**VISIT**

**Vaccination, Immunization, Scheduling, Inventory & Testing**

Functional Requirements Document

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# Purpose

The focus on public health data analysis roles and responsibilities within the Indiana Department of Health (IDOH) has been both heightened and transformed during the 2020-2021 COVID-19 pandemic. Looking forward, IDOH seeks positive adaptive transformations from lessons learned during the pandemic period that will sustain best-practices for public health data analysis and reporting.

The purpose of this document is to document the functional requirements of a system for public users to select needed services and schedule appointments with IDOH. The system will also be used by IDOH to administer services to the public and bill services provided to the public. These requirements will support future transformation initiatives as well as an RFP for development of a new solution.

# Scope

The ***scope*** of this document includes all processes and functional requirements necessary to develop a solution for IDOH to have a system that will allow the public to schedule appointments for standard testing and immunizations. The system will also allow IDOH to respond to events as they occur by making updates to services and offerings maintained within the system.

# Approach & MEthodology

The approach used in developing this document was designed to gain a holistic understanding of the functional requirements for the new VISIT system.

The methodology included a combination of interviews and current system demonstrations from IDOH personnel. Interviews were conducted with stakeholders from Emergency Preparedness, Lead, HIV/STD and Immunizations. Meetings were conducted to gain a detailed understanding of the required functionality throughout the end-to-end process of scheduling, administering and invoicing health services offered by IDOH.

Process diagrams for patient registration, clinic experience and billing are found in the appendix. These are designed to be read in conjunction with the corresponding functional requirements.

# Public Facing Application Requirements

## Patient Registration

There are multiple ways a patient can register including the following:

* Self-registration: A public user can access the application and register themselves,
* Family registration: Immediate family members can register dependents.
* Help desk registration: A help desk representative can register on behalf of a caller.
* Private event registration: An organization hosting an event can register a group of individuals (such as a company registering employees and beneficiaries only).
* Clinic registration: If a patient arrives at a clinic without an appointment, a Clinic User can schedule a walk-in appointment for the patient.

The process diagram for patient registration is located in Appendix A.

### Public Self Registration

Create Patient Account

A public user can create a patient account that will allow them to access their appointments, test results and immunization history. The account will be linked to their Access Indiana account. A public user may choose to register as a guest without creating a patient account.

* Before registering, the public user can create an account to schedule an appointment and access their information. This account will be tied to their Access Indiana profile for access.
* A public user should be able to log in to their account if they have previously created an account.
* A public user should be able to add dependents to their accounts. This will allow them to schedule appointments and access records for their dependents.
* A public user should be able to register without creating an account. The system should advise that continuing without and account will prohibit the public user from accessing their records.

Select Desired Service(s)

By selecting desired services, a registrant will be able to answer questions about eligibility to ensure they are eligible for the desired services.

* The public user should be able to enter the number of patients they are registering.
* The public user should be able to select the services desired for each registrant.

Answer Eligibility Questions

Eligibility questions will ensure the appropriate services are offered and selectable to the registrant.

* The system should have a series of questions to determine which services the registrant is eligible to receive. This will restrict offering ineligible services to the registrant.
* The questions should be scalable and configurable by the System Administrator for updates. See the section on Configuration Management for additional information.

Select Eligible Services

There are several services that could be provided at different locations. Allowing the user to select the services before searching for availability will narrow the search results to only the locations where the desired services are available.

* A public user should be able to select one or more services they’re seeking prior to entering search criteria. This will allow for the user to receive search results that are applicable to the services desired for the number of patients being registered. This will also allow for a public user to register for services for multiple patients in one session, if desired.

Enter Search Criteria

Searching for locations for service was one of the biggest issues IDOH received feedback about the current system. This is the area that many of the IDOH personnel feel can improve the user experience, a quick win for building confidence in the system and positively influencing the user experience.

* The search functionality should be able to be searched by a selectable radius of an address that has been entered or a function to use current location. This will allow the public user to locate the nearest service location.
* The ability to enter a date range should be required when entering search criteria. This will allow the public user to search for available appointments within their timeframe.
* The search criteria should be retained. This will allow the public user to search again without having to re-enter their criteria.
* The search criteria should include a means to select the option to search for the first available appointment.

View Search Results

Viewing the search results will allow the user to see where services are available for the selected services.

* The search results should be displayed by list and on a map. This will allow the public user to read the site information and see a map to assist in determining where the location is in relation to their search criteria.
* The search results should include location name, distance, date, and operating hours available and a link to the available appointment slots. This will eliminate sites that do not have available appointment slots to be returned in the search results.
* The default view should be displayed by nearest location.
* The search results should be sortable by any field that is displayed. This will allow a public user to reorder the search results to help them determine the best available selection.
* The search results should be sortable by first available appointment.
* The public user should be able to search again using the same search criteria without having to re-enter their criteria.
* If the selected service is linked to inventory, the search results should only return services that have available inventory at a site. See Configuration Management section for further information.

