

VaxVax
YOUR PASSPORT TO
NORMAL

Group 1

Tuong Dang
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Get Back
To Stamping
Your Passport
with **VaxVax**

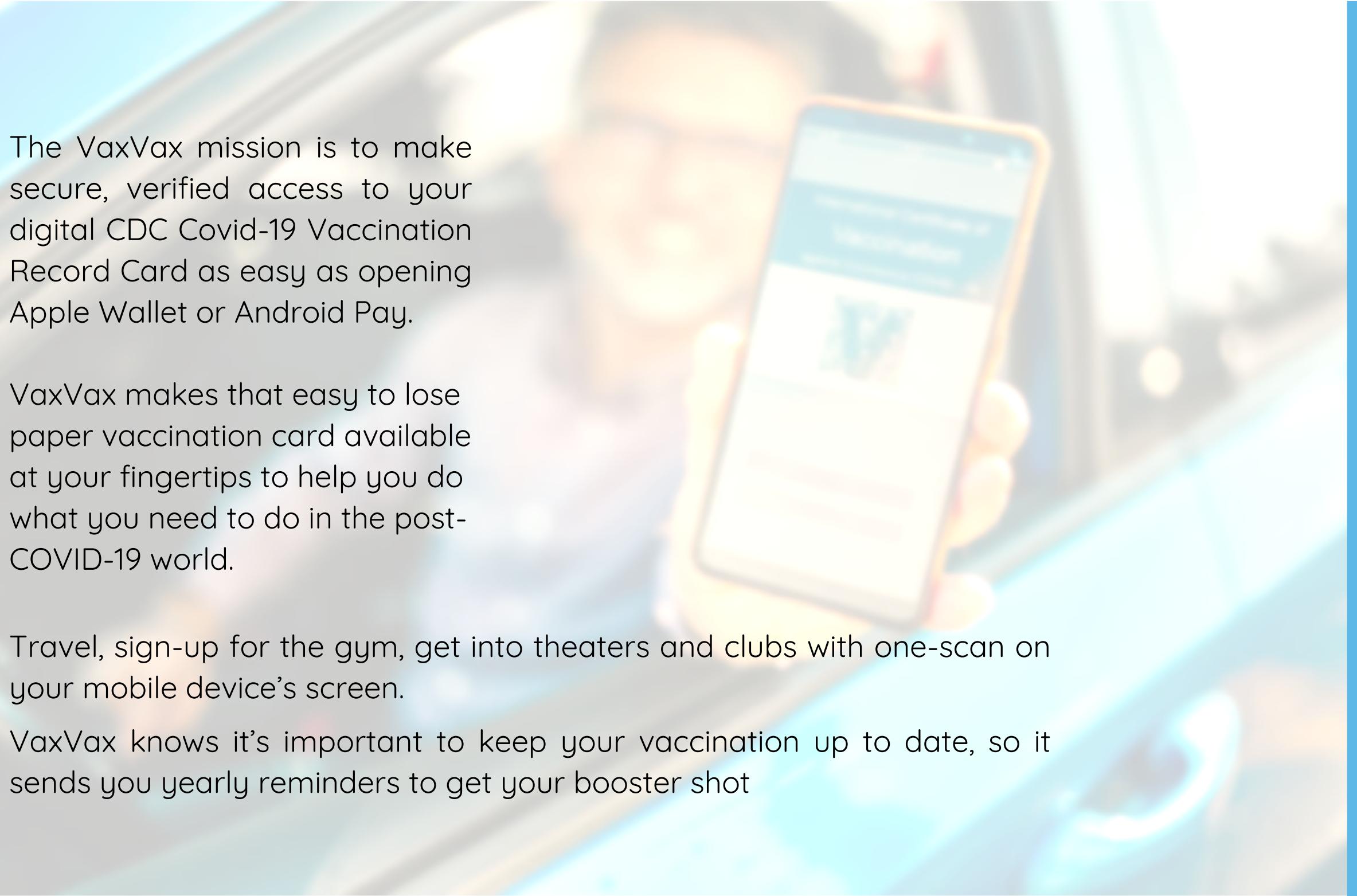
- Turn your paper CDC Covid-19 Vaccine Record card to your digital **VaxVax passport**
- Quick scan your card to **rejoin society!**
- Get booster vaccine **reminders**
- Carry your whole family's CDC Covid-19 Vaccine Record cards digitally through your iPhone or Android wallet



VaxVax
YOUR PASSPORT TO NORMAL



Our Mission



The VaxVax mission is to make secure, verified access to your digital CDC Covid-19 Vaccination Record Card as easy as opening Apple Wallet or Android Pay.

VaxVax makes that easy to lose paper vaccination card available at your fingertips to help you do what you need to do in the post-COVID-19 world.

Travel, sign-up for the gym, get into theaters and clubs with one-scan on your mobile device's screen.

VaxVax knows it's important to keep your vaccination up to date, so it sends you yearly reminders to get your booster shot

Get your life back

- 🌐 Access your CDC Vaccine record on your mobile device
- 🌐 Device, ditch the paper copy
- 🌐 Keep track of your whole family's passports under one account
- 🌐 Trusted and secure digital Covid-19 vaccine passport quickly admits you to public places

Problem Statement

The coronavirus disease pandemic was caused by a global spread of a severe acute respiratory virus, COVID-19, which first emerged December 2019 in Wuhan, China. Globally, approximately 3-million deaths have been caused in association with the virus – with 600,000 deaths occurring in the United States (Worldometers, 2021).

