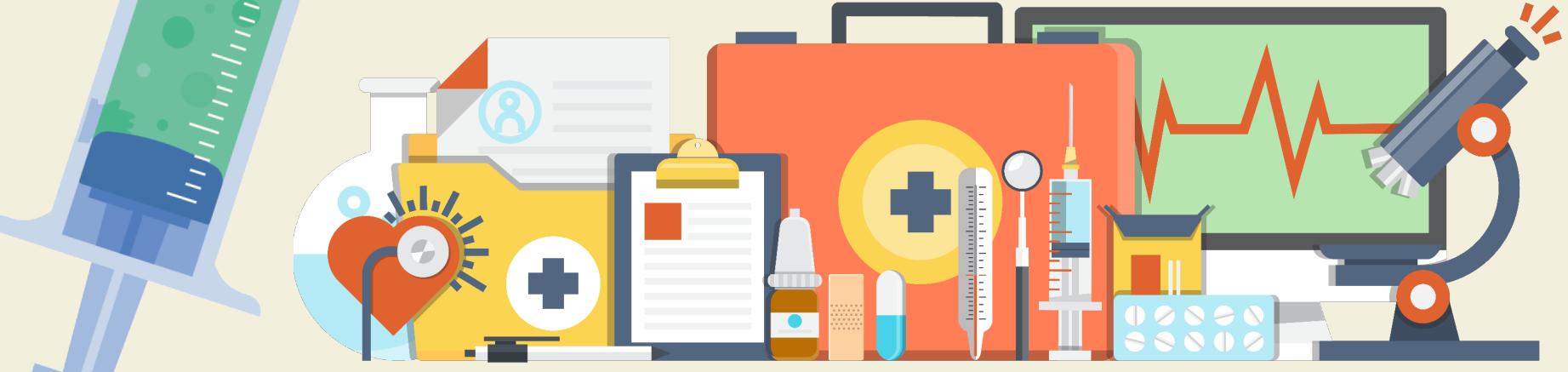


Wiser Vaccination

A smart app helping you take right vaccination at the right time

Chen Wang, Jianyi Zhang, Jiazhong Zhang

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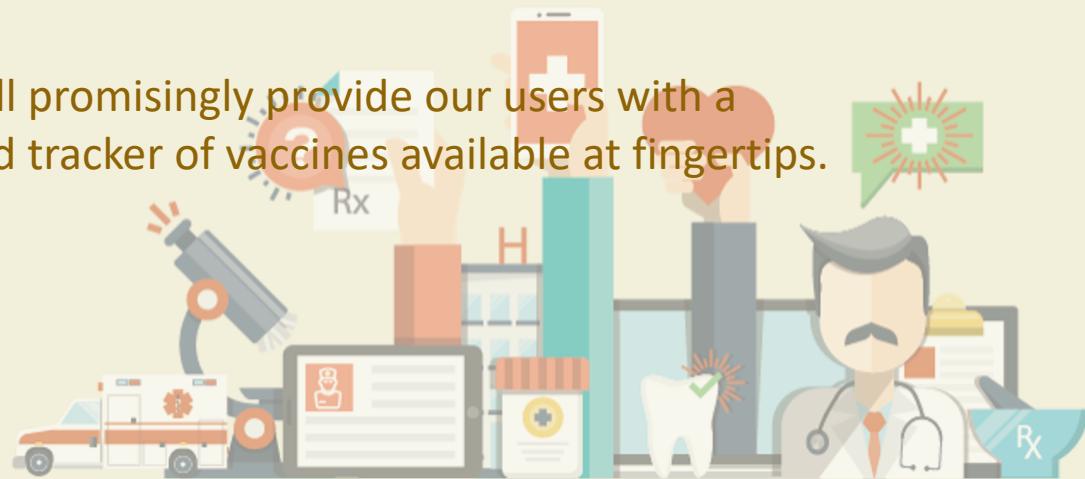


Introduction

It's important for the seniors to get proper vaccination at certain ages, helping protecting against disease and strengthen immunization. CDC suggests senior adults to take vaccination following guidelines.

Our app is designed to integrate the official guidelines and user's EHR data to help them making decisions with vaccines.

This app "Wiser Vaccination" will promisingly provide our users with a comprehensive and personalized tracker of vaccines available at fingertips.



Users and situation



Targeting population:

Seniors and their daughter/son/supervisor



Situation:

Old people would like to know what vaccinations are advised to take at their age, and if they have already taken any shots at the moment, in case they forget.

Choices of the targeting population



Go for a primary care doctor (if any) to check it out.



Look for and ask friends of similar age.



Search online or from books.



