

VA



U.S. Department
of Veterans Affairs

Health Records: Medications, Allergies, and Immunizations

Discovery Readout

Background & Goals

Background

Our goal is to improve the in-person and online pre- and post-appointment experiences for Veterans, contribute to physical distancing efforts in VA facilities, and better integrate Veteran-provided data in VA workflows by providing Veterans with a digital option to complete pre- or post-appointment questionnaires and screeners.

Our next phase will focus on improving the pre-appointment experience when visiting providers by allowing Veterans to update their health record information, particularly medications, allergies, and immunizations.

Research goals

This research is to explore:

- problems Veterans face when communicating health record (medications, allergies, and immunizations) changes to their VA providers.
- how Veterans understand, group, and find value in reviewing and updating their medications, allergies, and immunizations within a health questionnaire prior to an appointment.



Hypotheses to be tested

- Adding the ability to view and update medications, allergies, and immunizations within va.gov help solve some of the Veteran's current pain points.
- Veterans will be confused by certain medication, allergy, and immunization information. This test should help identify commonly confusing items, so we can address that confusion.
- A pattern will emerge from the Veteran's groupings, so the team will understand Veteran's mental model. This mental model could then be replicated in the workflow/interface.
- Veterans will find value in a subset, but probably not all possible data points and proposed features. This will help the team determine scope for this phase.

Methodology

Method

We conducted 7 remote moderated tests via Zoom using the Perigean contract. To start, the Veterans will be asked a series of interview questions to uncover current pain points and workflow. Then, participants will engage in a participatory design activity utilizing Mural. This activity should assist with:

- identifying confusing health record terms/data points.
- developing a mental model on how Veterans group health record information.
- identifying value of data points and proposed features.

Who we spoke with: 7 Veterans

Gender

Male: 3

Female: 4

Age

25-34: 1

45-54: 1

55-64: 1

65-74: 4

Education

Unknown: 1

Associate's/trade/vocational: 1

Master's: 3

Doctorate: 2



Who we spoke with: 7 Veterans

In order to qualify for the study, all participants had to:

- **currently be taking at least one medication,**
- **have at least one allergy, and**
- **have had an immunization within the past two years.**

We also specifically recruited for a portion of participants, who:

- **receive some medical care outside of the VA (5 participants), and**
- **received their immunization at a facility outside the VA (3 participants).**



Research questions: Warm-up

- How much of your medical care do you receive from the VA? (A great deal/All, Quite a bit, Somewhat, Very little, or None at all)
- How do you keep track of your medications, immunizations, and allergies?
 - What do you like about your current process?
 - What is frustrating about keeping track of your medications?
- How do you keep your VA providers up-to-date on your medications? For instance, maybe you stopped taking a medication or you were prescribed a new medication from a non-VA provider, how did you let your VA providers know?
 - How did the process of communicating those changes to the VA go?
 - If you take any supplements, vitamins, or over-the-counter medications, do you share that with your VA providers?
 - If yes, how did those experiences of letting your VA provider go? What methods did you utilize to communicate the change?

Research questions: Warm-up

- Have you ever let your VA provider know about any changes to your allergy history?
 - If yes, how did those experiences of letting your VA provider go? What methods did you utilize to communicate the change?
- Have you ever received an immunization at a non-VA facility, maybe a non-VA provider's office or a pharmacy?
 - If yes, how did you let your VA provider know about those immunizations? How did those experiences of letting your VA provider go? What methods did you utilize to communicate the change?

Research questions: Warm-up

- Do you get a flu shot every year? If so, where? If non-VA location, do they tell their VA provider? If not, why not?
- Have they gotten their COVID vaccine? If yes, was it at a VA facility? If no, are they planning on getting the vaccine and where do they plan on getting it?
 - If they got their COVID vaccine, how was their overall experience?
- *Only ask if necessary, depending upon how the Veteran answered the past three questions, if they didn't talk about their actual appointments with their providers. How do you prepare for your appointment when you have changes you would like to discuss with your VA provider?*
 - Observers: Take note if anyone mentions printing.

Research questions: Warm-up

- Do you utilize MyHealthVet?
 - If yes,
 - Have you ever checked your medication list on there?
 - Were those list easy or hard to understand? If hard, what did you find challenging?
 - Have you ever utilized secure message to notify your VA provider of medication, allergy, or immunization changes?
- How can we make it easier for you to communicate to your VA providers?

Research questions: Mural activity

- This activity will help prioritize and group information that we could display online in medication, allergy, and immunization sections.
 - Observers: Take note of what pieces of data or features the Veteran doesn't understand. Also, note the reasons why the Veteran ranked and grouped things a certain way.