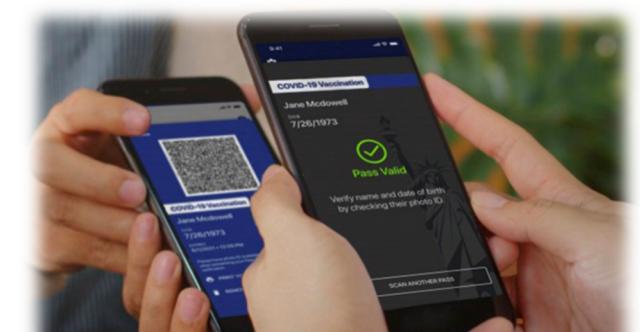


Under CDC emergency authorizations, long awaited vaccines from pharmaceutical giants Pfizer, Moderna, and Johnson & Johnson are undergoing global deployment and a rapid pace. Vaccinations are administered at hospitals, satellite clinics, and “pop-up” vaccination sites sponsored by various governmental, private, and non-profit groups, where proof of vaccination is paper card from the Centers for Disease Control (CDC) COVID-19 Vaccination Record Card, issued by the vaccine administration site.

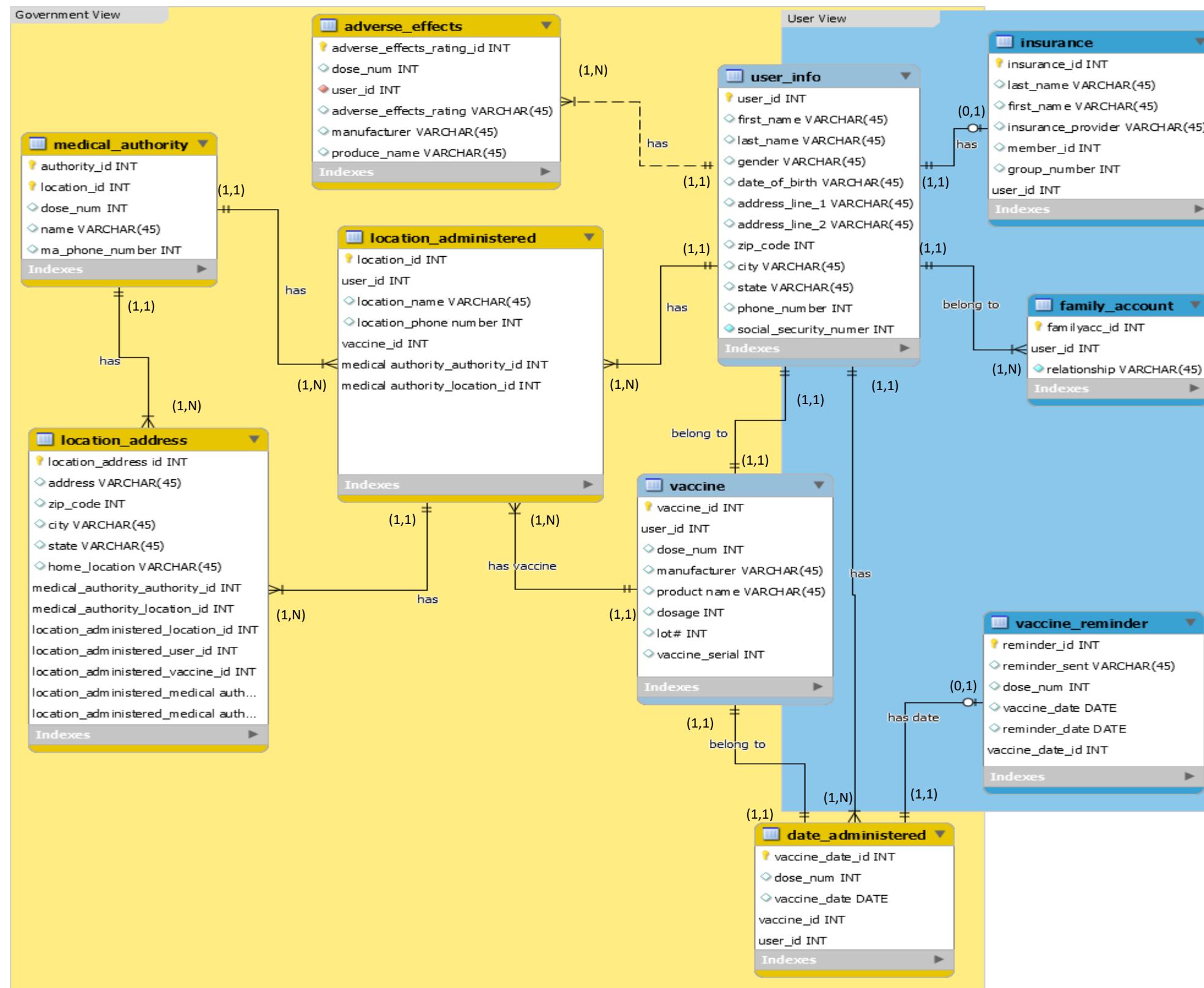
Under CDC emergency authorizations, long awaited vaccines from pharmaceutical giants Pfizer, Moderna, and Johnson & Johnson are undergoing global deployment and a rapid pace. Vaccinations are administered at hospitals, satellite clinics, and “pop-up” vaccination sites sponsored by various governmental, private, and non-profit groups, where proof of vaccination is paper card from the Centers for Disease Control (CDC) COVID-19 Vaccination Record Card, issued by the vaccine administration site.

With vaccinations being rapidly being administered at a scale of 3 million per day in the U.S and 17 million per day globally, a secure government database is required to secure COVID-19 vaccination records just like a birth certification (Centers for Disease Control and Prevention, 2021). Unlike common one-time childhood immunizations (e.g., chickenpox, tetanus, and measles) or yearly preventative boosters for well-researched viruses like influenza, proof of COVID-19 immunization records will be necessary for everyday life and need to be retrieved from a verified source.