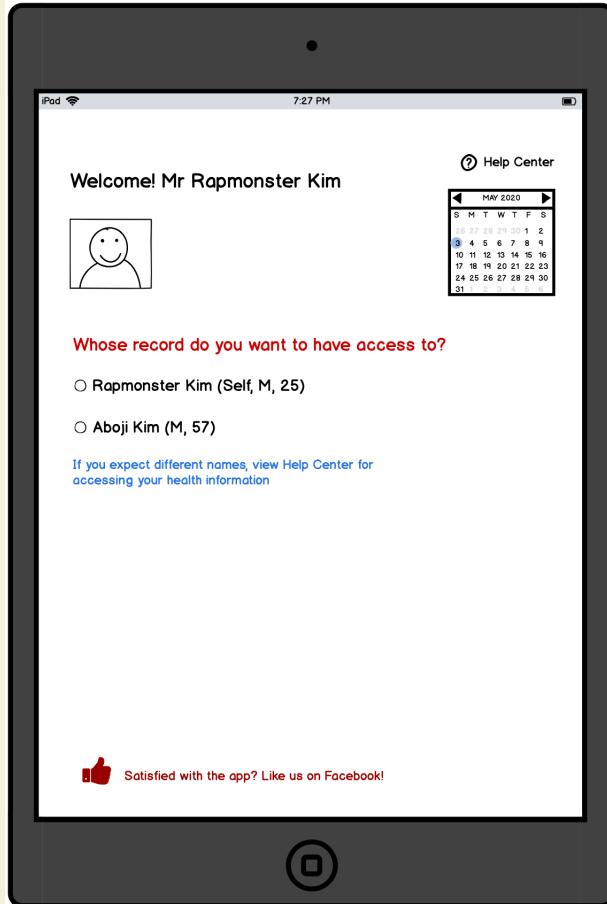
Check in an intelligent app that looks into immunization resources and AAFP for guidelines.

Wireframes



Proxy Access:

- Let an individual view the medical records of another person.
- A proxy is a parent or legal guardian of a child or the old.
- Generally, the individual need to fill out proxy access form to establish proxy designation.



Wireframes



4 vaccines

- Influenza
- Herpes zoster (RZV/ZVL)
- Tetanus (Tdap/Td)
- Pneumococcal conjugate (PCV13)



4 buttons for each vaccine

- ✓ Not recommended at your age
- ✓ Vaccinated
- ✓ Allergy/special condition
- ✓ Recommended

The wireframe shows a mobile application interface for 'Wiser Vaccination'. At the top, it says 'Welcome to Wiser Vaccination' and 'We care for the elder's immunization and health'. It greets the user with 'Good morning! Mr. Aboji Kim'. Below this, there are four sections, each corresponding to a vaccine:

- Influenza**: Age 59. Buttons: Not for your age, Vaccinated, Allergy/special condition, Recommended.
- Herpes zoster (RZV/ZVL)**: Buttons: Not for your age, Vaccinated, Allergy/special condition, Recommended.
- Tetanus (Tdap/Td)**: Buttons: Not for your age, Vaccinated, Allergy/special condition, Recommended.
- Pneumococcal conjugate (PCV13)**: Buttons: Not for your age, Vaccinated, Allergy/special condition, Recommended.

At the bottom, there are three notes:

- * This is not medical advice. Please check with your doctor for decisions.
- * Not all contraindications are checked.
- * "Allergy/Condition" only applies automatically to egg allergy and HIV infection.
- * "Vaccinated" is checked only if you are vaccinated within the suggested time period

FHIR APIs



Patient

- Through birthday information to get age



Condition

- For corresponding diagnosis record



Immunization

- For vaccination record



AllergyIntolerance

- For allergy check

Rules for each vaccine



Influenza

Influenza	
Age	>6m
Dose check	<ul style="list-style-type: none">• 1 dose annually• Pipeline: check if vaccinated within 365 days
Cvx code	125,126,127,128,16,88,168,15,155,185,141,140,144,194,160,151,123,135,197,153,171,186,158,150,161,166,111,149
Allergy	Egg (Persons with a history of egg allergy more severe than hives should receive flu vaccine under supervision of provider who can recognize and manage severe allergic reactions)
Special condition	LAI should not be used in persons with pregnancy or (Immunocompromised) HIV infection (ICD-9: 042, ICD-10: B20, B23)
Additional info	https://www.cdc.gov/flu/

Rules for each vaccine



Herpes zoster (RZV/ZVL)

