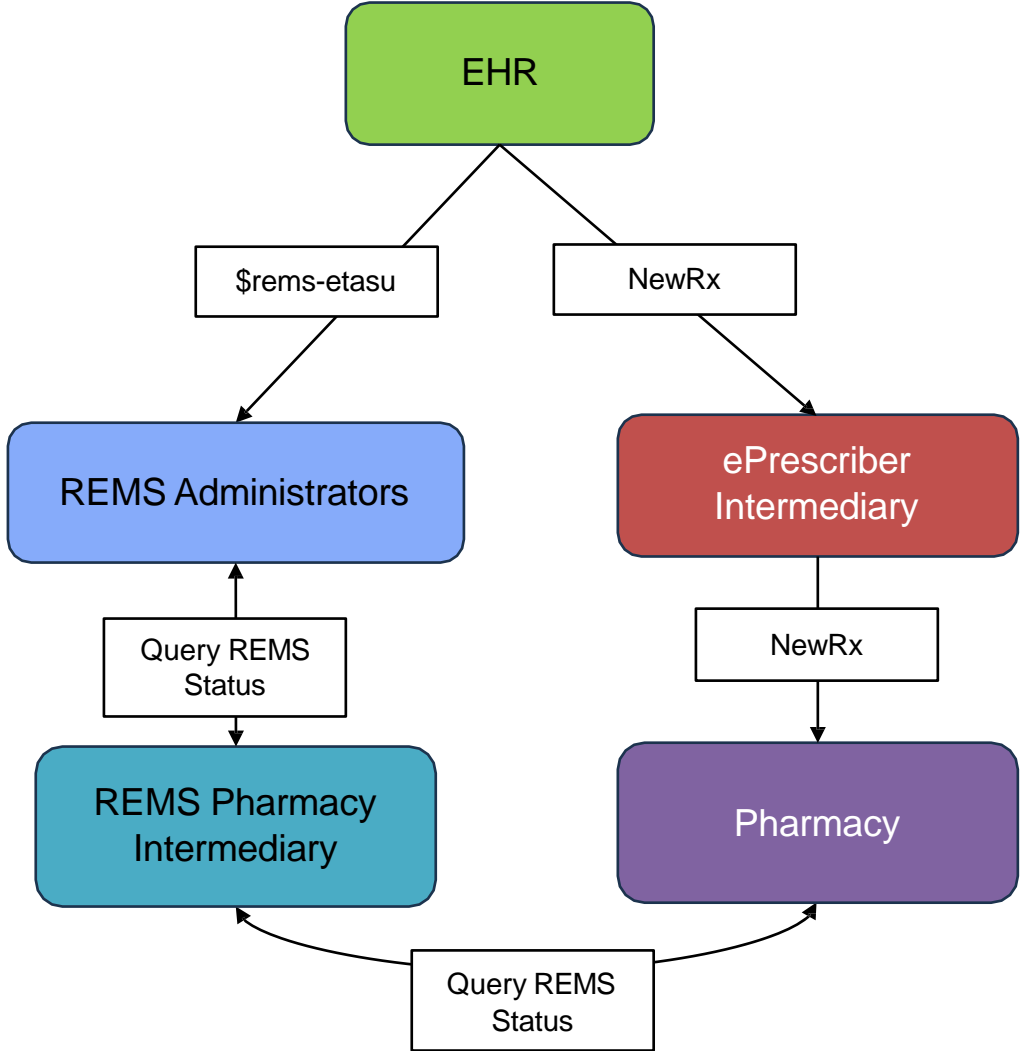


## Track Roles and Systems (NCPDP SCRIPT)

- **EHR**
  - Send NCPDP SCRIPT NewRx
  - *Receive NCPDP SCRIPT RxFill*
- **Pharmacy**
  - Receive NCPDP SCRIPT NewRx
  - Verify REMS requirements met
    - Send Message to REMS Pharmacy Intermediary
  - *Send NCPDP SCRIPT RxFill*
- **REMS Pharmacy Intermediary**
  - Forward REMS requests from Pharmacy to REMS Administrator
  - Return response from REMS Administrator to Pharmacy
- **REMS Administrator**
  - Communicate with Pharmacy Intermediary
    - Receive REMS Inquiry
    - Send response (dispense authorization or reject)
  - *Receive NCPDP SCRIPT RxFill*