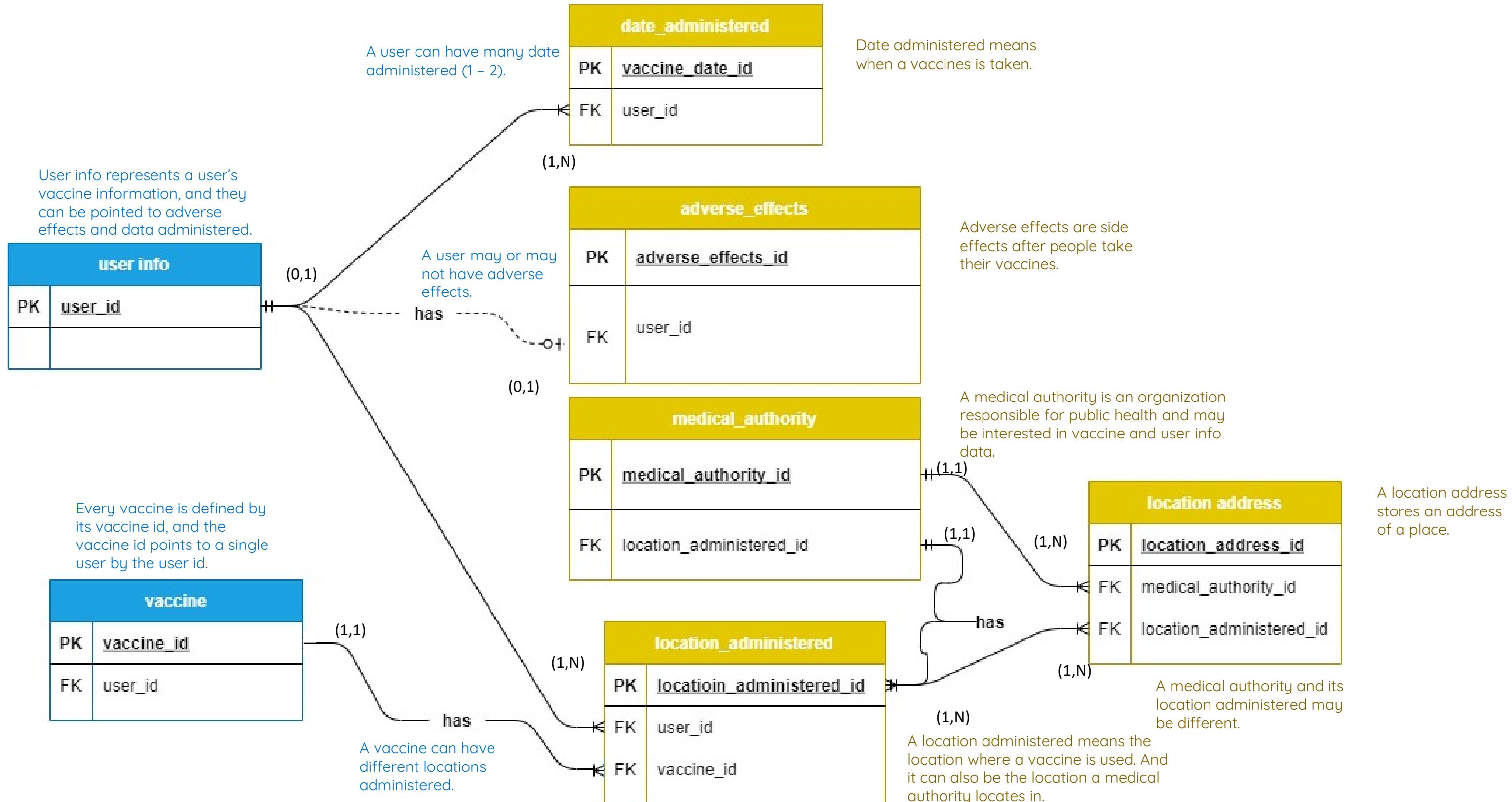
That's where VaxVax comes in. VaxVax leverages the scale of its government verified immunization record database to allow users to keep their COVID-19 immunization card securely in their Apple Wallet or Android Pay application on mobile devices. VaxVax is verified by the CDC so agencies can further confirm the legitimacy of the VaxVax record on CDC's website.