The image shows two overlapping digital forms, likely for a patient's medical record. The top form is titled 'Allergies' and the bottom form is titled 'Medications'. Both forms have a 'Very important' section at the top, followed by 'Important', 'Moderately Important', 'Slightly important', and 'Not important' sections. The 'Allergies' form includes fields for 'Onset date', 'Severity', and 'Comments'. The 'Medications' form includes fields for 'Quantity', 'Duration', 'Prescribed by', 'Refills remaining', 'Last refilled on', 'Expires on', 'Ordered on', 'Warnings/Interactions', 'Side Effects', and 'Comments'. There are several colored sticky notes (yellow, orange, blue, green) placed on the forms, indicating areas of interest or concern. The forms are designed to be user-friendly and accessible, with clear labels and intuitive navigation.

Allergies

Very important

Verified: Mar. 5, 1997
Verified: Feb. 28, 2009

Peanuts
Codeine
Lactose intolerance

Onset date: Jan. 31, 2009
Onset date: Jan. 31, 1997

Severity: High risk
Severity: Low risk
Severity: Unknown risk

Important

Moderately Important

Slightly important

Documenting facility: Loma
Documenting facility: N
Documenting facility:

Not important

Medications

Very important

Clonidine Hcl 0.3mg Tab
Ibuprofen 600mg Tab
Atorvastatin 40mg

Prescribed by: Dr. Ruth Severson
Loma Linda VA
Prescribed by: Non-VA Provider
Non-VA Location

Refills remaining: 6
Last refilled on: 1/23/2022
Expires on: 10/15/2022
Ordered on: 9/1/20

Quantity: 10
Duration: 30 days

Important

Moderately Important

Description: oval, white, imprinted with 67
Description: round, orange, imprinted with R, T29

VA prescription
Non-VA prescription

Loma Linda Pharmacy
909-777-3259
Non-VA Pharmacy

Slightly important

Injection
Oral
Liquid

Not important

Rx #: 9326483
Rx #: 9705686
Rx #: 9704782

Discontinued
Active
Expired

Side Effects
Muscle ache
Muscle pain
Nausea

Comments

Warnings/Interactions

Gemfibrozil
Alcohol
Grapefruit

Reason why that medication is being prescribed. Discontinue if unable to.

Research questions: Mural activity

The image shows two overlapping digital forms titled "Immunizations". Each form is divided into five horizontal sections based on importance: "Very important", "Important", "Moderately Important", "Slightly important", and "Not important".

- Very important:** Includes fields for "Influenza COVID-19", "Date received" (with examples: Oct. 1, 2020; Jan. 31, 2021; Oct. 15, 2019), a "Pinning an immunization record" button, and an "+ Add an Immunization" button.
- Important:** Includes fields for "Healthcare professional or clinic site" (with examples: Dr. Rita Smithson, CVT), "Schedule an immunization", and "CDC Traveler's Health Information".
- Moderately Important:** Includes fields for "Reaction" (with examples: Rash, Muscle ache), "1st Dose", "2nd Dose", "Editing reactions", and "Recommended Screenings and Immunization".
- Slightly important:** Includes a "Comments" field.
- Not important:** Includes fields for "By mouth", "Inhalant", "Injection", "Right deltoid", "Left deltoid", "Product name/manufacturer" (with examples: Pfizer, Moderna), and "Lot number" (with examples: 10235, 91863, 2368).

Additional elements include a "Share Recommendations" button, a "Pinning an immunization record" button, and a "These might be important to my health care professional" note.

Immunizations

- I'm going to show you a bunch information that we could display on va.gov for immunizations. We are going to review them one-by-one. Let me know if you don't understand the item, then I'm going to have you rank them by how valuable they are to see displayed online.
- Is there anything that should be added to immunizations that we didn't already review?
- Now, let's group things together that you believe should be displayed together.

Repeat for Medications and Allergies.

Research questions: Wrap-up

- Pretend you developed a new medication allergy, such as a rash when you take penicillin. Would you add that medication allergy on the medication section and/or the allergy section?
- How often do you expect to update each of these sections? Would you want to see these sections in a questionnaire before every VA appointment? Would you want to see these sections once every six months or some other time period?
- If we could only build one of these topics into a pre-visit questionnaire, which one would you prefer? Would you pick medications, allergies, and immunizations? Why?
- Do you think adding these pages to a pre-visit questionnaire will help or not help you explain changes to your medications, allergies, and immunizations to your VA provider? Why?
- Is there anything about medications, allergies, and immunizations that I should know about that I didn't cover today?
- Do you have any final questions for me?