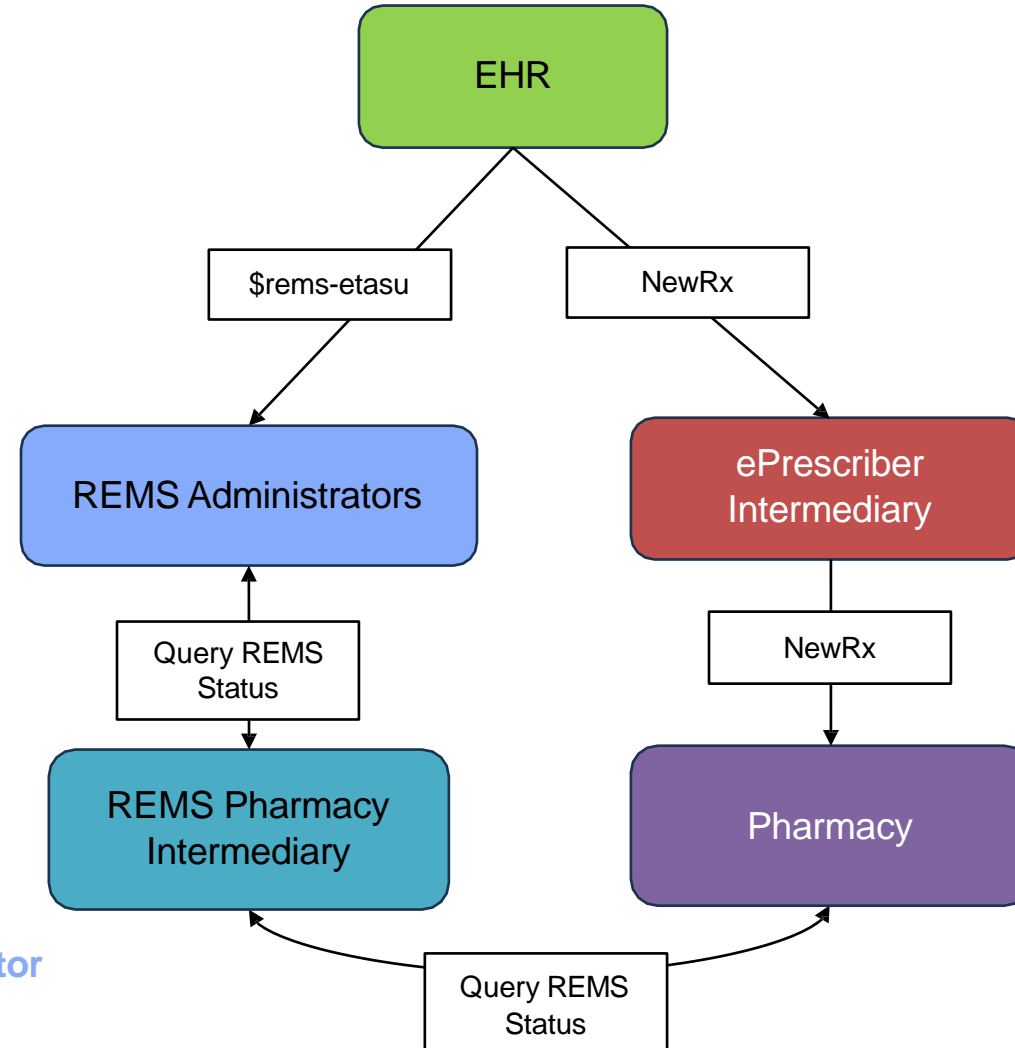
# Scenario 1 – Pharmacy Success



- **REMS Pharmacy Intermediary** forwards request to **REMS Administrator**
- **REMS Administrator** responds with **Dispense Authorization**
- **REMS Pharmacy Intermediary** forwards response to **Pharmacy**
- **Pharmacy** dispenses medication to **Patient**
- **Pharmacy** sends *RxFill* to **EHR** and **REMS Administrator**



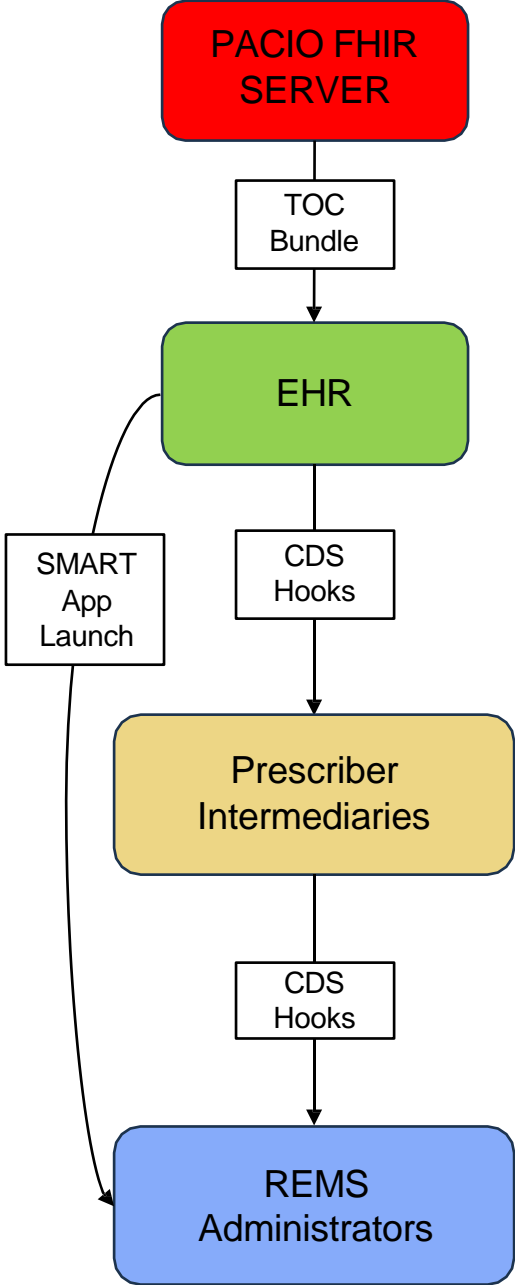
# Scenario 2 – Pharmacy Rejection



- **REMS Pharmacy Intermediary** forwards request to **REMS Administrator**
- **REMS Administrator** responds with **Reject Code**
- **REMS Pharmacy Intermediary** forwards response to **Pharmacy**
- **REMS Administrator** sends FHIR *Communication* to **EHR**
- **Pharmacy** sends *RxFill* to **EHR** and **REMS Administrator**



# Scenario 3 – PACIO<sup>1</sup>



<sup>1</sup>PACIO – Post-Acute Care InterOperability



January 2026 HL7<sup>®</sup> Connectathon PACIO REMS vignette demo: <https://www.youtube.com/watch?v=2szzF53lIZU>



# PACIO<sup>1</sup> REMS Vignette



Skilled nursing facility EHR receives information on a new patient on a REMS drug