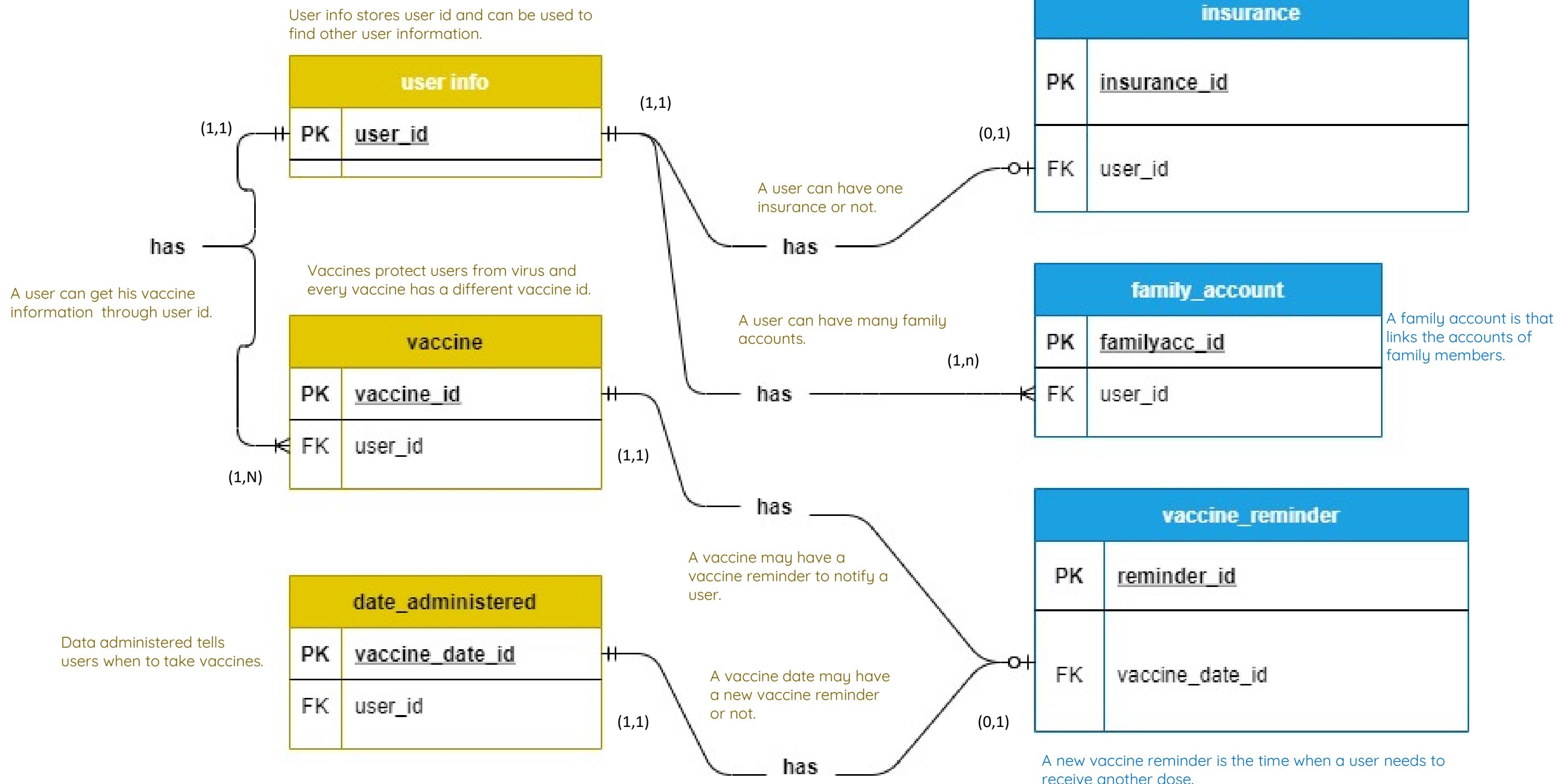
ER Diagram - Conceptual Model



External Model - Government View



External Model - User View



Bibliography

Centers for Disease Control and Prevention. (2021, 04). *COVID-19*. Retrieved April 9, 2021, from Centers for Disease Control and Prevention: <https://www.cdc.gov/coronavirus/2019-nCoV/index.html>

Worldometers. (2021, April 9). *COVID-19 CORONAVIRUS PANDEMIC*. Retrieved April 9, 2021, from Worldometer: <https://www.worldometers.info/coronavirus/>

VaxVax

YOUR PASSPORT TO NORMAL

Milestone 2

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The VaxVax database was populated with mock data using Mockaroo (<https://mockaroo.com/>).

Milestone 1 Corrections

Please see below for descriptions of Milestone 1 Corrections that are addressed in this deliverable.

- a) Utilized IDEFX1 object notation for the ER Diagram.
- b) Changed adverse_effects_rating data type from VARCHAR to INT to more precisely capture the 1 - 5 scale.
- c) Updated all foreign key names to match the name from their parent tables using the editor.
- d) Corrected relationships that were shown as 1 : N but should be 1 : 1 (below) and reconfigured the link between user and vaccine so that vaccine wasn't directly tied to location administered.
 - user_info -> adverse_effects
 - user_info -> location_administered
 - user_info -> date_administered
- b) Changed the direction of the 1 : N relationship for family_account -> user_info because one family account has many users but one user is included in only one family account.
- c) Simplified location_address and location_administered tables, utilizing foreign keys.
- d) Changed phone number in medical authority table to VARCHAR instead of INT.

Queries

VaxVax's queries provide the business with insights that can be used for product improvements, advertising, and public health info. As a startup, we use our data to our advantage to grow our business and keep tabs on how the usership of VaxVax evolves. Reference the 'Insight' section of the query description for examples of how the data returned from each query can be turned into information.

1. Total Number of VaxVax Users

This query returns the total number of VaxVax users recorded in the database.

Insight: As a startup experiencing exponential growth, VaxVax's CEO needs to query the total number of VaxVax users each day to generate VaxVax's growth rate graph for to provide to potential investors.

Query:

- `select
 count(distinct user_info.user_id) as 'Total Number of VaxVax Users'
 from user_info;`

Sample output:

Total Number of VaxVax Users
700

2. Percentage of Users Who Have Received 1st Vaccine Dose

This query returns the percentage of total VaxVax users that have recorded their 1st vaccine dose in the app.

Insight: Use this ratio with the value returned from the Total Number of VaxVax Users query to ascertain the proportion of all users who recorded only their first dose, which could suggest they are in the process of a vaccine series or received a single-dose vaccine.

Query:

- `select
 ROUND(((select count(distinct vaccine.user_id) from vaccine
 where vaccine.dose_num = 2) / ((select count(distinct vaccine.user_id) from vaccine
 where vaccine.dose_num = 2) + count(distinct vaccine.user_id))) * 100, 2)
 as 'Percentage of Users Who Have Received 2nd Vaccine Dose'
 from vaccine
 where vaccine.dose_num = 1;`

Sample output:

Percentage of Users Who Have Only Received the 1st Dose
63.34

3. Percentage of Users Who Have Received 2nd Vaccine Dose

This query returns the percentage of total VaxVax users that have recorded their 2nd vaccine dose in the app.

Insight: Inverse insight of query #2. This query shows us the follow through and activity of our userbase.

Query:

```
• select
  ROUND((((select count(x.user_id) from
    (select user_id, dose_num, vaccine_date from date_administered
     where (dose_num = 1 and dose_num != 2)) as x
    left join
    (select user_id, dose_num, vaccine_date from date_administered
     where (dose_num = 2)) as y on y.user_id = x.user_id
     where y.user_id is null) / count(distinct date_administered.user_id)) * 100), 2)
  as 'Percentage of Users Who Have Only Received 1st Vaccine Dose' from date_administered;
```

Sample output:

Percentage of Users Who Have Received 2nd Vaccine Dose
36.66

4. Percentage of Users Who Have Not Recorded Their Second Dose More than 4 Weeks After Recording the 1st Vaccine Dose

This query returns the percentage of users who *have* recorded their 1st vaccine dose but have not recorded their 2nd dose more than 4 weeks after the date the 1st vaccine was administered.

Insight: This percentage provides insight on two possibilities. 1) Users may lose interest in the app after receiving their 2nd shot and neglect to engage the app to record their 2nd dose. 2) User received a single dose vaccine and may or may not continue to engage with the app.

