

1. A) The System-as-is includes clinics supporting patients that are requiring or requesting COVID-19 vaccinations who are currently operating on a manual paper record system stored in large filing cabinets. This system runs on accepting walk-in patients which result in long wait times. The paper records make it difficult to share information across other participating clinics leading to inefficient patient support. Additionally, if the paper records end up getting damaged (ex. lost in a fire) there is no way to get the data back (assuming they never made copies).  
  
B) The System-to-be includes Clinics who will use the CoVax system which is a more automated version of their current manual paper record system. The system can be used in multiple places including hospitals, medical practices, community centres, or local pharmacies allowing multiple users to access the system at once and updated patient information to travel over almost instantly and effortlessly. The data will also (assumingly) be backed up so if any is lost or corrupted the data can be restored.  
  
C) The Software-to-be is the CoVax system software with functionality that includes maintaining information about patients and the vaccinations that they are required to or have received. This will automate the tasks that clinics usually do such as searching up patient history, logging new information (name, address, age, etc.), generating monthly management reports, or seeing patient medical conditions.
2.
  1. The system shall record information about patients including their name, address, age, allergies, past vaccinations, etc.
  2. The system shall generate reports at regular intervals for medical staff and health authority managers.
  3. The system shall allow the editing of current patient information.
  4. The system shall allow for clinicians to view patient history.
  5. The system shall generate data summaries for doctors who have not met new patients.
  6. The system shall alert users with warnings is there are problems detected in the records.
  7. The system shall run its checks automatically on a fixed period.
  8. The system will back-up its data whenever information is updated.
  9. The system shall be able to be access from sites that do not have secure network connectivity.
  10. The system shall allow users to download copies of patient records.
3. A)
  - i) The system should display the same information that is currently stored in the paper records and sorted/organized in a similar manner.
  - ii)The system should output a report able to be accessed in a text editor (word, notepad, etc.) or as a pdf.

- B)
  - i) The system/records should be able to be accessed from multiple devices at the same time.
  - ii) When a new patient record is created, the system should be updated so that all devices/clinics can see the new patient information.
- C)
  - i) The system should run on Windows and MacOS.
  - ii) The system should be able to run on mobile devices (such as Android and iOS tablets).
- D)
  - i) The system should comply with relevant laws on data protection that govern the confidentiality of personal information.
  - ii) The system should comply with health laws that govern vaccinations in a given jurisdiction.
- E)
  - i) The system must be ready as soon as possible.
  - ii) The budget for the development of this system is \$525, 000.

- 4.
  - 1. "Therefore, the system must be able to accommodate many simultaneous users."
    - vague, not measurable, how many simultaneous users?
  - 2. "CoVax aims to generate management information that allows health service managers to assess performance against local and government targets."
    - incomprehensible, Not clear what is intended here
  - 3. "Provide medical staff with timely information to support patient care."
    - ambiguous, what does timely mean?
  - 4. "Reports are generated at regular intervals for medical staff and health authority managers."
    - ambiguous, what are regular intervals?
  - 5. "Clinicians should be able to create records for patients, edit the information in the system, view patient vaccination history, and so on."
    - vague, what is meant by so on?
  - 6. "The system should issue warnings if possible problems in records are detected."
    - ambiguous, what is meant by possible problems?
  - 7. "These checks should be executed automatically on a fixed period."
    - vague, fixed period is not defined
  - 8. "The system should display this information in a simple, clean, and understandable form."
    - ambiguous, what is meant by simple, clean, and understandable?

9. "CoVax must comply with relevant laws on data protection that govern the confidentiality of personal information and health laws that govern vaccinations in a given jurisdiction."

-vague, what are the laws?

5.
  1. "Therefore, the system must be able to accommodate at least as many simultaneous users as there are devices with the system."
  2. "CoVax aims to generate management information that allows health service managers to match collected vaccination data to local government targets."
  3. "The medical staff will have access to information updated every 10 seconds for support patient care."
  4. "Reports are generated at the end of every month for medical staff and health authority managers."
  5. "Clinicians should be able to create records for patients, edit the information in the system, view patient vaccination history, be alerted of medical conditions, errors in reports, and download system report data."
  6. "The system should issue warnings if required patient information is not filled in or there is an error with previous vaccination records."
  7. "These checks should be executed whenever a patient record is accessed."
  8. "The system should display this information using a table with columns headed: number of patients vaccinated at each clinic, number of patients "at risk", vaccines offered, etc."
  9. "CoVax must comply with Canada's Personal Information Protection and Electronic Documents Act."