The screenshot shows the 'EHR Request Generator' interface. A modal window titled 'Communications (4)' is open, displaying four entries. The first entry is highlighted with a green box:

- ID: 119 Received: 1/14/2026, 1:48:16 PM CLEAR  
Added new patient (Violet Gartner) from transfer of care

The second entry is:

- ID: 121 Received: 1/14/2026, 1:48:16 PM CLEAR  
Added new MedicationRequest for Senna-S 8.6 MG Oral Tablet from transfer of care

The third entry is:

- ID: 123 Received: 1/14/2026, 1:48:16 PM CLEAR  
Added new MedicationRequest for Hydrocodone 5 MG / Acetaminophen 325 MG Oral Tablet from transfer of care

The fourth entry is highlighted with a green box:

- ID: 125 Received: 1/14/2026, 1:48:16 PM CLEAR  
Added new MedicationRequest for Isotretinoin 20 MG Oral Capsule from transfer of care

<sup>1</sup>PACIO – Post-Acute Care Interoperability

January 2026 HL7® Connectathon PACIO REMS vignette demo: <https://www.youtube.com/watch?v=2szzF53IIZU>

# PACIO<sup>1</sup> REMS Vignette

## Skilled nursing facility EHR checks REMS requirements status



The screenshot displays the EHR Request Generator interface for patient Violet Gartner. The interface is divided into several sections:

- Patient Information:** Patient ID: 126, Name: Violet Gartner, Age: 17, Gender: female, State: empty, Code: 6064, System: RxNorm, Display: Isotretinoin 20 MG Oral Capsule.
- Resources:** A table of resources for the patient, including patient, practitioner, pharmacy, and request resources, all marked as 'Prefetched' and 'checked'.
- Pharmacy Certification Status:** Test Pharmacy (123 Main Street, Anytown, CA 12345) is certified for Isotretinoin 20 MG Oral Capsule REMS dispensing. This medication can be dispensed at this location.
- iPledge/Isotretinoin REMS Prescriber Requirements:** Documentation Required, please complete form via Smart App link. Required Forms: PRESCRIBER ENROLLMENT FORM. Suggestions: ADD "COMPLETION OF PRESCRIBER ENROLLMENT QUESTIONNAIRE" TO TASK LIST.
- Medication Status:** Two cards for Isotretinoin 20 MG Oral Capsule. The first card shows 'ETASU: PENDING' and the second card shows 'MEDICATION: N/A'. Both cards indicate they were last checked a few seconds ago on 1/14/2026.

<sup>1</sup>PACIO – Post-Acute Care Interoperability

# January 2026 HL7<sup>®</sup> Connectathon



## List of Participants

- Demonstrating Software
  - MITRE: **EHR**, **Intermediary**, **REMS Administrator**
- Other Participants
  - FDA
  - Synerio
  - InfoWerks
  - Epidaurus Health



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## Notable Achievements

- Successfully able to test all scenarios
  - REMS requirements discoverable through CDS Hooks
  - Intermediaries able to forward requests to different REMS Administrators based on Medication
  - Applications launched returned cards were able to access FHIR resources on EHR using SMART App Launch
  - NCPDP SCRIPT messages used to verify REMS in pharmacy
  - Cross-over demonstrations with Post-Acute Care InterOperability (PACIO) track
- Demonstrations
  - Demo recordings of all scenarios available on the use case confluence page
    - <https://confluence.hl7.org/spaces/COD/pages/358886982/GenomeX+-+Pharmacovigilance+and+Risk+Management>
  - Epidaurus Health gave a prior authorization AI demonstration
- Held discussions on the state of the use case and continued testing

# Now What?

- Further exploration of collaborations with other use cases
- Expand to new uses within new Pharmacovigilance and Risk Management Use Case
- Real-world pilot
  - Synthetic patient data
  - Real patient data

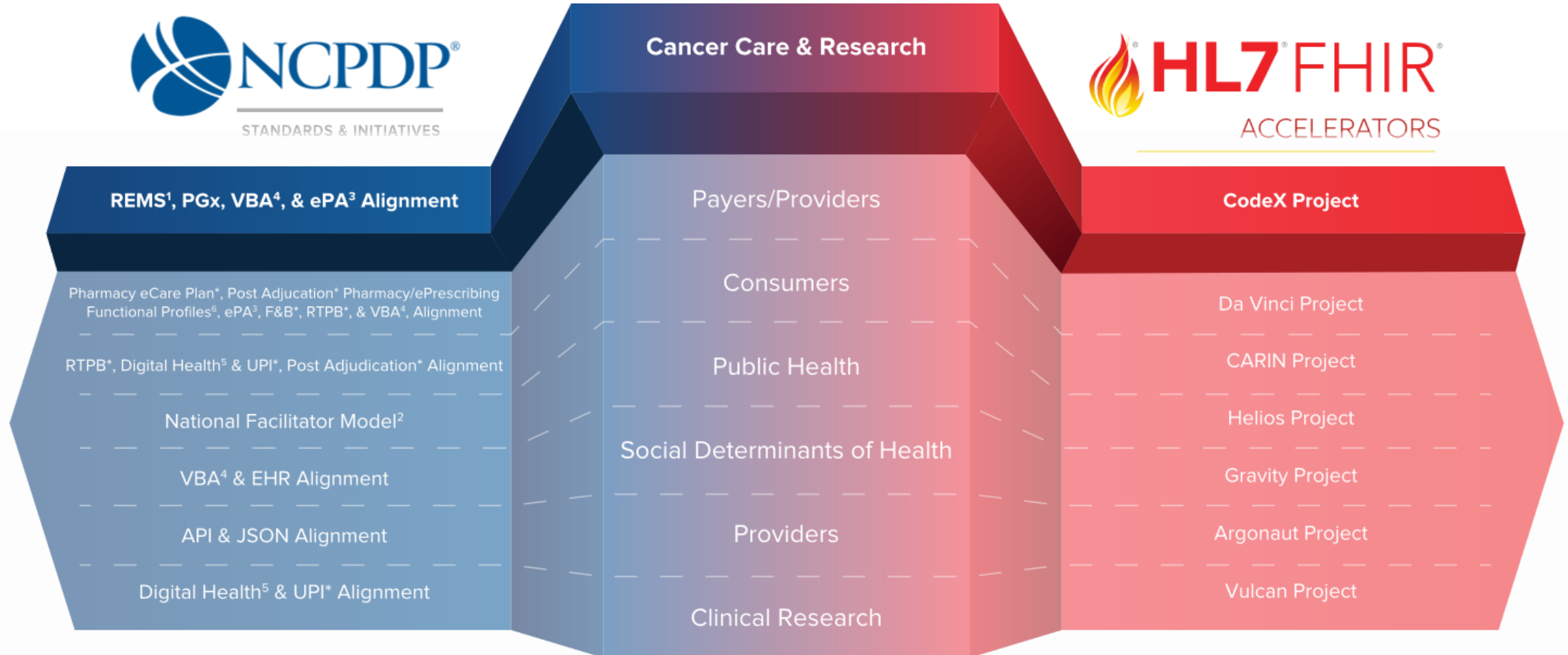
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# NCPDP® & HL7® FHIR® Cross-Pollination