Select Appointment Slot(s)

A public user needs to be able to see the appointment slots available to schedule appointments for each patient they need to register.

* The available appointment slots by location should be displayed in order of first available date and time.
* The appointment slots should be selectable. This will allow the public user to select the appropriate amount of appointments for the individuals they need to register.
* The appointment slots should be reserved for the current public user for a specified duration to allow for completion of the registration process. The specified duration should be adjusted based on how many individuals are being registered.
* The public user should be notified of the specified duration allotted for completing the registration process.
* The appointment slots should be released for availability if the public user doesn’t complete the registration process in a specified duration.
* The public user should be able to return to the search results without having to re-enter their criteria.
* The system should only allow services that match eligibility to be selectable by the public user per registrant.
* The systems should not allow a user to register for an appointment if the person being registered already has an appointment for the same service at any location. This will restrict a person from making multiple appointments for the same service. An appropriate error message should display.

Enter Patient(s) Registration Information

Entering the patient registration information will gather information required for the provider to communicate with the patient through email, text, phone, or mail. The information will also allow the provider to collect insurance information to process insurance claims and billing. The public user will be able to provide patient demographic information.

* The public user should be required to enter specific demographic information. This information will be used to ensure the public user can only register for services available to them based on demographic information, such as age restriction criteria will only allow a patient that meets specific age requirements to register for the correct corresponding services.
* The public user should be able to enter a preferred method of communication of email or text for appointment confirmation or reminders.
* The public user should be required to answer specific questions regarding registration, including program eligibility or participation. This information could be used to ensure the patient can only register for services available to them based on eligibility.
* The public user should be able to enter insurance or program information.
* The public user should be able to upload an image of their insurance card.
* The registrant should be linked to the service that has been selected.
* The system should notify the public user when they have successfully completed registering each patient.
* The system should update the status of the registration record accordingly.
* The system should allow the public user to enter additional patients after entering all information for the first patient.
* The system should ask the public user if they want to copy specific demographic information provided in the first patient, such as address or insurance information, so they don’t have to enter identical information twice in the same session.
* The system should have the ability to provide service information sheets prior to providing consent. The information sheets should also be available for download by the user and link emailed if an email address is available.
* The system should have a method for the public user to give consent for services. This will vary depending on the services being provided. There are program requirements to consider for the type of consent that is required.
* The system should ask the public user, that has not created an account, if they want to create and account or log into an account before finalizing the registration.
* The registration record should be flagged to identify that it was created by the public user.

Receive Appointment Confirmation

The public user will receive an appointment confirmation that will serve as a reminder of the appointment and will allow the public user to confirm, cancel or reschedule the appointment.

* The system should send an appointment confirmation notification via email or text to the public user to confirm the appointment at a specified time prior to the scheduled appointment. This will serve as a reminder of the appointment and confirm the patient will attend the appointment. Appointment reminder message frequency will be determined in detailed requirements.
* The confirmation should allow the public user to add, update or delete registration information, such as contact details or insurance information. The information should only be updated for the current appointment. The updates should not be made to previous appointments or services as those should be retained for insurance/billing purposes.
* The system should provide options of confirming the appointment, cancelling the appointment, or rescheduling the appointment. If the appointment needs to be rescheduled, the system should direct the public user back to the scheduling site to search for available appointments. The system should retain the registrant information as it was previously entered. This will allow a public user to reschedule an appointment without going through the entire registration process again.
* The system should update the status of the registration record accordingly.
* The system should send appointment reminders to the patient on a determined schedule.

### Help Desk Registration

This type of registration would function similarly to the public registration process. The help desk agent would search the application for available services and locations and then enter the patient information provided during a phone call.

* A help desk agent user should be able to fully register a patient using features similar to the public interface.
* The help desk agent user should be able to enter basic information to create the appointment. This will allow the public user to enter or update their personal information when they receive their confirmation or when they arrive at the clinic.
* The system should send a confirmation to the public user, if the patient provides an email or cell phone number to receive text messages. This will allow the patient to create an account if they wish.
* The registration record should be flagged to identify that it was created through the help desk user.
* The help desk agent user should be able to update, delete and reschedule appointments.

### Walk-in Registration

This type of registration would function similarly to the help desk registration process. The clinic user should not need to search the application to find a location, they would use the clinic location and then enter the patient information while the patient was present.

* A clinic user should be able to fully register a patient using features similar to the public interface.
* The clinic user should be able to enter minimal basic information to create an appointment. This will allow the public user to enter or update their personal information when they receive their confirmation. This functionality would assist in peak service times to lessen the wait time for registration.
* The system should be able to scan an ID or driver’s license that will enter patient demographic information.
* The system should be able to scan an insurance card to capture the insurance information.
* The system should send a confirmation to the patient, if the patient provides an email or cell phone number to receive text messages.
* The registration record should be flagged to identify that it was created by the clinic user.
* The clinic user should be able to update, delete and reschedule appointments.

