

Lab Assignment 2

1. The CoVax system will record and share patient information with participating clinics, generate medical and management reports, and have simultaneous multiple user access. The system will not however be able to pull health records from another source for a new patient. So, all new patients must have their information inputted manually.
2.
 - i) Patients – Patients (or customers) will require proper medical treatment which will be given through an informed medical staff using the CoVax system.
 - ii) Clinical Staff – Responsible for using the system in regards to viewing and updating the patient (medical) information.
 - iii) Administrative Staff – Responsible for vaccine appointment bookings, and viewing the medical and management reports for analysis.
 - iv) Clinic Supervisor – Concerned with setting up clinics and getting customers to take vaccines at their clinics with a positive experience.
 - v) Public Health Agency of Canada – regulator for vaccine laws and supply, laws surrounding vaccine clinics and patient’s rights to receive medical care.
3.
 - i) Clinical staff want to update patient medical information as patient is allergic to the contents of a vaccine.
 - ii) Patient arrives for an appointment and receives a new vaccine.
 - iii) Administration staff want to generate patient medical report for clinical staff.
 - iv) Administration staff want to generate management report for clinic supervisor
 - v) Administration staff want to change a vaccine appointment.
4.
 - i) Health and Safety Viewpoint – relates to cleanliness of clinic and vaccine practices.
 - ii) Patient Viewpoint – Will feel how efficient the system is based on how fast they can get in and out of the clinic with everything they need.
 - iii) Administration Staff Viewpoint – How easy and effective is it to collect medical/management reports, book vaccine appointments, and remove any inconsistencies in the data.
 - iv) User Interface Viewpoint – stakeholders will have an opinion on how easy the system is to use and looks.
 - v) Clinic supervisor Viewpoint – How effective is the system in generating detailed management reports.
5. **Terminology Clash** – Clinical staff member says patient “charts” while Administration Staff called them patient “records”.
Designation Clash – Clinical staff member interpreted “at risk” as patients who have a medical condition that **requires** them to receive certain vaccines. While Administration Staff interpreted “at risk” as patients who have a special medical condition or allergy that **prevents** them from receiving certain vaccine.
Structure Clash – In patient reports, Clinical staff member refers to past patient vaccines in “units” (U), while Administration Staff refers to them in “ELISA units” (EL. U.).

Strong Conflict – Clinical staff member expect to access patient records from sites that “do not have secure network connectivity”, while Administration Staff require “secure network connectivity” to access patient records and generate reports.

Weak Conflict –Clinical staff member refers to clinic visit time as “any time of the day”, while Administration Staff refers to visiting as “during operating hours” where some are 24/7 and others are not.

6.

Statement	S1	S2	S3	S4	S5
S1	0	1000	1000	1000	1
S2	1000	0	1000	0	0
S3	1000	1000	0	0	0
S4	1000	0	0	0	0
S5	1	0	0	0	0
Total	3001	2000	2000	1000	1
# of Conflicts	1	0	0	0	1
# of non-conflicting overlaps	3	2	2	1	0

7.

Value Comparison Matrix:

value	R1	R2	R3	R4	R5
R1	1	3	7	9	5
R2	1/3	1	5	7	3
R3	1/7	1/5	1	3	1/3
R4	1/9	1/7	1/3	1	1/5
R5	1/5	1/3	3	5	1

Normalized Value Comparison Matrix:

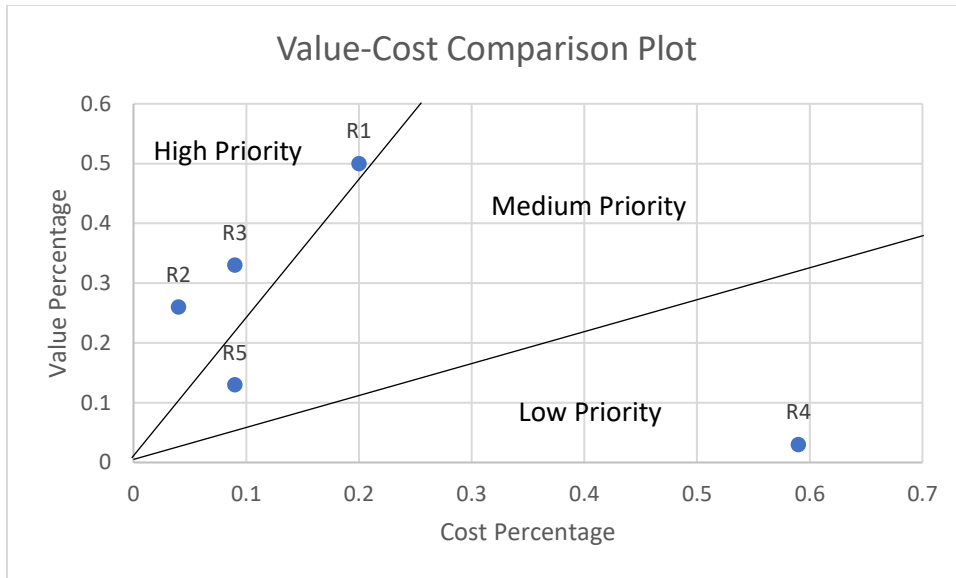
value	R1	R2	R3	R4	R5	Relative value
R1	0.56	0.64	0.43	0.36	0.52	0.50
R2	0.19	0.21	0.31	0.28	0.31	0.26
R3	0.08	0.04	0.06	0.12	0.03	0.33
R4	0.06	0.03	0.02	0.04	0.02	0.03
R5	0.11	0.07	0.18	0.2	0.10	0.13

Cost Comparison Matrix:

cost	R1	R2	R3	R4	R5
R1	1	5	3	1/5	3
R2	1/5	1	1/3	1/9	1/3
R3	1/3	3	1	1/7	1
R4	5	9	7	1	7
R5	1/3	3	1	1/7	1

Normalized Cost Comparison Matrix:

cost	R1	R2	R3	R4	R5	Relative Cost
R1	0.15	0.24	0.24	0.13	0.24	0.20
R2	0.03	0.05	0.03	0.07	0.03	0.04
R3	0.05	0.14	0.08	0.09	0.08	0.09
R4	0.73	0.43	0.57	0.63	0.57	0.59
R5	0.05	0.14	0.08	0.09	0.08	0.09

Value-Cost Comparison Plot:

Based on the results, R1, R2, and R3 should be implemented.

8.

Risk-Consequence Table:

Obj.\Risk	Security breach for patient information (L=0.1)	System crashes (L=0.4)	Run out of vaccines (L=0.2)	Patient records are lost (L=0.3)	Loss of Obj.
Vaccine appointments are completed within a reasonable time frame (W=0.2)	0.00	0.50	1.00	0.80	0.13
Patients are (medically) safe (W=0.5)	0.90	0.30	0.00	0.70	0.21

Management reports give detailed view of clinic activities (W=0.1)	0.00	1.00	0.70	0.10	0.06
Simultaneous user access (W=0.2)	0.20	1.00	0.00	0.90	0.69
Risk Criticality	0.05	0.22	0.05	0.21	

Risk-Countermeasure Table:

CM\Risk	Security breach for patient information (L=0.1)	System crashes (L=0.4)	Run out of vaccines (L=0.2)	Patient records are lost (L=0.3)	Overall Effect
Encrypt database for patient information	1.00	0.00	0.00	0.00	0.05
Have paper records as back-up	0.2	0.90	0.00	0.10	0.23
Make appointment bookings based on vaccine supply	0.00	0.00	0.80	0.00	0.04
Backup data so it can be recovered	0.30	0.00	0.00	1.00	0.23
Combined Risk Reduction	1.00	0.90	0.80	1.00	