Legend	
* Existing NCPDP Standard	<sup>4</sup> Supported by SCRIPT, Telecom & Pharmacist eCare Plan Standards
<sup>1</sup> Supported by Telecom & SCRIPT Standards	<sup>5</sup> Supported by Billing Unit, Product Identifiers, SCRIPT, Telecom, F&B, RTPB & Benefit Integration Standards
<sup>2</sup> Supported by SCRIPT, Telecom, & UPI Standards	<sup>6</sup> Separate standards developed jointly between NCPDP and HL7
<sup>3</sup> Supported by SCRIPT Standard	







# NCPDP February 2026 colLAB<sup>1</sup> Test Event and Work Group Updates



- **What is colLAB?**
  - A **free** place for the healthcare industry to connect, collaborate, innovate and explore real-world use of NCPDP standards, pharmacy and provider workflows and innovations happening around pharmacy technology.
  - Use cases are predetermined by NCPDP member leaders and focus on a patient story to show how the patient goes through the system to get the healthcare they need.
  - The event includes open discussion and dialogue about standards and workflow, demonstrations from vendors and brainstorming on innovative solutions to solve any gaps that may be discovered during the day.
- **February 2026 Use Cases:**
  - Pharmacy Product Locator
  - Electronic Prior Authorization (ePA), and
  - Real-Time Benefit Check (RTBC)

<sup>1</sup> See NCPDP colLAB Events page: <https://www.ncdp.org/colLAB>

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# US Medication REMS FHIR Implementation Guide (IG)



HL7 International **US Medication Risk Evaluation and Mitigation Strategies (REMS) FHIR IG** 2.0.0 - STU 2

Home **Table of Contents** Guidance ▾ Specification ▾ Downloads Change Log

Table of Contents > REMS IG Home Page

US Medication Risk Evaluation and Mitigation Strategies (REMS) FHIR IG, published by HL7 International / Pharmacy. This guide is not an authorized publication; it is the continuous build for version 2.0.0 built by the FHIR (HL7® FHIR® Standard) CI Build. This version is based on the current content of <https://github.com/HL7/fhir-medication-rems-ig/> and changes regularly. See the [Directory of published versions](#)