### Private Event Registration

A private event registration would be used when a service offering is only available to a select group of people. The types of events could be a through a school, employer, residential facility, etc.

* The system should be able to create an event through system administration management.
* The system should be able to allow a user to upload a file of eligible participants provided by the host institution, with required participant information.
* The system should be able to send notifications to register to eligible participants. This will allow participants to register prior to arriving at the event, reducing the amount of data entry required in person at the event.
* The system should be able to track notifications that were not deliverable to the eligible participants provided by the host institution.
* The public user should be directed to the available time slots, bypassing the services selection and search criteria required in a public registration.
* The system should allow participants to register as walk in registration at the event by looking up the participant from the eligible participant list provided by the institution.

# Provider Facing Application Requirements

## Clinic Experience

The clinic experience outlines how the internal user will utilize the system when interacting with the patient. The process diagram for clinic experience is located in Appendix A.

Patient Check-in

When a public user arrives at the clinic location, they will be asked to check-in with clinic staff. The check-in process will allow the clinic to confirm the patient demographics.

* The clinic user should have a view of patients scheduled by date; defaulted view would be by current date by appointment time slot. This view should also be sortable by the fields displayed.
* The clinic user should have a search feature to search for the patient.
* The clinic user should have a search feature to locate a patient at another location and move the patient appointment to their location. This will allow a patient to be moved to a clinic if they have gone to the wrong location and the clinic can provide the services.
* The system should be able to scan an ID or driver’s license to look up a patient, using a barcode scanner to scan the ID and transfer it to the system.
* The system should be able to scan an insurance card to enter insurance information and store an image.
* The system should be able to validate insurance eligibility while the patient is present.
* The clinic user should be able to confirm and update the patient demographic, insurance information, eligibility, consent, and services being administered at the appointment.
* A clinic user should not be able to see patient test results.
* The clinic user should be able to schedule a walk-in patient if needed.
* The system should send a confirmation to the public user, if the patient provides an email or cell phone number to receive text messages.
* The system should update the status of the registration record to reflect the patient has been checked in.

Vaccine Administration

The vaccine administration process will be used by a vaccine administrator to document the detailed vaccine information that was administered to the patient.

* The vaccine administrator should be able to view the patient information and confirm the patient identity.
* The vaccine administrator should be able to confirm consent with the patient and document consent in the system.
* The vaccine administrator should be able to add services to the patient appointment.
* The vaccine administrator should be able to document the vial specific information about the vaccine by scanning the vaccine vial and visually confirming the scanned information matches the vial. Vial have QR and/or barcodes, and as such the system must be able to scan both types.
* The vaccine administrator should be able to document additional information manually about the injection, such as how much and where the vaccine was administered.
* The vaccine administrator should be able to document who administered the vaccine. This will allow the vaccine administrator to indicate who documented the vaccine if there are multiple clinicians working with the patient.
* The system should update the status of the registration record to reflect the vaccine has been administered.
* The system should have the capacity to interface with other systems of record such as LDF or CHIRP. This could include updating test results and vaccinations.

Testing Administration

The testing administration process will be used by a testing administrator to document the detailed test information that was administered to the patient. There could be tests that are collected and processed within the clinic and tests that would be sent to a testing lab.

* The testing administrator should be able to view the patient information and confirm the patient identity.
* The testing administrator should be able to confirm consent with the patient and document consent in the system.
* The testing administrator should be able to add services to the patient appointment.
* The testing administrator should be able to document the test being administered. This will be information that is recorded about the test that was performed such as date, time, how the sample was collected, when, and where the sample will be sent.
* The testing administrator should be able to document who administered the test. This will allow the testing administrator to indicate who documented the test if there are multiple clinicians working with the patient.
* The system should have an option to print a label containing testing demographic information that can be affixed to the testing vessel for processing.
* The system should have an interface with LimsNet to create the testing label.
* The system should have the option to record immediate test results for tests performed within the clinic.
* The system should update the status of the registration record to reflect the testing has been administered.
* The system should have the capacity to interface with other systems of record such as LDF, LimsNet or CHIRP. This could include updating test results and vaccinations.

Schedule Future Appointments

Scheduling of future appointments will allow the clinic user to assist the patient in scheduling any additional or follow up appointments necessary. This will be a simple task for the clinic user as all information regarding the patient is already in the system and can be utilized to create additional appointments for the patient.

* The clinic user should be able to schedule future appointment(s) for the patient by selecting an option on the patient profile. This will allow the clinic user to have the patient information pre-populated when selecting an available appointment slot.
* The system should notify the clinic user when the appointment has been successfully scheduled.
* The system should send notification to the public user when the appointment has been successfully scheduled.
* The system should have a status of the registration record.
* The system should send an appointment confirmation notification via email or text to the public user to confirm the appointment at a specified time prior to the scheduled appointment. This will serve as a reminder of the appointment and confirm the patient will attend the appointment. Appointment reminder message frequency will be determined in detailed requirements.
* When a follow-up appointment is required, the system should send reminders to patients if they do not schedule an appointment to remind them when they should schedule an appointment.