Research Findings

Key Findings

1. Veterans often need to communicate changes to their medication, allergy, and immunization record.
 - a. Veterans utilize a variety of methods to review and update their health records, including My HealtheVet, paper, phone calls, and in-person communication.
2. Veterans sometimes don't share or aren't aware that certain updates to their medication, allergy, and immunization history would be helpful to VA providers.
3. Reviewing and updating medication information is of great interest to Veterans.
4. Needing to interact with or update allergies seems to occur less frequently than medications; however, the need can feel more urgent when it does arise.
5. Reviewing and printing immunization records are useful, but updates aren't urgent and tend to occur during appointments.

Key Findings

6. The top three prioritized pieces of data or features for immunizations are immunization name (Flu shots, COVID-19), schedule an immunization, and date received. Immunizations also have four main mental model groupings for data/features: “what, when & where,” “next immunizations,” “product tracking,” and “how.”
7. The top three prioritized pieces of data or features for medications are medication name and dose refills remaining, and directions (take with food). Medications also have four main mental model grouping for data/features: “when and what,” “things to pay attention to,” “providers,” and “tracking information.”
8. The top three prioritized pieces of data or features for allergies are allergy name (Peanuts, Lactose intolerance), reactions (Rash, Anaphylaxis), and severity level (High risk, Low risk). Allergies also have three main mental model groupings for data/features: “what,” “actions,” and “when and where.”

Key Findings

10. How often Veterans want to review and update this information varied from every appointment to annually.
11. Some Veterans were surprised that they would be empowered to propose health record changes to their VA providers via a questionnaire or patient portal page.
12. Health questionnaires can expand the current ecosystem of Veteran-provider communications.

Research Findings

Veterans often need to communicate changes to their medication, allergy, and immunization record.

“We usually discuss that at my physical like the new prescriptions or if I’m taking the same thing.”

“I’ve had bad side effects from medications and [my VA providers] appreciate having that information.”

“I let them know when I plan to get [my flu shot].”

“With Ritalin, you have to talk to your doctor, because it isn’t renewable.”



Research Findings

Veterans utilize a variety of methods to review and update their health records, including My HealtheVet, paper, phone calls, and in-person communication.

Current methods used across the Veteran's journey



Research Findings

Veterans sometimes don't share or aren't aware that certain updates to their medication, allergy, and immunization history would be helpful to VA providers.

“My doctor told me that I needed to start taking supplements, but it didn't occur to me to provide them with details [about what I ended up taking].”

“It didn't think to add it to my record.” - speaking about an immunization they received during active duty that didn't make it into their VA record.

- Half of the participants commented that they do not share or did not realize that certain information could be beneficial, such as supplements, over-the-counter medications, or immunizations received outside the VA.

Reviewing and updating medication information is of great interest to Veterans.

- All participants had a current process by which they review their medications and communicate with their VA providers about:
 - stopping the usage of a medication
 - any side effects or reactions to a medication
 - medication record inaccuracies
 - questions they have about their medications
- When asked to choose between medications, allergies, and immunizations as the most important item for us to build within a pre-visit questionnaire, medications was chosen by **five out of seven** participants.



Research Findings

Needing to interact with or update allergies seems to occur less frequently than medications; however, the need can feel more urgent when it does arise.

“I’ve always had [this allergy]. I had a bad reaction at 20 years old, so it is in all my medical records.”

“Allergies could be life saving for the individual.”

“Allergies...are the most significant things that happen that are not always remembered at the appointment.”

- When asked to choose between medications, allergies, and immunizations as the most important item for us to build within a pre-visit questionnaire, allergies was chosen by **three out of seven** participants.



Research Findings

Reviewing and printing immunization records are useful, but updates aren't urgent and tend to occur during appointments.

- One participant recently went back to college utilizing the GI Bill. As a result, getting access to a print out of their official immunization record was extremely important.
- Six out of seven participants mentioned updating their providers about their immunizations. Most stated that they waited until their appointment.



Immunizations Prioritization

1. Immunization name (Flu shots, COVID-19)
2. Schedule an immunization
3. Date received
4. Reminder that immunization is due
5. Printing immunization record
6. Add an immunization
7. 1st dose vs. 2nd dose
8. Product name/manufacture
9. Health care professional or clinic site
10. Recommended screenings and immunizations
11. Reactions
12. Editing reactions
13. Comment box
14. CDC Traveler's Health Information (link)
15. By mouth, inhalant, injection
16. Lot number
17. Location of immunization (arm)



Immunizations Groupings

What, when & where

- Immunization name
- Date received
- Health care professional or clinic name

Next immunizations

- Reminder that immunization is due
- Schedule an immunization

Product tracking

- Product name / manufacturer
- Lot number

How

- Location of immunization
- By mouth, inhalant, injection

Activity completed by 6 participants.