Query:

```
• select
    ROUND(count(x.user_id)/ (select count(x.user_id)
    from (
        select user_id , dose_num, vaccine_date from date_administered
        where (dose_num = 1 and dose_num !=2)) as x
        left join (select user_id , dose_num , vaccine_date from date_administered
        where (dose_num = 2)) as y on y.user_id = x.user_id
        where y.user_id is null) * 100, 2) as 'Percent 2nd Shot Not Recorded'
    from (
        select user_id , dose_num, vaccine_date from date_administered
        where (dose_num = 1 and dose_num !=2)) as x
        left join (select user_id, dose_num, vaccine_date from date_administered
        where (dose_num = 2)) as y on y.user_id = x.user_id
        where y.user_id is null and x.vaccine_date < CAST('2021-04-15' AS DATE);
```

Sample output:

Percent 2nd Shot Not Recorded
63.34

5. Average Adverse Effect Rating by Manufacturer

This query returns the average adverse effect rating on a scale of 1 to 5 for a given vaccine.

Insight: For example, VaxVax queries the average adverse effect rating for Moderna, Pfizer-BioNTech, and Johnson&Johnson vaccines to provide to VaxVax's promotional content creators for an educational Instagram post.

Query:

```
• select
    adverse_effects.manufacturer as 'Manufacturer',
    ROUND(avg(adverse_effects.adverse_effects_rating), 1) as 'Average Adverse Effect Rating' from adverse_effects
    group by adverse_effects.manufacturer
    order by 'Average Adverse Effect Rating', manufacturer;
```

Sample output:

Manufacturer	Average Adverse Effect Rating
Johnson & Johnson's	1.9
Moderna	2.2
Pfizer-BioNTech	2.1

6. Average Adverse Effect Rating for 20-30, 30-40, and 40-50 Year Olds

This query returns the average adverse effect rating on a scale of 1 to 5 for a given age range.

Insight: A correlation between age and adverse effects could inform targeted advertising. If a relationship between age and adverse effects is present in the userbase, VaxVax can target specific age groups with health and wellness related ads and draw them to the app. Data can also be shared with public health authorities as a public service.

Query:

```
• select
    ROUND(avg(adverse_effects.adverse_effects_rating), 2) as 'Avg. Adverse Effect Rating, Age = 20-30',
    ROUND((select
        avg(adverse_effects.adverse_effects_rating) from adverse_effects
        inner join user_info on adverse_effects.user_id = user_info.user_id
        where user_info.date_of_birth between CAST('1980-1-01' AS DATE) and CAST('1990-1-01' AS DATE)), 2)
        as 'Avg. Adverse Effect Rating, Age = 30-40',
    ROUND((select
        avg(adverse_effects.adverse_effects_rating) as side_effect_in_age_group_40_50 from adverse_effects
        inner join user_info on adverse_effects.user_id = user_info.user_id
        where user_info.date_of_birth between CAST('1970-1-01' AS DATE) and CAST('1980-1-01' AS DATE)), 2)
        as 'Avg. Adverse Effect Rating, Age = 40 - 50'
    from adverse_effects
    inner join user_info on adverse_effects.user_id = user_info.user_id
    where user_info.date_of_birth between CAST('1990-1-01' AS DATE) and CAST('2000-1-01' AS DATE);
```

Sample output:

Avg. Adverse Effect Rating, Age = 20-30	Avg. Adverse Effect Rating, Age = 30-40	Avg. Adverse Effect Rating, Age = 40 - 50
1.85	2.13	1.95

7. Average Adverse Effect Rating, by Gender

This query returns the average adverse effect rating on a scale of 1 to 5 for a given age range.

Insight: Like the Average Adverse Effect Rating by Age query, a correlation between gender and adverse effects could inform targeting advertising and the data can also be shared with public health authorities.

Query:

```
• select
    gender as 'Gender',
    ROUND(avg(adverse_effects.adverse_effects_rating), 2) as 'Average Adverse Effect Rating'
  from adverse_effects
  inner join user_info on adverse_effects.user_id = user_info.user_id
  group by user_info.gender;
```

Sample output:

Gender	Average Adverse Effect Rating
Female	2.09
Male	2.06

8. Percentage of User's Gender, by State

This query returns the percentage of users that are male and female grouped by state.

Insight: VaxVax wants to know if its audience has been skewed toward one or another gender. This information will guide its advertising of the paid Family Account feature.

Query:

```
• select
    state as 'State',
    gender as 'Gender',
    count(gender) as 'User Count'
from user_info
group by state
order by state, gender;
```

Sample output:

State	Gender	User Count
Alabama	Male	13
Alaska	Female	4
Arizona	Female	10
Arkansas	Male	4
California	Female	83
Colorado	Male	20
Connecticut	Male	12
Delaware	Male	1
District of Columbia	Female	24
Florida	Male	50
Georgia	Female	21
Hawaii	Male	5
Idaho	Female	2
Illinois	Female	18
Indiana	Male	16
Iowa	Female	8
Kansas	Male	13
Kentucky	Male	9
Louisiana	Male	20
Maryland	Male	8

9. List of Reported Medical Authorities in Washington State

This query returns the name, city, and phone number of medical authorities that users reported receiving a vaccine from a main location or satellite office in Washington State.

Insight: This query could be used for historical purposes, if a government entity is interested in what medical authorities offered vaccination appointments during the pandemic.