Patient Checkout

The checkout process will provide the patient with a post visit summary, indicating the services the patient received during the visit, via printed copy, text or email as indicated by the user in the registration.

* The system should not allow a patient to be checked out until all services are marked complete.
* The system should have search features to locate the patient checking out. This will allow the user to quickly locate the patient without having to scroll through all patients.
* The system should update the status of the registration record accordingly to reflect the patient appointment has been completed and the patient has been checked out.
* The system should create a post visit summary that will summarize the services the patient received during the appointment.
* The post visit summary should be available to be printed by the clinic to be handed to the patient, if requested.
* The post visit summary should be sent to the public user via text or email depending on the preference indicated in the registration to retrieve through their Access Indiana accounts.
* The system should allow links to required documents, such as information on Vaccine Adverse Events Reporting System (VAERS) and Vaccine Information Statements (VIS) to be linked to the post visit summary.

## Clinic Management

A clinic would have the need to be able update settings within the application specific to that clinic. A clinic administrator should be able to adjust clinic operating hours, the number of appointments available based on staffing availability at the clinic. The clinic administrator would also be able to add users, such as clinic user, vaccine administrator and testing administrator to the application for their specific clinic.

Scheduling Management

Scheduling management is key to creating appointments. The operating hours and appointment capacity at each clinic will be maintained by the local clinic.

* A clinic administrator should be able to update operating hours. This will allow the local clinic administrator to adjust hours that services are available.
* A clinic administrator should be able to update the types of services for appointments available.
* A clinic administrator should be able to create the amount of appointment slots available for any given time frame. This will allow the clinic administrator to adjust appointment slots based on staffing availability. This would allow them to have a different number of appointments during different times of the day based on staffing levels rather than a set number of appointments that is the same for each hour of the day.
* A clinic administrator should be able to update the number of appointments available for the types of services within the designated appointment slots.
* A clinic administrator should be able to create appointment slots that are available only to clinic users, not available to the public users. This will allow a clinic user to schedule walk in appointments that can be accommodated by request if inventory is available.

Clinic Cancellation

Periodically a clinic would need to cancel appointments. This will allow the clinic to cancel appointments due to unforeseen circumstances and notify the patients of the cancellations and allow the patient to reschedule. If a patient does not show for an appointment by the end of the business day, a clinician would want to close out the appointments by cancelling the appointment and the system would notify the patient their appointment was cancelled due to not attending.

* A clinic user should be able to cancel appointments if a patient does not show up for their appointment. This will allow the patient to be notified that their appointment was cancelled because they did not show up for their appointment. After their appointment is cancelled, they would be able to register for that service again for a future time.
* The system should automatically cancel appointments at a set time each night if the appointment was never checked in and send notification to the patient at the start of business hours the next morning, to not send notifications during the night. This will allow a clinic to cancel appointments without manually cleaning up appointments that did not check in.
* The system should allow custom messages to be created for cancellations based on why the appointment is being cancelled.
* The appointment status should also be updated appropriately indicating the appointment was cancelled because the patient did not attend.
* The clinic administrator should be able to cancel all or some appointments for a specified duration or service if necessary. This will notify the patient via text or email, as indicated on their registration, that the clinic has had to cancel the appointment and the patient should reschedule if appropriate. If the appointment is cancelled because it can’t be rescheduled, a reschedule link should not be sent.
* The clinic administrator should be able to cancel all or some appointments for a specified duration if necessary and reschedule them for another appointment. The system will notify the patient via text or email, as indicated on their registration, that the clinic has had to cancel their appointment and has rescheduled their appointment, with the new appointment information.
* The appointment status should also be updated appropriately indicating the appointment was cancelled due to unforeseen circumstances.
* The notification should also include a link to reschedule the appointment without having to search or re-enter search criteria or patient demographic information.
* The system should be able to send an automated phone call to users who have provided a phone number that do not accept text messages.

## Billing

Billing of the services will include submitting the claims to a clearinghouse to be filed with the insurance companies and receiving the payment from the insurance companies. If a claim is rejected by the clearinghouse or insurance company or if a claim is denied by the insurance company it will be reviewed, reworked, and resubmitted to the clearinghouse. When payment notification is received, the payment information will be posted to the claims and any differences will be reconciled by the Billing Agents. The process diagram for billing is located in Appendix A.

Receive Completed Service(s)

Once the services are complete, the appointment is available for billing.

* The system should mark the record ready for billing.
* The system should have a queue to review completed services that are ready for billing.
* The system should have a billing status for the service record. This will allow the billing team to track status throughout the lifecycle. The status should be able to be updated by a Billing Agent manually when necessary.

Review Claim Detail

Reviewing the claim detail will allow the billing team to view the claim for completeness prior to transmitting the claim for submission to the clearinghouse. The Claims Agent will review the encounters to prepare them for transmission to the clearinghouse.