## 1 REMS IG Home Page

### 1.1 Overview

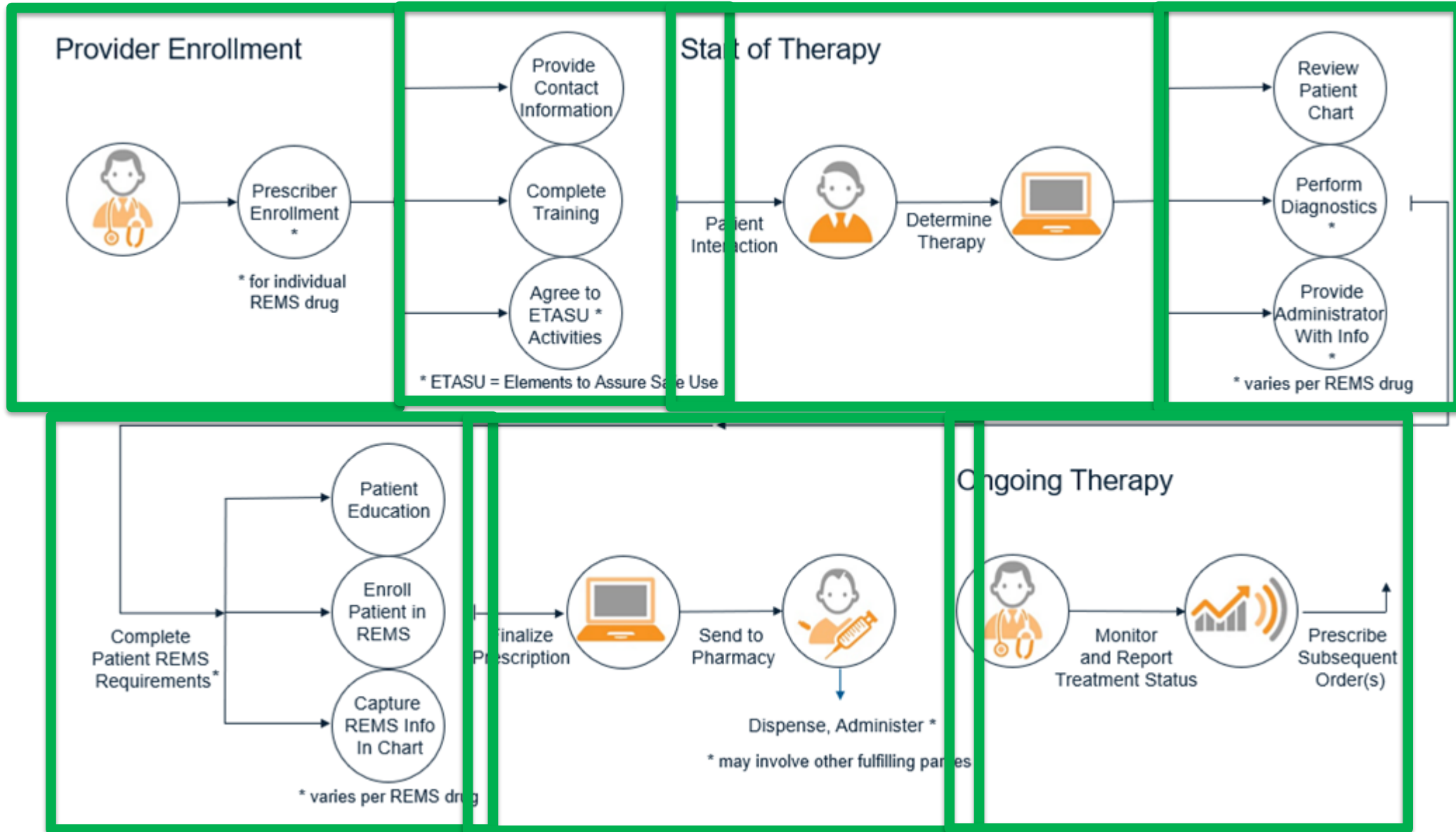
A Risk Evaluation and Mitigation Strategy (REMS) is a drug safety program that the United States Food and Drug Administration (FDA) requires for medications with serious safety concerns. REMS are designed to reinforce medication use behaviors and actions that support the safe use of the medication. While all medications have labeling that informs health care stakeholders about medication risks, only a [small number of medications require REMS programs](#).

This implementation guide focuses on provider workflows during the ordering of REMS medications and associated patient encounters. It defines information exchanges to support those events, including interactions between...

- the provider and the REMS Administrator that manages the associated program
- the provider and the pharmacy to which the prescription is sent for dispensing
- the pharmacist or other involved party and the REMS Administrator, to learn the status of REMS steps associated with a patient prescription and/or additional REMS requirements for which they are responsible (discuss)
- new or existing intermediaries in place to facilitate easier communication between the various parties including the provider, REMS Administrator, and pharmacist

- Overview
- Content and organization
- Dependencies
- Sponsoring HL7 Workgroup
- Co-Sponsors
- Authors
- Dependencies
- Cross Version Analysis
- Global Profiles
- IP Statements