Herpes zoster (RZV/ZVL)	
Age	>50/60
Dose check	<ul style="list-style-type: none">• 50 years+: 2-dose series RZV 2-6 months apart• 60 years+: 2-dose series RZV 2-6 months apart or 1 dose ZVL if not previously vaccinated.• Simplified pipeline:<ol style="list-style-type: none">1. check if vaccinated after 502. Age 50-60: button “recommended” on clicked goes by “RZV preferably recommended, please don't take ZVL”
Cvx code	RZV: 187; ZVL: 121
Allergy	NA
Special condition	Not recommended for persons with (Immunocompromised) HIV infection (ICD-9: 042, ICD-10: B20, B23) and pregnancy
Additional info	https://www.cdc.gov/vaccinesafety/vaccines/shingles-herpes-vaccine.html

Rules for each vaccine



Tetanus (Tdap/Td)

Tetanus (Tdap/Td)	
Age	>11
Dose check	<ul style="list-style-type: none">Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or Tdap every 10 yearsSchedule: Tdap-4w-Td/Tdap-6~12m-Td/Tdap-every10y-Td/TdapSimplified pipeline: Check if vaccinated with Tdap/Td in the last 10 years
Cvx code	Tdap: 20,106,107,146,120,130,132,170,115,35,142,112 Td: 138,09,113,196,
Allergy	NA
Special condition	Pregnancy specially recommended
Additional info	https://www.cdc.gov/vaccines/vpd/tetanus/index.html

Rules for each vaccine



Pneumococcal conjugate (PCV13)

Pneumococcal conjugate (PCV13)	
Age	all ages
Dose check	<ul style="list-style-type: none">• 1 does for all• Pipeline:<ol style="list-style-type: none">1. Check if ever vaccinated2. Age>65: recommended vaccination based on shared clinical decision-making
Cvx code	133, 100 (PCV7 added in Cerner sandbox)
Allergy	NA
Special condition	NA
Additional info	https://www.cdc.gov/vaccines/vpd/pneumo/hcp/PCV13-adults.html

User interface

Welcome to Wiser Vaccination

We care for the elder's immunization and health.

Hi! Ms. CANCERSTAGING ONCOLOGY

Age: 60

Are you pregnant? (Optional) Yes No

Influenza for more info	Not Recommended at your age	Vaccinated	Allergy/special condition	Recommended
Herpes zoster (RZV/ZVL) for more info	Not Recommended at your age	Vaccinated	Allergy/special condition	Recommended
Tetanus (Tdap/Td) for more info	Not Recommended at your age	Vaccinated	Allergy/special condition	Recommended
Pneumococcal conjugate (PCV13) for more info	Not Recommended at your age	Vaccinated	Allergy/special condition	Recommended

* This is not medical advice. Please check with your doctor for decisions.

* Not all contraindications are checked. "Allergy/Condition" only applies automatically to egg allergy and HIV infection.

* "Vaccinated" is checked only if you are vaccinated within the suggested time period.

User interface



Try it for different patients!



Highlights:

- Button changes by onclick according to user's personal condition, with personalized instruction added.
- For women: optional self-check with pregnancy.
- Checkbox pattern: more than one button can be auto clicked at the same time.
- Provided with link of more information with official comprehensive instructions on each vaccine.

How the app help users



Get to know if vaccinated within suggested time, **avoid missing or duplicate vaccination.**



Check if your health conditions meet with the requirements of certain vaccination, **reduce unnecessary risks.**



Save time by showing the personal guidelines and vaccination history directly to the patients.



Advise the old people so that they can **build immunization properly**, preventing certain diseases.



Competitors



CDC Vaccine Schedules

Quick access from CDC to ACIP-recommended immunization schedules

i CDC Vaccine Schedules

Advisory Committee on Immunization Practices(ACIP) Recommended Immunization Schedules for Persons Ages Birth through 18 years and Adults Ages 19 years and older

Child (birth-6 yrs) Adult
Adolescent (7-18 yrs) Adult Conditions
Catch-up (4 mos-18 yrs) Contra-indications

KEY

CDC Vaccine Schedule (Birth - 15 mos)

Vaccine	months							
	Birth	1	2	4	6	9	12	15
HepB	1d	2d					3d	
Rota			1d	2d	note			
DTaP		1d	2d	3d				4d
Hib		1d	2d	note		3d or 4d		
PCV13		1d	2d	3d			4d	
PPSV23								
IPV		1d	2d		3d			
Flu					IIV			
MMR							1d	
VAR							1d	
HepA							2d	
MCV					note			