* The system should have a view that allows a Claims Agent to review claim detail. This will allow the Claims Agent to filter and sort claims to review them.
* The system should have the ability to assign a claim to a Claims Agent. This will allow the billing group to know which Claims Agent is working the claim.
* The system should have the ability to change the assigned Claims Agent. This will allow a user to change who is responsible for working the claim.
* The system should identify claims that are missing specific fields for the Claims Agent to review. This will allow a Claims Agent to more quickly work claims that are missing information such as date of birth, insurance information, etc.
* The Claims Agent should be able to update specific fields for completeness and corrections.
* The system should have a section to document notes on the claim that would be timestamp when a note is entered.
* The system should have a way to message a system user regarding the claim. This will allow the Claims Agent to document changes necessary to file a claim.
* The system should have an audit log of changes made to values for tracking purposes.

Prepare to Transmit

Once a claim is reviewed by a Claims Agent and changed the status to indicate that it is ready to be transmitted, the claim must be transmitted to the clearinghouse to be filed with insurance companies.

* The system should have a status that the Claims Agent will set to indicate the claim is ready to transmit to the clearinghouse.

Transmit to Clearinghouse

Claims are electronically transmitted to the clearinghouse for scrubbing and submission to the insurance companies.

* The system will pull all records that are in a status indicating they are ready to be transmitted and transmit them to the clearinghouse.
* The system will allow for a report from the clearinghouse to determine if all submitted claims were received by the clearinghouse.

Review Rejection

A claim can be rejected by the clearinghouse or the insurance company. IDOH will be notified electronically from the clearinghouse. The Claims Agent would review a claim that is rejected and work to complete/correct it for resubmission.

* The system should be able to receive notification from the clearinghouse or insurance company when a claim is rejected.
* The system should update the status of the claim indicating it has been rejected.
* The system should have a view for the Claims Agent to review claims that have been rejected by the clearinghouse or insurance company.
* The Claims Agent should be able to update specific fields for completeness and corrections.
* The system should have a section to document notes on the claim that would be timestamp when a note is entered.
* The system should have a way to message a system user regarding the claim. This will allow the Claims Agent to document changes necessary to file a claim.
* The Claims Agent should be able to update the status of the claim to indicate it is ready to be transmitted to the clearinghouse for processing.
* The system should have an audit log of changes made to values for tracking purposes.

Review Denied Claim

If a claim is denied by the insurance company, the Claims Agent would follow up on the claim to work to get it processed.

* The system should be able to receive notification from the insurance company when a claim is denied.
* The system should update the status of the claim indicating it has been denied.
* The system should have a view for the Claims Agent to review claims that have been denied by the insurance company.
* The Claims Agent should be able to update specific fields for completeness and corrections.
* The system should have a section to document notes on the claim that would be timestamp when a note is entered.
* The system should have a way to message a system user regarding the claim. This will allow the Claims Agent to document changes necessary to file a claim.
* The Claims Agent should be able to update the status of the claim to indicate it is ready to be transmitted to the clearinghouse for processing.
* The system should have an audit log of changes made to values for tracking purposes.

Receive Payment Notification

The insurance company would provide payment, electronically. IDOH will be notified electronically when the payment is made.

* The system should be able to receive notification through an electronic file from the insurance company that payment has been made by receiving an ERA, Electronic Remittance Advice, file.
* The system should be able to accept a file uploaded by a Claims Agent of payment from the insurance company that payment has been made.

Post Payment

When the payment file is received or retrieved from the insurance company, the payments need to be posted against the claims.

* The system should have a way for a Claims Agent to process the ERA file for posting. This will update payment information such as amount paid, co-insurance due, etc.

# General Application Requirements

## Security Management

Role-based permissions provides a method of controlling access to a system based on the roles of the user. The access is the permission the user has to perform tasks. Roles define the required functions of a user position. With role-based permissions, an administrator is able to configure a number of components that create a definition of who has access to what in the system. A user could have multiple roles assigned to their permissions.

User/role Management

* Public User – A public user will use the web interface to create, change or update appointments and retrieve their own records. Access Indiana accounts will be required to access the system.
* Clinic User – A clinic user will use the system to check patient into appointments, schedule and reschedule appointments. The clinic user should not have access to medical records of the patients.
* Help Desk Agent – A help desk agent will be able to use the system to assist public users to schedule appointments on their behalf.
* Vaccine Administrator – A vaccine administrator will be able to access patient information, verify the patient, confirm consent, and document the vaccine. The vaccine administrator should not have access to specific test result records of the patients.
* Testing Administrator – A testing administrator will be able to access patient information, verify the patient, confirm consent, document the test, and test results if the test is done in the clinic. The testing administrator should not have access to prior test result records of the patients.
* Clinic Administrator – A clinic administrator will be able to manage clinics, adjust clinic operating hours, enter and update the number of appointments available to the public, and appointments available only to clinic users for scheduling. The clinic administrator would also have access to test results to provide to patients if necessary and allowed. Some test result types would not be visible to users, the patient would need to call a specific phone number to get their results. A clinic administrator would be able to add users to the clinics they administer. The clinic administrator should be able to add users such as clinic user, vaccine administrator and testing administrator.
* Claims Agent – A claims agent will be able to work claims by reviewing and updating specific fields as necessary for submitting the claim. A claims agent will have a workload and a claim will be assigned to the claims agent. The claims agent should have view access to medical records, excluding test results, to be able to provide documentation as required by insurance companies.
* Claims Administrator – A claims administrator will be able to access specific reporting and dashboard capabilities to manage claims. A claims administrator will be able to make updates to tables and manage the billing components of the application.
* System Administrator – A system administrator will be able to make updates to tables and manage the application.
* Reporting Administrator – A reporting administrator will be able to create reports in the application.
* Reporting permission – As reports are defined, they will be identified as to what role or user should have access.

