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IS 390 Use Cases

Use Case Name: Determine Eligibility	ID: UC-1	Priority: High

Brief Description:
Determines if a patient is eligible to be administered the vaccine.

Actor: Patient

Trigger: Patient checking to see if they can schedule an appointment for the vaccine.
Type   ☐ External   ☐ Temporal

Preconditions:
- **Updated NJ State eligibility requirements**
- **Patient has no symptoms of COVID-19.**
- **Patient must be of age to schedule an appointment.**

Normal Course	Information for Steps
- **The system would update eligibility requirements.** - **Patients would visit websites to see if they are eligible for the vaccine.** - **Patient enters information required by system** - **System determines if a patient is eligible for a vaccine before being allowed to schedule an appointment.**	**- NJ State eligibility requirements** **-New vaccination request** **-Patient information** **-Patient eligibility for vaccine**

Alternative Course(s):
- **Patients go to the medical center and schedule an appointment in person.**
- **Patients call customer service to determine if they are eligible to schedule an appointment.**

Postconditions:
- **Patients would be determined if they are eligible for the vaccine**
- **Patients would be allowed to schedule for an appointment for the vaccine.**

Exceptions:
- **Appointments are booked. Then they are asked to schedule on a future date.**

Summary:

Inputs	Source	Outputs	Source
- **Patient Information** - **Eligibility Requirements** - **Patient Eligibility**	- **Patient** - **NJ state requirements** - **Patient**	- **Updated Eligibility** - **Patient Eligibility** - **Patient Information**	- **Eligibility File** - **Patient File** - **Patient File**

Use Case Name: Appointment Searching and Browsing	ID: UC-2	Priority: High

Brief Description:
This describes how to search and browse for vaccination availability

Actor: Patient

Trigger: Patient wants to get vaccinated but needs to check availability first.

Type ☐ External   ☐ Temporal

Preconditions:
- NJ State eligibility requirements verified.
- Patient has taken the first dose.
- Patient has taken no dose yet.

Normal Course	Information for Steps
- Patient logs into the system and wants to check for available vaccinations in their area. - Patient confirms if their scheduling first dose or second - Patients check available appointments based on dates and vaccination sites. - Administrator updates availability of the number of doses in the system for patients.	- Patient Information - Patient Dose Information - Vaccination availability details - Administrator Updates

Alternative Course(s):

- Patients could not find availability so they can contact customer support for assistance.

- Patient contacts their doctor for alternative way to book a vaccination

Postconditions:
- Patients scheduled a vaccination dose 1 or dose 2.
- Administration updates vaccination doses availability

Exceptions:

- Vaccination supply is low

Summary:

Inputs	Source	Outputs	Source
- Patient Information - Vaccine dosage Availability	- Patient - Administration	- Patient Vaccine Details - Updated vaccine availability	- Patient Record - Vaccine supply file

Use Case Name: Appointment Scheduling	ID: UC-3	Priority: High

Brief Description:

Patients setting up an appointment for the vaccine.

Actor: Patient

Trigger: Patient checking to see if they can schedule an appointment for the vaccine.

Type   ☐ External   ☐ Temporal

Preconditions:
- **Updated NJ State eligibility requirements**
- **Patient has no symptoms of COVID-19.**
- **Patient must be of age to schedule an appointment.**
- **Patient has not taken other vaccines before.**
- **Insurance records/card**

Normal Course	Information for Steps
- **Patient creates an account. Account details are stored.** - **Patient Registers for vaccine. Patient entered the system for the vaccination process.** - **An email is sent to the patient with a scheduled date and time. The system stores info about patients for the vaccine.**	- **Patient Request** - **Patient Details** - **Patient information changes if needed.** - **Patient Updates** - **Patients to delete after successful dosage..**

Alternative Course(s):
- **Patients go to the local medical center and fill out paperwork for vaccines.**

- **Patients call customer service to determine if they are eligible to schedule an appointment.**

Postconditions:
- **Patients would be emailed or called back for a second appointment of the vaccine.**
- **Patients would set up a time and day for next appointment and receive another update email.**

Exceptions:
- **Appointments are booked. Then they are asked to schedule on a future date.**

Summary:

Inputs	Source	Outputs	Source
- **Patient Information** - **Eligibility Requirements** - **Patient Eligibility** - **Insurance**	- **Patient** - **NJ state** - **Patient** - **Insurance company details**	- **Updated Eligibility** - **Patient Second Eligibility** - **Patient Information**	- **Eligibility File** - **Patient File** - **Patient File**

Use Case Name: Appointment Confirmation and Follow-Up	ID: UC-4	Priority: High

Brief Description: This use case describes patient's initial and follow-up appointment confirmation

Actor: Covid-19 Vaccine Information System

Trigger: Vaccine appointment is scheduled by the patients or with the help of the authorized staff members

Type   □ External   □ **Temporal**

Preconditions:

- All the required information has been provided along with the patient's valid email.
- All the appointments for a particular day are fully scheduled for all the vaccine-eligible individuals.

Normal Course
- Each vaccine-eligible individual has provided required information with a valid email.
- All the appointments are fully scheduled for the day
- All the appointments are evenly distributed into 15-minute intervals
- System sends appointment confirmation email with a confirmation number which refers to both first and second dose to all vaccine-eligible patients
- System also generates and sends Q-R code along with the confirmation email
- System sends appointment reminder emails to individuals 48 hours in advance of the vaccine appointment

Information for Steps
- Patient details
- Appointment schedule updates
- Vaccine schedule updates for the staff
- Appointment confirmation number
- Appointment confirmation Q-R code
- Appointment reminder email

Alternative Course(s):

Postconditions:
- Patients receives appointment confirmation email along with a Q-R code and confirmation number
- Patients are reminded 48 hours in advance about their vaccine appointments for both first and second dose

Exceptions:
- E1: Patients provides wrong email when scheduling vaccine appointments
  - Appointment confirmation is sent to wrong email, patient will contact the staff member
  - Staff member performs Use Case 2 to provide the patient with another vaccine appointment availability

Summary Inputs	Source	Summary Outputs	Destination

- Patient information - Available vaccine appointments	- Patient - Available appointments datastore	- confirmation email - Confirmation number and Q-R code – Reminder email	- Patient - Administration - Patient

Use Case Name: Staff Member Functionality	ID: UC-5	Priority: Very High

Brief Description: Staff members at the vaccination facility will be able to process and verify if incoming patients have a proper vaccination appointment

Actor: Vaccination Center Staff

Trigger: A patient submits an appointment to get vaccinated
Type External   Temporal

Preconditions: The patient needs to register for an appointment to then receive a vaccine. And the patient needs to test negative for covid-19, for public safety reasons.

Normal Course

- The Staff can schedule appointments with patients directly using email phone call, or text messaging.
- The vaccination clinic staff can edit patient appointments and can monitor the appointments if the patient decides to cancel an appointment or reschedule.
- When it is time for a patient's appointment the vaccination staff can verify the incoming patient's information when they show the vaccination staff the email notice with their appointment number and match the information in the email with what was inputted into the system.
- After the vaccine is administered the vaccination staff update the patient's medical records, and sends the vaccination history to the department of health.

Information for Steps

- Patient Medical Records
- Patient First Name, Last Name, Home Address, Phone Number, Email Address
- Vaccination Computer System Access
- Vaccination Scheduling System

Alternative Course(s): If the patient does not arrive to their scheduled appointment they receive an automated email, or text message stating that the patient missed their appointment and if they would like to schedule another date for vaccination.

Postconditions: After the patient is vaccinated they return to their home, and the vaccination clinic staff continue accepting patients while submitting vaccination records to the department of health to log how many people have been successfully vaccinated.

Exceptions: If the patient cancels their appointment, if the patient does not show up to their appointment, and if vaccines are out of stock then the patient has to reschedule their appointment. Likewise, when the patient is tested for covid-19 and if they test positive they are redirected to a hospital for treatment, for public safety reasons   and the patient can schedule an appointment to receive a vaccine when they are healthy again.

Summary:

Inputs	Source	Outputs	Source
The patient inputs their First Name, Last Name, Email Address, Phone Number, Home Address, Appointment Availability,	Patients	The patient gets vaccinated, and the staff send the vaccination records to the department of health	The vaccination clinic computer system. Patients Vaccination Staff