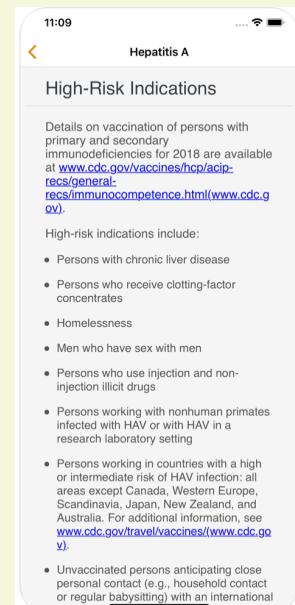
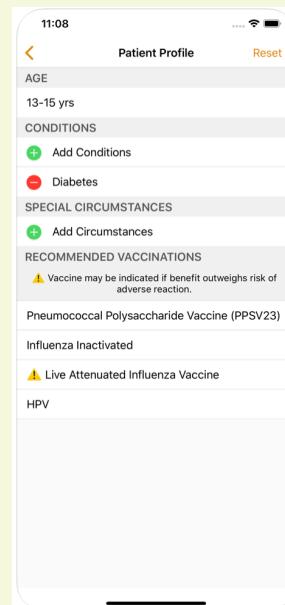
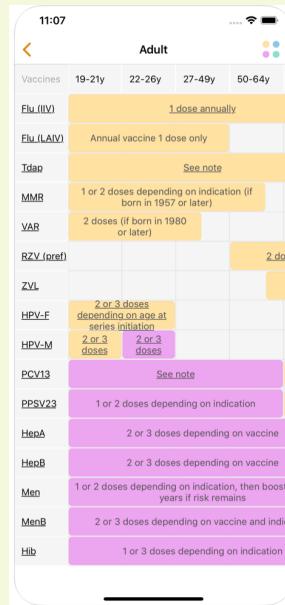
Birth - 15 mos 18 mos - 6 yrs Resources

Competitors



Shots by AAFP/STFM

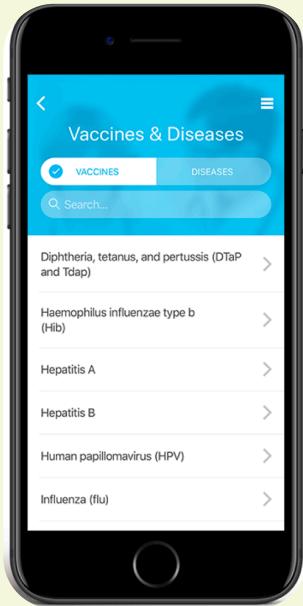
Get easy-to-use, up-to-date vaccine information at the point of care with Shots Immunizations by AAFP/STFM



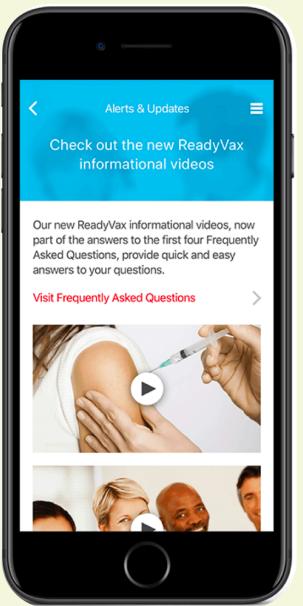
Competitors



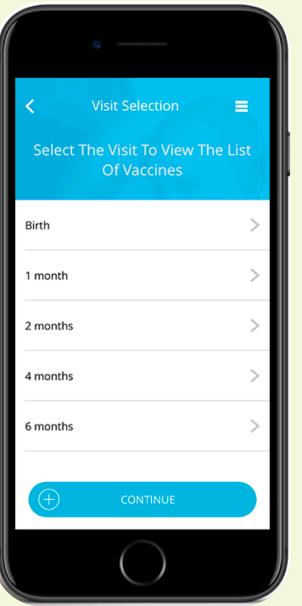
READYVAX



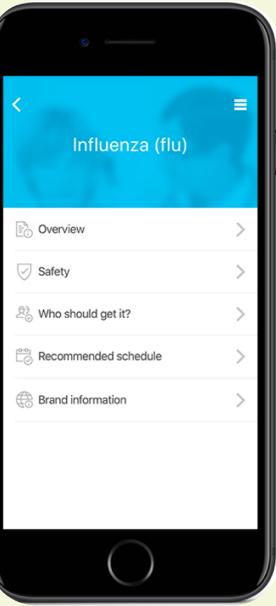
Vaccines &
Diseases



Alerts &
Updates



Immunization
Tracker



Resource
Information

<https://www.cygnismedia.com/case-studies/readyvax-immunization-tracking-app.html>

Strength and shortcoming



Strength:

- Our app has access to the user's EHR data to make sure the vaccination record is up-to-date and comparably accurate.
 - Auto-check the buttons making it friendly to use and easy to comprehend.
 - Targeting population can be expanded to adults of wider age range.



Shortcoming:

- Use is merely based on the patient.
 - No built-in alerting system for users to get instant alerts and notifications for vaccination or booster.
 - Call for more vaccines and more precise calculation of time, doses and period.
 - Could be better embellishing the interface.



WELCOME
TO
WISER
VACCINATION

Thanks!