Medications Prioritization

1. Medication name and dose
2. Refills remaining
3. Directions (Take with food)
4. Warnings/Interactions
5. Quantity
6. Duration
7. Last refilled on
8. Add a medication
9. Your own side effects
10. Prescribed by (Doctor's name)
11. Expires on
12. Rx #
13. Ordered on
14. Discontinued, active, expired
15. VA vs. Non-VA prescription
16. Pharmacy information
17. Side effects
18. Patient education link
19. Comment box
20. Taking as prescribed (Yes/No and Why?)
21. Injection, Oral, Liquid
22. Description (Oval, white)



Medications Groupings

When and what

- Medication name and dose
- Directions (Take with food)

- Refills remaining
- Last refilled on

- Quantity
- Duration
- Diagnosis

- Expires on
- Ordered on

Things to pay attention to

- Side effects
- Warnings / Interactions
- Directions (Take with food)

Providers

- VA/Non-VA prescription
- Pharmacy information
- Prescribed by

Tracking information

- Medication name and dose
- Rx #

Activity completed by 6 participants.



Allergies Prioritization

1. Allergy name (Peanuts, Lactose intolerance)
2. Reactions (Rash, Anaphylaxis)
3. Severity level (High risk, Low risk)
4. Add an allergy
5. Editing reactions
6. Comment box
7. Onset date
8. Patient education link (Medline plus)
9. Verified date (and not verified)
10. Documenting facility
11. Diagnosed (Yes/No)
12. Reported by (Doctor's name, Veteran)



Allergies Groupings

What

- Allergy name
- Reaction
- Severity level

Actions

- Add an allergy
- Editing reactions
- Comment box

When and where

- Verified date
- Documenting facility
- Onset date
- Reported by

Activity completed by 6 participants.



Research Findings

How often Veterans want to review and update this information varied from every appointment to annually.

All participant responses

- every 6 months
- only major appointments like physicals, but not sick visits
- once a month to every few months
- every two-three months
- annually
- before each appointment
- based on appointment types and what could impact that appointment, so definitely before all physicals and procedures (like colonoscopies).

Research Findings

Some Veterans were surprised that they would be empowered to propose health record changes to their VA providers via a questionnaire or patient portal page.

- Some participants needed reassurance that they were allowed to submit these changes.
- Many participants discussed their comfort with utilizing secure messaging as the digital solution to share this information.
- They saw it as a good thing that they would be able to take this much control of their health.



Research Findings

Health questionnaires can expand the current ecosystem of Veteran-provider communications.

- Veterans ranked “making changes to their health record” low during the prioritization activity, but their verbal explanations highlighted how ubiquitous communicating health record changes are to Veterans.
- **New hypothesis:** Current communication methods are already helping Veterans share health records changes with their providers, but health questionnaires can expand the ecosystem in unique ways (shown on next slide):

Health questionnaires can expand the current ecosystem of Veteran-provider communications (continued).

- Giving Veterans time to reflect on their answers from the comfort of their home
 - *“I can update it at night when I have the resources. There’s nothing worse than being [at the doctor’s office] and not having the [medication] bottle with me.”*
- Utilizing text and email notifications to trigger Veterans to review and update these items
- Eliminating confusion on what updates would be beneficial to providers by asking targeted questions within the questionnaires



Recommendations and Next Steps

Recommendations and Next Steps

- Move toward with the idea of allowing Veterans to review and update their medication, allergy, and immunization information in digital health questionnaires.
 - Take Veteran's priority order of medications, allergies, then immunizations into account with continued work.
 - Look further into communicating COVID immunization updates (particularly if a Veteran received the COVID vaccine outside the VA) and its priority compared to medications.
 - Very few of our participants already received their COVID vaccine.

Recommendations and Next Steps

- Utilize the prioritization and grouping information to explore health questionnaire designs that include medications, allergies, and immunizations. Then, retest to make sure the actual solution meet Veterans needs.
- Make sure that our solution reduces the burden of reviewing these sections too often, since Veterans needs and preferences greatly vary.
- Validate and compare VA provider pain points around medications, allergies, and immunizations to Veteran feedback.