# Generalized REMS Process Flow



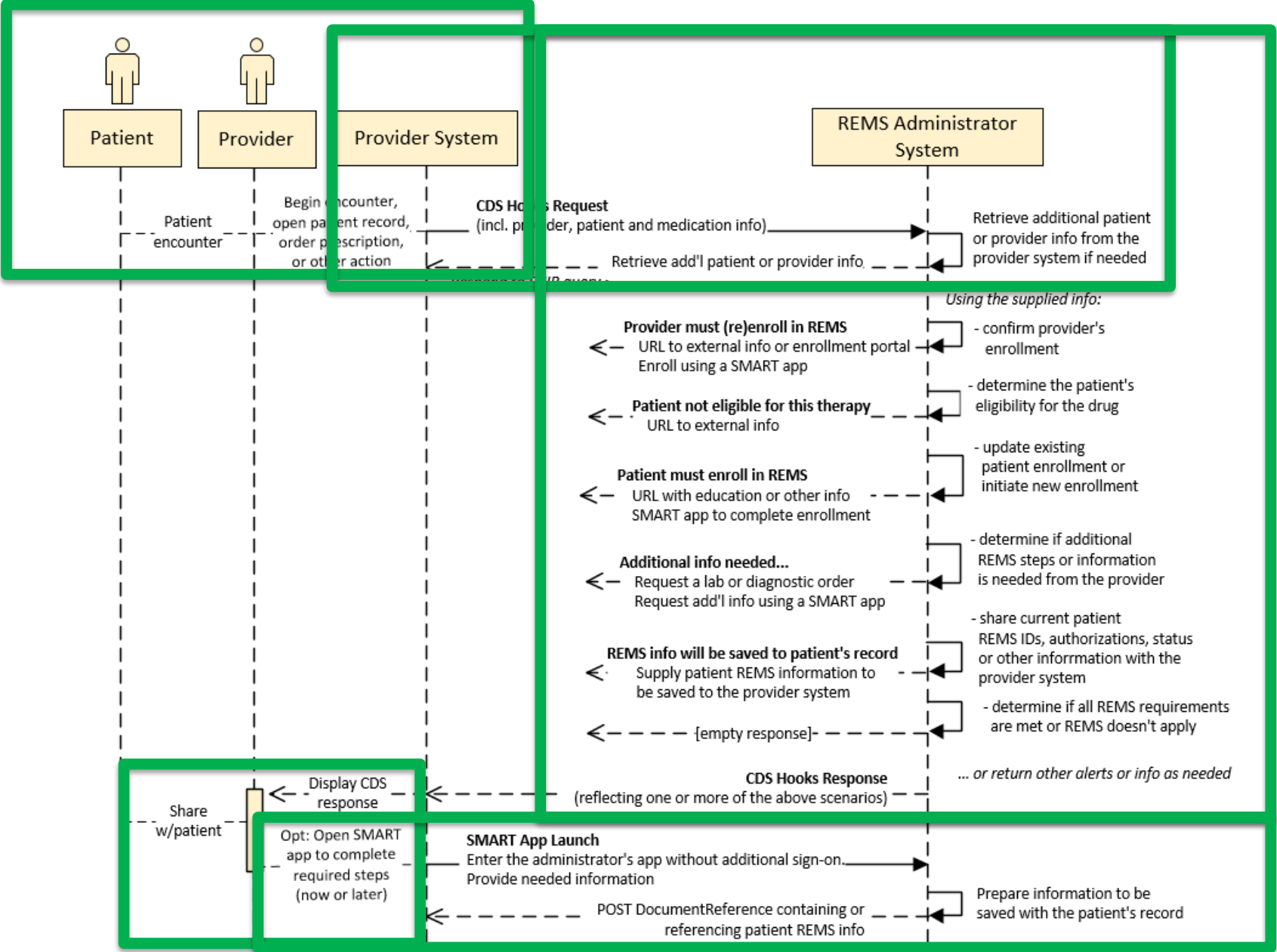
# REMS Process Activities



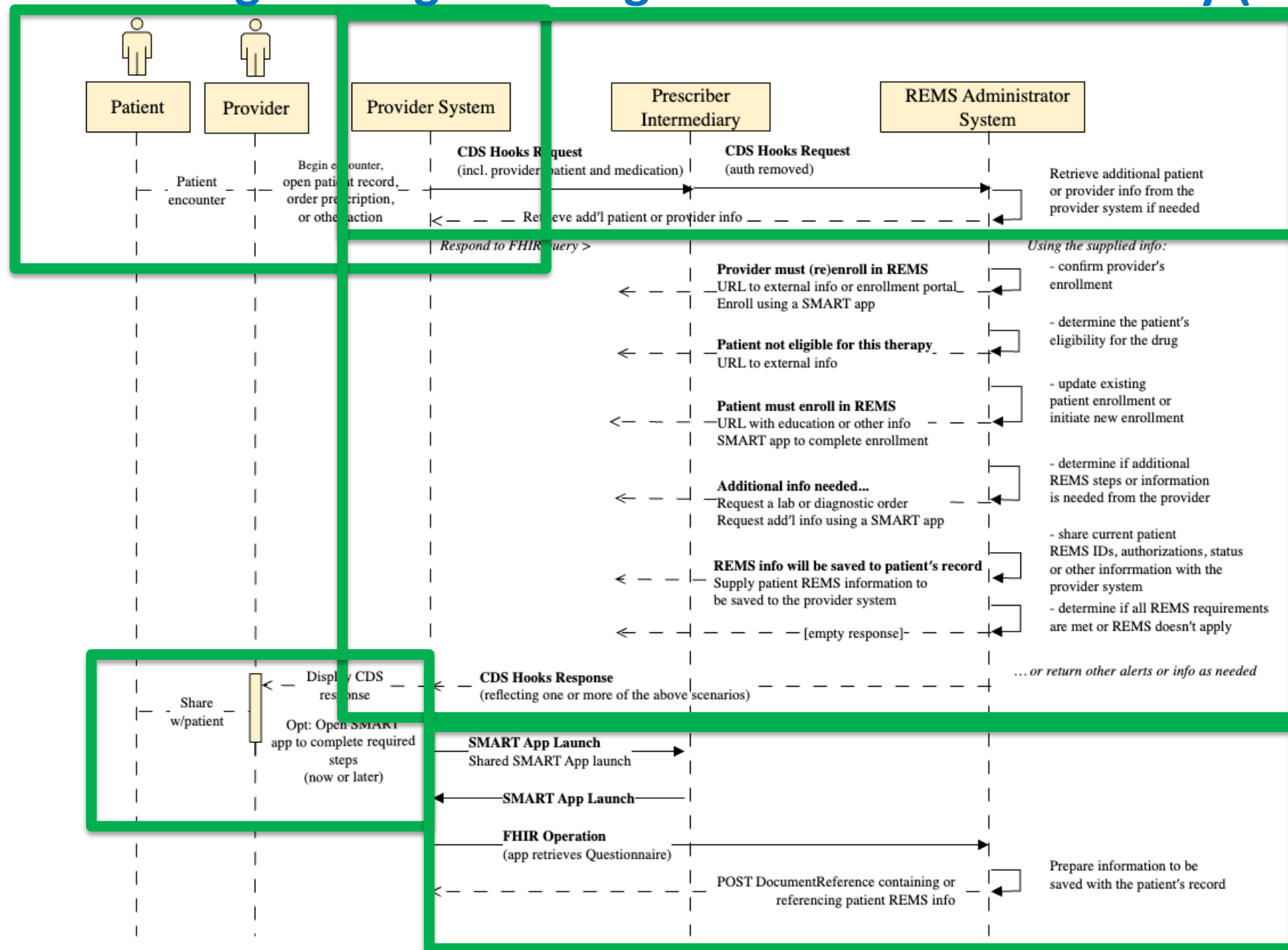
Provider enrollment		Start of therapy				Ongoing therapy				
Initial enrollment	Lapse, Re-enrollment	Determine therapy	Initial order	Initial dispense	Initial administration	Monitor treatment status	Subsequent order	Order change	Subsequent dispense	End therapy
Provider receives REMS training	REMS Administrator notifies provider of lapse	<b>Complete Patient REMS Requirements</b>			Check REMS status	Review patient chart	Determine dosing, other details	Check REMS status	Share info with Administrator	
Provider completes enrollment	Provider re-trains / re-enrolls	Review patient chart	Determine dosing, etc.	Patient education	Contact prescriber if needed (notify of REMS need)	Perform labs or other diagnostics	Determine pharmacy	Patient education		
		Perform labs or other diagnostics	Obtain insurance auth*	Enroll patient in support program *	Get REMS dispense auth	Patient reports experience	Get REMS dispense auth	Contact prescriber if needed		
		Share info w/ Administrator	Enroll patient in support program *	Get REMS dispense auth	Transmit prescription	Share info w/ Administrator	Transmit Rx			
			Patient education	Enroll patient in REMS program	Capture REMS information in patient chart	Check REMS status				