Query:

```
• select
    medical_authority.ma_name as 'Medical Authority',
    location_address.city as 'City',
    medical_authority.ma_phone_number as 'Phone'
  from medical_authority
  join location_administered on medical_authority.medical_authority_id = location_administered.medical_authority_id
  join location_address on location_administered.location_id = location_address.location_id
  where state = 'Washington'
  order by ma_name;
```

Sample output for Washington State:

Medical Authority	City	Phone
Beaumont Hospital	Spokane	570-577-7946
Beaumont Hospital	Spokane	570-577-7946
Beaumont Hospital	Tacoma	570-577-7946
Cedars-Sinai Medical Center	Kent	274-290-3218
Cedars-Sinai Medical Center	Bellevue	274-290-3218
Mayo Clinic Hospital	Vancouver	424-561-2855
MedStar Franklin Square Medical Center	Tacoma	358-596-0022
Mills-Peninsula Medical	Tacoma	322-469-8947
Rochester General Hospital	Vancouver	773-424-8206
Rochester General Hospital	Seattle	773-424-8206
Rochester General Hospital	Spokane	773-424-8206
Scripps Green Hospital	Seattle	788-448-6750
St. Francis Hospital	Tacoma	504-869-3020
UW Medical Center	Seattle	542-560-4920
West Valley Hospital	Seattle	264-496-2891

10. Last Name, First Name and User ID of Users Who Used Bluecross Blueshield for Vaccine Coverage

This query returns the name and user ID of all VaxVax user's that have recorded using Bluecross Blueshield for vaccine coverage.

Insight: Insurance carrier usage may be important for historical data in the future.

Query:

- `select`
 `insurance.last_name as 'Last Name',`
 `insurance.first_name as 'First Name',`
 `insurance.user_id as 'User ID'`
`from insurance`
`where insurance_provider = 'BlueCross Blue Shield'`
`order by insurance.last_name, insurance.first_name;`

Sample output:

Last Name	First Name	User ID
Albiston	Lona	177
Alsop	Anthiathia	390
Baptie	Lind	684
Barby	Georgie	206
Branton	Keane	28
Brookz	Roda	612
Burdikin	Finn	401
Bussen	Sheba	603
Cadreman	Vikki	181
Caroll	Glenine	649
Casterou	Lanni	533
Clineck	Lesya	54
Cossem	Karyl	83
Cowndley	Suzie	396
Dober	Sarge	349
Dober	Vania	429
Doding	Kirstin	171
Dunrige	Berti	178

11. First Name, Last Name, and Social Security Number of User's Overdue for 2nd Vaccine Dose

This query returns name data and social security number of user's who have not yet recorded their 2nd vaccine dose in the VaxVax app.

Insight: Social security numbers are the government's user ID for citizens. An interested government party can use the information generated from this query to follow up with people who may not be fully vaccinated. Using the social security number, a government entity can look up the user's address and send them mail.

Query:

```
• select
    x.user_id as 'User ID',
    x.vaccine_date as 'Vaccine Date',
    user_info.first_name as 'First Name',
    user_info.last_name as 'Last Name',
    user_info.social_security_number as 'Social Security Number'
from
    (
        select user_id , dose_num, vaccine_date from date_administered
        where (dose_num = 1 and dose_num !=2) ) as x
    left join
    (
        select user_id , dose_num , vaccine_date from date_administered
        where (dose_num = 2) ) as y on y.user_id = x.user_id
    inner join user_info on x.user_id = user_info.user_id
    where y.user_id is null and x.vaccine_date < CAST('2021-04-15' AS DATE);
```

Sample output:

User ID	Vaccine Date	First Name	Last Name	Social Security Number
301	3/23/2021	Antonio	Gigg	692-35-8689
302	4/9/2021	Agnola	Sotheron	441-07-4080
303	1/25/2021	Celia	Beuscher	714-16-1181
304	1/26/2021	Idette	Fipp	689-09-3019
305	1/24/2021	Hagen	Fipp	530-75-4017
306	1/13/2021	Chiquia	Stirman	847-49-4351
307	3/31/2021	Norah	Grimsdyke	450-56-0481
308	2/1/2021	Dotti	Goodliffe	663-37-3815
309	2/14/2021	Rockie	Doige	348-61-6483
312	1/18/2021	Farlay	Stirman	413-74-8792
314	2/28/2021	Louisa	Rickaert	730-67-2251
315	1/27/2021	Llywellyn	Battabee	787-36-4544
316	4/7/2021	Audry	Goldberg	878-75-5433
319	2/7/2021	Steffi	Cremen	158-29-8981
320	2/18/2021	Karalee	Trenholme	469-64-7652

Stored Procedures

1. Internal Project Manager Checks if a User's VaxVax Record is Complete

This stored procedure takes in a user ID as a parameter and returns the user's first and last name **if** they have completed their VaxVax record. Returns nothing if false.

Stored Procedure:

- ```
CREATE PROCEDURE user_has_complete_vaxvax_record(in user_id INT)
 Begin
 select
 user_info.first_name as 'Fully Vaccinated User, First Name',
 user_info.last_name as 'Fully Vaccinated User, Last Name'
 from user_info
 join vaccine on user_info.user_id = vaccine.user_id
 where vaccine.dose_num = 2 and vaccine.user_id = user_id;
 End$$
 DELIMITER ;
```
- ```
call user_has_complete_vaxvax_record(1);
```

Sample output:

Fully Vaccinated User, First Name	Fully Vaccinated User, Last Name
Hugibert	Stevani

2. Display the medical authority in a specific state for a government inquiry

This procedure takes in a state as a parameter and displays all medical authorities in the state. This is a stored procedure version of Query #9.