Audit Capabilities

The system should have the capability to track access behind the scenes for audit capabilities. This will allow IDOH to track who accesses or changes information for security tracking purposes.

Mobile Application Access

The system should have an interface for a mobile application available in Apple’s App Store and Google’s Google Play. This will allow users to use an app on their phone, rather than a browser.

Billing Document Repository

The system should have the ability to have scanned documents. This will allow for scanned copies of paper documents to be stored electronically for research and retention. The scanned documents should be accessible from the claim.

## Eligibility Management

Eligibility management plays a vital role in the application. It will determine which services a patient is eligible to receive. The eligibility questions will be configurable and maintained by the System Administrator to reduce the amount of support required from a developer to make update to the application.

* The System Administrator should be able to update the eligibility questions as necessary to ensure a registrant is offered the appropriate services.
* The eligibility questions should have effective dates. This will allow the System Administrator to update questions with effective dates when a service is available.
* The system will have logic configured by the System Administrator to define the services available based on the answers to the questions. For example, if there is a yes/no answer, the System Administrator will define whether yes or no excludes the person from eligibility for the service.

## Configuration Management

The ability to utilize configuration management in the application is critical to a successful tool. The tool must have configurable items to allow IDOH to quickly make updates to accommodate events without being delayed by required programming changes.

* The system should have well configured models, meaning that system administrators can implement simple changes through configuration management. The system administrator or claims administrator need to be able to define or update a service that is offered. A service would contain the following types of properties:
  + What are the eligibility questions for the service and what answers would make them eligible?
  + What are the effective dates of the service?
  + What is the CPT code for the service to be billed?
  + Does the system track the inventory or does is it tracked in another system?
  + What is the category of the service? This is a high-level category which will be defined by the System Administrator (for example, Lead, HIV/STD, COVID).
  + Is there a follow up needed for the service?
    - What is it?
    - When is it required?
  + Is it an immunization or a test?
    - If an immunization, is it a regular series or booster?
    - If it’s a test, is it a rapid test or lab test?
      * Are results to be entered manually?
      * Are results to be displayed in the application?
    - What was the funding source?
* The system administrator needs to be able to add clinic sites.
  + The system administrator needs to be able to define the clinic administrator(s).
  + The system administrator needs to be able to manage the addresses and properties of clinics.
  + The system administrator needs to be able to manage parent/child relationships for satellite clinics.
  + The system administrator needs to be able to add, change or delete security roles, permissions, and properties as necessary.
  + The system administrator needs to be able to add new fields as necessary.

## Interface Management

There are existing systems that the system will be required to interface. The known interfaces are included below.

* Access Indiana – Access Indiana is a portal that allows citizens to use one login and one password (single sign-on) to access multiple services from the State of Indiana
* CHIRP - CHIRP (Children & Hoosier Immunization Registry Program) is a secure web-based application that is administered by the Indiana State Health Department and provides a database for immunizations.
* Careware – Careware is a (Health Resources & Services Administration) HRSA-supported software can be used to manage HIV/AIDS care service data and submit the Ryan White HIV/AIDS Program Services Report (RSR).
* Lead Data Flow (LDF) database – LDF is a system that receives all blood lead results reported to IDOH and provides information for federal reporting.
* LimsNet - LimsNet is the IDOH Lab’s web-based submission system that allows sample submitters to enter data electronically rather than on paper forms and receive lab results electronically and in real-time.
* NEDSS Base System (NBS) - NBS is an electronic disease reporting and case management platform supported by the Centers for Disease Control and Prevention.
* Outreach Supplies - Outreach Supplies is a state funded supply warehouse to supply funded agencies with HIV/STD/HEP testing and educational materials. This system currently keeps track of inventory and allows agencies to reorder supplies as necessary.

## Inventory Management

IDOH has inventory systems in place for HIV/STD and Immunizations. Lead and Healthy Homes does not have a current inventory system. The system will be able to integrate with the existing inventory systems and will be the inventory system for any participating programs that do not have an inventory system. When a test or vaccine is administered (if the configuration for that service linked it to inventory), the clinic user will document the item and the inventory will be updated accordingly in this system and other systems, as necessary.