\* = Not in REMS scope or the scope of this IG

# Interaction initiated by the Provider System during the provider's workflow



# Support for forwarding messages through Prescriber Intermediary (NEW!)



# Outline

- Describe REMS Integration Use Case and prototype updates
- Summarize January 2025 and 2026 Health Level 7 (HL7<sup>®</sup>) Fast Healthcare Interoperability Resources (FHIR<sup>®</sup>) Connectathons for REMS medications
- Summarize July 2025 NCPDP REMS pharmacy intermediary test event, and February 2026 colLAB / Work Group updates
- Discuss the US Medication REMS HL7 FHIR Implementation Guide (IG) and August 2025 updates
- **Review REMS SPL submission updates**
- Discuss future HL7<sup>®</sup> CodeX<sup>™</sup> REMS integration pilots

# REMS SPL Submissions to FDA‡



– **WHEN:**

- ***NOW!***

– **WHO:**

- Applicants must submit their **REMS document** electronically using SPL

– **WHAT:**

- All REMS documents submitted to FDA on or after December 28, 2022, must be in SPL format, which include:
  - REMS documents associated with a **new** REMS
  - REMS documents submitted as part of **REMS modifications**
  - REMS documents that are **already in SPL format** must remain in SPL format
- Components of a REMS required to be filed in SPL format:

Component of a REMS Submission	Submitted in SPL Format?
REMS document	Yes
REMS supporting document	No
REMS materials	Referenced in SPL file (see <a href="https://www.fda.gov/regulatory-information/search-fda-guidance-documents/providing-regulatory-submissions-electronic-format-content-risk-evaluation-and-mitigation-strategies">Structured Product Labeling Implementation Guide with Validation Procedures</a> at <a href="https://www.fda.gov/media/84201/download">https://www.fda.gov/media/84201/download</a> )

‡ Providing Regulatory Submissions in Electronic Format -- Content of the Risk Evaluation and Mitigation Strategies Document Using Structured Product Labeling available at: <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/providing-regulatory-submissions-electronic-format-content-risk-evaluation-and-mitigation-strategies>

# REMS SPL submissions as of March 2, 2026



- **54 total REMS SPLs**
  - **12 shared system REMS SPLs**
- National Library of Medicine (NLM) DailyMed website:
  - <https://dailymed.nlm.nih.gov/dailymed/spl-resources-all-indexing-files.cfm>

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**REMS & REMS INDEXING FILES**

📄 [rems document and rems indexing\\_spl\\_files.zip](#) [ [HTTPS](#) / [FTP](#) ]

**Number of REMS files: 54** | **Number of REMS Indexing files: 0**

**File size: 284.80MB** | **MD5 checksum: 41ad839fb5738dee0e2c438de8c036aa** | **Last Modified: Mar 2, 2026**

# REMS SPL Lessons Learned

- Ensure the title, text, and **all formatted content** within the final REMS SPL submission are **verbatim** from the approved **REMS Document**
- Update the REMS SPL file **effectiveTime element** to match the **Most Recent REMS Update date**
- Complete a **REMS Requirement table entry for each requirement** (do not leave out REMS Requirements in the coded REMS requirements entries)
- Ensure **all application numbers** included in a Shared System REMS SPL are **approved** before submission of the final REMS SPL