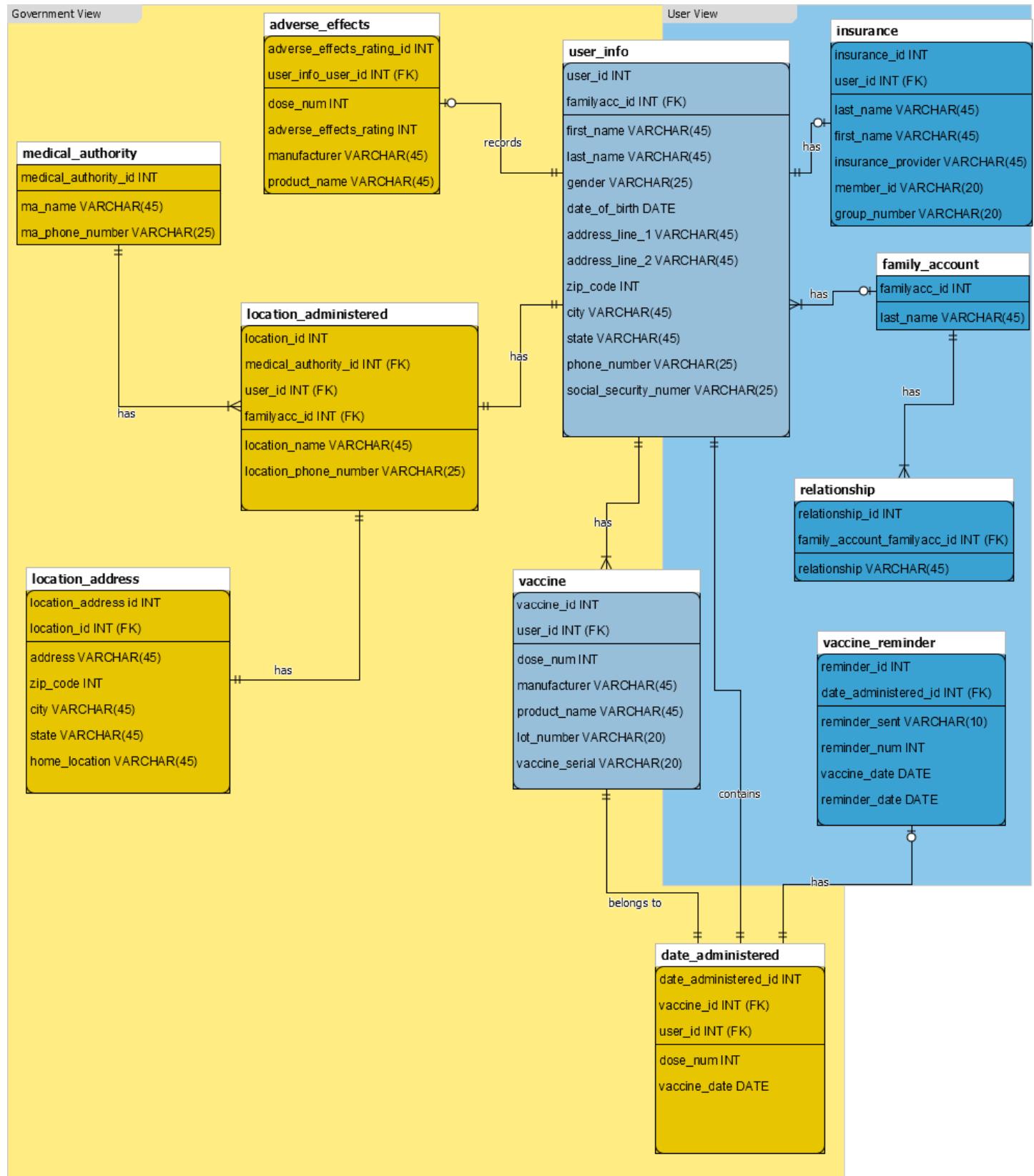
Stored Procedure:

```
• CREATE PROCEDURE display_med_auth(in this_state varchar(45))
  Begin
    select
      ma_name as 'Medical Authority',
      location_address.city as 'City',
      ma_phone_number as 'Phone'
    from medical_authority
    join location_administered on medical_authority.medical_authority_id = location_administered.medical_authority_id
    join location_address on location_administered.location_id = location_address.location_id
    where state = this_state;
  End$$
  DELIMITER ;
• call display_med_auth('washington');
```

Sample output for Washington State:

Medical Authority	City	Phone
Beaumont Hospital	Spokane	570-577-7946
Beaumont Hospital	Spokane	570-577-7946
Beaumont Hospital	Tacoma	570-577-7946
Cedars-Sinai Medical Center	Kent	274-290-3218
Cedars-Sinai Medical Center	Bellevue	274-290-3218
Mayo Clinic Hospital	Vancouver	424-561-2855
MedStar Franklin Square Medical Center	Tacoma	358-596-0022
Mills-Peninsula Medical	Tacoma	322-469-8947
Rochester General Hospital	Vancouver	773-424-8206
Rochester General Hospital	Seattle	773-424-8206
Rochester General Hospital	Spokane	773-424-8206
Scripps Green Hospital	Seattle	788-448-6750
St. Francis Hospital	Tacoma	504-869-3020
UW Medical Center	Seattle	542-560-4920
West Valley Hospital	Seattle	264-496-2891

ER Diagram



Business Rules

VaxVax's policy, procedure, or and guiding principles for use.

1. VaxVax User

Entity: user_info

A user is a person who has downloaded VaxVax and successfully created an account. A user has one personal account, identified by a ten-digit user ID. A user has one to many vaccine dosages recorded in VaxVax, but for each vaccine dosage, a user records one of each: vaccine received, location it was administered, insurance policy used (if applicable), and adverse effects (if applicable). A user can only access the above information through their user_id attribute, encapsulated in their login.

2. Vaccine

Entity: vaccine

Vaccine contains the information on the vaccine a user received for each specific dose. A single vaccine is administered to many users; and for a given dose, a user receives one vaccine on a single date. Each vaccine record includes the vaccine ID, manufacturer and product name, lot number, and vaccine serial number – all information readily available on the CDC paper vaccine record card.

3. Date Administered

Entity: date_administered

Date administered is the date a user received a vaccine dosage. Date administered corresponds to one record in the vaccine entity and user entity. For every date a user received a vaccine dosage, an optional vaccine follow-up notification is sent and recorded in the Vaccine Reminder entity.

4. Medical Authority

Entity: medical_authority

A medical authority has one to many vaccine administration locations (main and satellite locations). Every satellite location has one medical authority responsible for it.

5. Location Administered

Entity: location_administered

A vaccine administration location is under the jurisdiction of one medical authority. The location has one location address. There is one location a vaccine is administered for each vaccine dose given to a user. VaxVax requires the user to record the location for future government inquiries.