* The system should be able to integrate with the existing inventory systems. This would include getting the inventory from the system and sending updates back to the systems.
* The system should be able to track inventory of tests and immunizations.
* The system should be able to maintain inventory for the Lead and Healthy Homes group. This will serve as the inventory system for them as their inventory is not maintained in another system.
* The system should be able to flag a service if inventory is required to have the service available for an appointment. This flag should be set by the system administrator when the service is entered into the system. The flag should be updatable by the system administrator as necessary.
* The system should have inventory linked to a provider or facility. This will allow the provider or facility to use the inventory at their satellite locations.
* The system should allow a clinician to select an inventory item when administering a test or immunization. This will reduce the amount of manual entry required for documenting an immunization or test. This will also reduce the errors that made when manually entering an immunization or test information.
* The system should have a way to scan information from the packaging to update the inventory. The scanned information could contain field such as manufacturer, lot number, expiration date, etc.
* The system should have a way to document when an inventory item has to be discarded for wastage.
* The system should have a way to document and track inventory expiration and other related attributes.
* The system should have a way to track who provided the inventory item. This will allow growth of the system to inventory items at a clinic that are not provided by IDOH.
* The system should have a way to track who funded the inventory item. This will allow tracking of how the item was funded, such as state, federal or a specific program.
* The system should be able to log expected inventory, with an expected date. This will allow the system to have appointments available (if the service is tied to inventory) for inventory that is expected to arrive on a specific date.
* The system should have a receive date for inventory. This will allow the system to have appointments available (if the service is tied to inventory) for inventory that has been received and allow for tracking of inventory.
* The system should have an expiration date for inventory. This will prohibit the system from having appointment available (if the service is tied to inventory) for expired inventory.

## Reporting Management

Standard Reporting

The system should have a set of standard reports available to users. This will allow a user to monitor operations through standardized reporting and allow public users to received post visit summaries and documentation.