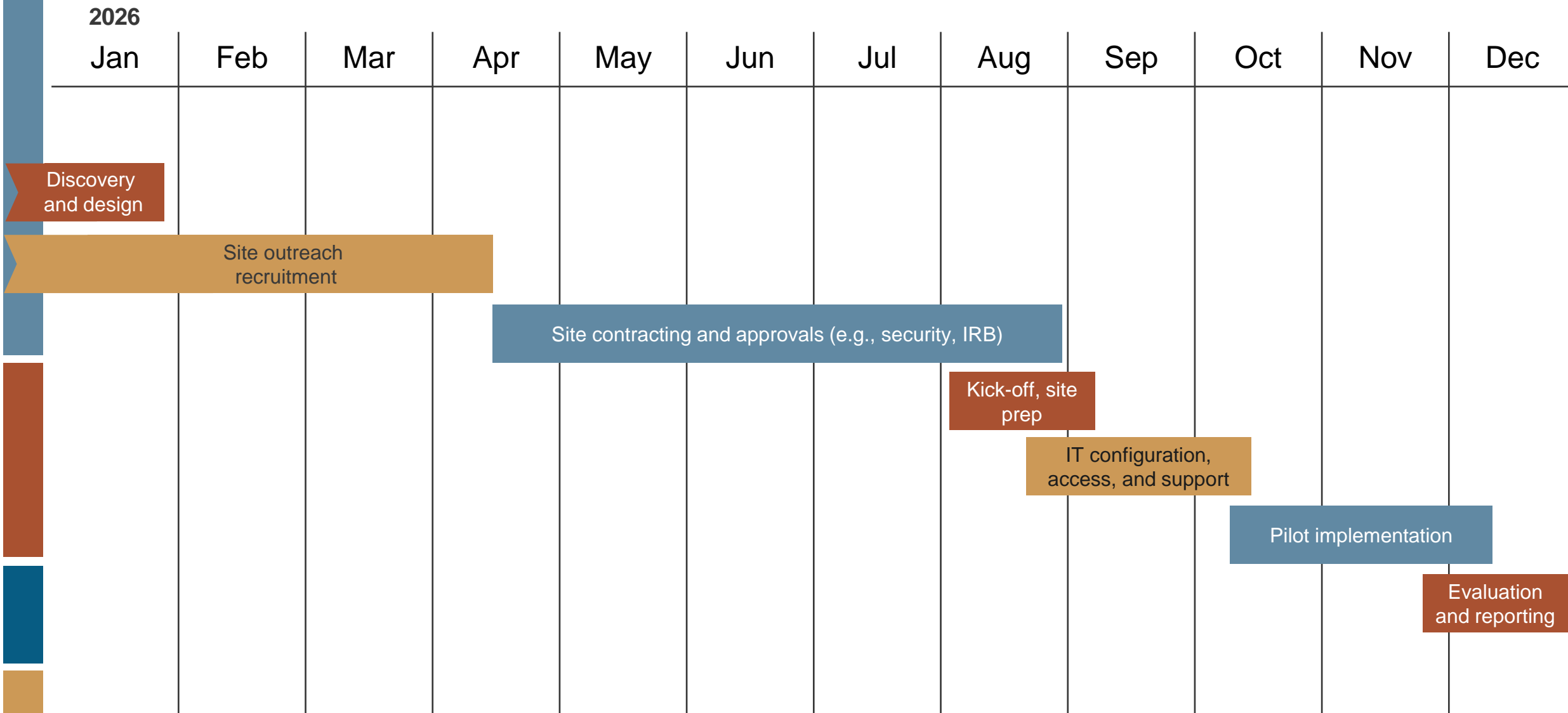
# REMS SPL Resources ([spl@fda.hhs.gov](mailto:spl@fda.hhs.gov))

- **REMS Document Technical Conformance Guide**
  - [REMS Document Technical Conformance Guide](https://www.fda.gov/regulatory-information/search-fda-guidance-documents/rem-s-document-technical-conformance-guide) at <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/rem-s-document-technical-conformance-guide>
- **REMS SPL submission requirements began Dec 28, 2022**
  - [Providing Regulatory Submissions in Electronic Format -- Content of the Risk Evaluation and Mitigation Strategies Document Using Structured Product Labeling](https://www.fda.gov/regulatory-information/search-fda-guidance-documents/providing-regulatory-submissions-electronic-format-content-risk-evaluation-and-mitigation-strategies) at <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/providing-regulatory-submissions-electronic-format-content-risk-evaluation-and-mitigation-strategies>
- **FDA REMS SPL coding pages**
  - [REMS SPL Sample](https://www.fda.gov/media/104656/download) at <https://www.fda.gov/media/104656/download>
  - <https://www.fda.gov/industry/structured-product-labeling-resources/rem-s-approval>
  - <https://www.fda.gov/industry/structured-product-labeling-resources/rem-s-protocol>
  - <https://www.fda.gov/industry/structured-product-labeling-resources/rem-s-requirements>
  - <https://www.fda.gov/industry/structured-product-labeling-resources/rem-s-stakeholder>
- **DailyMed SPL Indexing files**
  - [REMS and REMS indexing files](#)
    - <https://dailymed-data.nlm.nih.gov/public-release-files/rem-s-document-and-rem-s-indexing-spl-files.zip>

# Outline

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- **Discuss future HL7<sup>®</sup> CodeX<sup>™</sup> REMS integration pilots**

# Notional Timeline for REMS Integration Real-world Pilot



Slide adapted from CodeX™ Pharmacovigilance and Risk Management Use Case Public Call on January 21, 2026.

See: <https://confluence.hl7.org/spaces/COD/pages/413048123/01-20-2026+Pharmacovigilance+and+Risk+Management+Public+Call+Meeting+Minutes>

# Future State

- Leading to an automated, connected REMS ecosystem
- Consistent with advances in health data standards and technology
- Building towards an app- and API- (application programming interface) based healthcare ecosystem

# What do we need now?

**YOU**

# Get Involved



- **Mark your calendars and engage in future public calls for the CodeX Pharmacovigilance and Risk Management Use Case. Registration information is available on the REMS confluence page:**
  - <https://confluence.hl7.org/spaces/COD/pages/358886982/GenomeX+-+Pharmacovigilance+and+Risk+Management>
- **CodeX Pharmacovigilance and Risk Management Use Case Coordinator:**
  - Kelee Petzelt ([kelee.petzelt@synerio.com](mailto:kelee.petzelt@synerio.com))
- **CodeX Pharmacovigilance and Risk Management Use Case Contact Information:**
  - Lauren DiCristofaro [laurend@mitre.org](mailto:laurend@mitre.org)
  - Nicole Ng [nng@mitre.org](mailto:nng@mitre.org)
  - Ammu Irivinti [ammu@mitre.org](mailto:ammu@mitre.org)

**Questions?**

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