6. Location Address

Entity: location_address

A location address record holds the physical address of the location a vaccine was administered. For each location, there is one location address record for the vaccine dosage. The key purpose of this entity is to memorialize the physical location that medical authority satellite vaccination shops were situated, as many public and private spaces were converted to temporary vaccination sites and vaccinations occurred well outside of user's normal general practitioner's office.

7. Adverse Effects

Entity: adverse_effects

An adverse effect rating is recorded by a single user for a single vaccine dose. An adverse effect may or may not occur and therefore is optional. The adverse effect is stored on a scale of 1 - 5, on a subjective scale of the application designer's choice.

8. Vaccine Reminder

Entity: vaccine_reminder

A vaccine reminder is a mobile notification sent to the user when their follow-up dosage is due. The vaccine reminder feature is optional. When selected, each vaccine reminder corresponds to one date administered record.

9. Insurance

Entity: insurance

One insurance plan is applied to one vaccine shot. The insurance plan recorded in this entity is for the insurance that the user used for each shot, not all the insurance policies that the user has or is included on. Insurance is optional.

10. Family Account

Entity: family_account

A family account is an umbrella account that links the user IDs of a group of associated users. The information of the associated users is viewable by the family account holder. A family account can reference zero to many relationships. The family account feature is an optional paid feature; therefore, it is optional.

11. Relationship

Entity: relationship

A relationship is included in one family account. A family account includes many relationships. A relationship is the link between member user accounts under the umbrella of one family account.

Appendix A – VaxVax Data Dictionary

FK	= Foreign key
PK	= Primary key
CHAR	= Fixed character length data (1 - 255 characters)
VARCHAR	= Variable character length data (1 - 2,000 characters)
NUMBER	= Numeric data.
DATE	= Date data.

Table Name	Attribute Name	Contents	Type	Format	Range	PK or FK	FK Referenced Table
adverse_effects	adverse_effects_rating_id	ID	INT	1	1 - N	PK	
	user_id	ID	INT	100	1 - N	FK	user_info
	duodenum	Numbered dose of series	INT	1	1 - 2		
	adverse_effects_rating	User's subjective side effects rating from vaccine	INT	1	0 - 5	PK	
	manufacturer	Company name	VARCHAR(45)	Moderna			
	product_name	Type of sickness vaccine is for	VARCHAR(45)	COVID-19			
date_administered	date_administered_id	ID	INT	1	1 - N	PK	
	vaccine_id	ID	INT	1	1 - N	FK	vaccine
	user_id	ID	INT	100	1 - N	FK	vaccine
	dose_num	Number in vaccine sequence	INT	1	1 - 2		
	vaccine_date	Date dose was administered	DATE	2021-01-01			
family_account	familyacc_id	ID	INT			PK	
	last_name		VARCHAR(45)				
insurance							
	insurance_id		INT			PK	
	user_id		INT	100	1 - N	FK	user_info
	last_name	last name of insured or dependent's insured	VARCHAR(45)	Tsuboi			

	first_name	first name of insured or dependent's insured	VARCHAR(45)	Narissa			
	insurance provider	insurance carrier	VARCHAR(45)	Aetna			
	member_id	ID	VARCHAR(20)	SQL*670987			
	group_number	ID	VARCHAR(20)	SU2021L			
location_administered	location_id	ID	INT	1	1 - N	PK	
	user_id	ID	INT	100	1 - N	FK	user_info
	family_account_id	ID	INT	1	1 - N	FK	user_info
	medical_authority_id	ID	INT	1	1 - N	FK	medical_authority
	location_name	Site name	VARCHAR(45)	West Seattle Vaccine Site			
	location_phone_number	Phone	VARCHAR(25)	206-804-2139			
location_address	location_address_id	ID	INT	1	1 - N	PK	
	location_id	ID	INT	1	1 - N	FK	location_administered
	address	Street and unit	VARCHAR(45)	101 California Ave NW			
	zip_code	Zip	INT	98116			
	city	City	VARCHAR(45)	Seattle			
	state	State	VARCHAR(45)	Washington			
medical_authority	medical_authority_id	ID	INT	1	1 - N	PK	
	ma_name	Name of medical authority	VARCHAR(45)	Virginia Mason			
	ma_phone_number	Phone	VARCHAR(45)	206-700-4000			
relationship	relationship_id	ID	INT	1	1 - N	PK	
	family_account_id	ID	INT	1	1 - N	FK	family_account
	relationship	Relationship to FA account holder	VARCHAR(45)	Child, parent			
user_info	user_id	ID	INT	100	1 - N	PK	

	family_account_id	ID	INT	1	1 - N	FK	family_account
	first_name	User's first name	VARCHAR(45)	Tuong			
	last_name	User's last name	VARCHAR(45)	Dang			
	gender	Male or Female	VARCHAR(45)	Male			
	date_of_birth	Birthday	DATE	1994-06-28			
	address_line_1	Home address	VARCHAR(45)	1000 12 th Ave			
	address_line_2	Suite	VARCHAR(45)	Apt A			
	zip_code	Zip	INT	98122			
	city	City	VARCHAR(45)	Seattle			
	state	State	VARCHAR(45)	Washington			
	phone_number	Phone	VARCHAR(25)	206-800-1400			
	social_security_number	Social	VARCHAR(25)	###-###-####			
vaccine	vaccine_id	ID	INT	1	1 - N	PK	
	user_id	ID	INT	100	1 - N	FK	user_info
	dose_num	Dose Number	INT	1	1 - 2		
	manufacturer	Manufacturer	VARCHAR(45)	Moderna			
	product_name	Product Name	VARCHAR(45)	COVID-19			
	lot_number	Lot Number	VARCHAR(20)	#140938			
vaccine_reminder	reminder_id	ID	INT			PK	
	date_administered	Date user received the dose	DATE	2021-01-01		FK	date_administered
	reminder_sent	Yes if reminder was sent	VARCHAR(10)	Yes	Yes or No		
	reminder_num	Number of reminder	INT	1			
	vaccine_date	Date of the last vaccine dose	DATE	2021-01-01			