* **General Overall Reporting Needs**
  + The user should be able to enter a beginning and ending date to define the date reporting period they want to view.
  + The user should be able to define one or more locations they want to view. This could be by site, county, district, region, patient demographics such as zip code or address, etc.
  + The user should be able to define one or more services they want to view. This could be by any available service offered in the system.
  + The user should be able to define the funding source they want to view.
  + The user should be able to define the billing attributes they want to view. (CPT, ICD code)
  + The user should be able to have a view of all service by a high-level category if desired. For example, they may be interested in reviewing the number of vaccinations and tests given for COVID within a given timeframe which could be further broken down by additional vaccination and test data elements.
  + The user should be able to define the parameters they want to view. This will allow a standard available report to be customized to the user’s specifications.
  + The user should be able to select a category they want to view. This will allow for the user to view items related to a category.
  + Access to reporting should be controlled based on roles. This will allow for authorized users to access necessary reports and limit access to all users.
* **Immunizations –** These reports would be available to both IDOH and individual clinics. The clinic report would only show information for the specific clinic and any clinics associated with the parent clinic.
  + *Inventory* – A report to track inventory of available immunizations by both high-level category and type. This report should include a summary of each site and a total for all sites by type. The report should include lot number and the system should be searchable by lot number.
  + *Doses Administered* – A report to track the number of doses of an immunization both by high-level category and by type that have been administered. This report should include each immunization by type at each site and a total for all sites.
  + *Doses Wasted* – A report to track the number of doses wasted of an immunization both by high-level category and type. This report should include each immunization by type at each site and total for all sites.
  + *Number of Appointments Available* – A report to track the number of appointments both by high-level category and by type that are available. This report should include the total of appointments by type that are available at each site and total of appointments by type that are available at all sites.
  + *Number of Appointments Scheduled* – A report to track the number of appointments both by high-level category and by type that are scheduled. This report should include the total of appointments by type that are scheduled at each site and a total of appointments by type that are scheduled at all sites.
  + *Scheduled Appointments Completed* – A report to track the number of scheduled appointments both by high-level category and by type against the number of scheduled appointments by type that were completed. This report should include the total of appointments by type scheduled against the total number of appointments by type completed at each site and a total of all scheduled appointments by type at all sites against the total number of appointments by type completed at all sites.
  + *Appointments not Checked Out* – A report to track appointments that haven’t been checked out that would prohibit the appointment to be marked completed and submitted to billing.
* **Testing –** These reports would be available to both IDOH and individual clinics. The clinic report would only show information for the specific clinic and any clinics associated with the parent clinic.
  + *Inventory* – A report to track inventory of available test kits both by high-level category and by type. This report should include a summary of each site and a total for the entire state.
  + *Tests Administered* – A report to track the number of tests both by high-level category and by type that have been administered. This report should include each test by type at each site and a total for all sites.
  + *Tests Wasted* – A report to track the number of tests wasted of test both by high-level category and type. This report should include each test by type at each site and total for all sites.
  + *Number of Appointments Available* – A report to track the number of appointments both by high-level category and by type that are available. This report should include the total of appointments by type that are available at each site and total of appointments by type that are available at all sites.
  + *Number of Appointments Scheduled* – A report to track the number of appointments both by high-level category and by type that are scheduled. This report should include the total of appointments by type that are scheduled at each site and a total of appointments by type that are scheduled at all sites.
  + *Scheduled Appointments Completed* – A report to track the number of scheduled appointments both by high-level category and by type against the number of scheduled appointments by type that were completed. This report should include the total of appointments by type scheduled against the total number of appointments by type completed at each site and a total of all scheduled appointments by type at all sites against the total number of appointments by type completed at all sites.
  + *Appointments not Checked Out* – A report to track appointments that haven’t been checked out that would prohibit the appointment to be marked completed and submitted to billing.
* **Billing**
  + Accounts Receivable – These reports or views will assist the billing group in monitoring claims for payment.
    - *Days in AR* – A view of all unpaid claims (more of a dashboard to show what stage of process)
    - *Aging Claims* – A view of the unpaid claims that are in a predetermined days lapsed (0-30, 31-60, 61-90, etc.)
    - *Incomplete Claims* – A view to allow users to monitor claims that are missing specific demographic information preventing the claim from being filed.
    - *Claims not billed* – A view of claims that haven’t been submitted to the clearinghouse.
    - *Claims submitted but not received by clearinghouse* – A view of claims that were submitted to the clearinghouse but not received by the clearinghouse.
    - *Services that haven’t been submitted for billing* – A view of services that have been completed, but not submitted to the billing group for submission to insurance.
  + Rejections – These reports will allow the billing group to monitor claims that have been rejected by the clearinghouse or insurance
    - *Rate of rejection* – A view of the rate of rejection for claims for the given time period by clinic, provider, insurance carrier, etc., to show the percentage of claims that are rejected. This will allow the user to view the rate of rejection levels over time.
    - *Reject reason* – A view that would allow users to monitor why claims are rejected, the reason code from the ERA file.
    - *Outstanding rejections* – A view that will allow user to monitor which claims have been rejected and still need to be worked.
  + Denials – These reports will allow the billing group to monitor claims that have been denied by the insurance company.
    - *Rate of denial* – A view of the rate of denials for claims for the given time period by clinic, provider, insurance carrier, etc., to show the percentage of claims that are denied. This will allow the user to view the rate of denial levels over time.
    - *Denial reason* – A view that would allow users to monitor why claims are denied, the reason code from the ERA file.
    - *Outstanding Denied Claims* – A view of denied claims that still need to be worked.
  + Adjustments – These reports will assist the billing group to adjust claims that have been filed with the insurance company but not fully paid by the insurance company due to copays, co-insurance, etc.
    - *Adjustments needed* – A view for claims that need to be adjusted because the insurance company hasn’t paid for a claim that has billable services that need to be adjusted to not charge the patient.
    - *Timely filing* – A view of claims that do not meet the requirements of timely filing from the ERA.
    - *Service Adjustments* – A view for claims that the insurance company didn’t pay, but the decision has been made not to charge a patient, such as working a strike team situation.
  + Workflow –
    - *Billing Agent View* – A view of the Billing Agent’s assigned claims. This will allow them to manage their workload.
    - *Assigned to* – A view of who unpaid claims is assigned. This will allow for workload assignment or reassignment for resource alignment.
    - *Workload* – A view of how many claims is assigned to each Claims Agent. This will allow for workload assignments

Operational Reporting

* **Patient Information**
  + *Post Visit Summary* – A report that can be physically printed in a clinic or sent to a patient summarizing the services received at an appointment. This report should include services received at an appointment and any future appointments scheduled. This report should include information about the services received, such as vaccine information sheets.
  + *Certification*/*Documentation* – A report that can be physically printed in a clinic or sent to a patient providing documentation or certification of a service received at an appointment. This report should be used as proof of immunization or testing and test results.
* **Labels**
  + *Testing Label* – A label that will by physically printed in a clinic to be attached to a test vessel to submit to a lab. This will allow demographic information to be affixed to the test vessel.

Dashboards

Dashboards provide visual representation of performance, the ability to identify trends, and provide insight to make informed decisions. IDOH needs the ability define dashboards, dependent on the information needs for each public health event.

Dashboards could include:

* Maps
* Infection Rates
* Vaccine Rates
* Test Rates/Results
* Billing
  + Billing Agent metrics/performance
  + Rates of billing rejection/acceptance/denied
  + Outstanding insurance payments

Ad Hoc Reporting

IDOH needs to be able to analyze data that may not be part of a standardized report. Ad hoc reporting will enable IDOH to quickly find answers to unique queries. The access to ad hoc reporting would be restricted and not accessible by everyone with access to the system. IDOH staff must have direct access to raw data and the ability to connect to and extract data through an API or other interface.

# APPENDIX A: Process Diagram

## Patient Registration

Diagram

Description automatically generated

## Clinic Experience

Diagram

Description automatically generated

## Billing

Diagram

Description automatically generated