Vaccination Distribution Project

Assumptions

- We assume the person is a Quebec resident and is interested in taking the vaccination.
- We assume that vaccine location can be any place with nurses associated.
- We assume that the waiting period between multiple doses of the same vaccine brand will be the same.
- We assume the nurses recorded in our system are registered nurses.
- We assume the nurses will not switch job/employers/quit/get fired, etc.

Pending Constraints:

1. It is not specified that all the vaccine doses a person receives is from same company, so we assume it's true. 2. There is no way to make sure the person receives the number of vaccine he needs, we assume each person get max 2 doses. 3. It is not showing how many vaccine does are used up. 4. We constraint the expiration date of vaccine is after manufacture date. 5. We constraint that a person's register date must be before the date he is assigned a slot. 6. Each person is associated with the highest priority group he is in (only one group). 7. Nobody gets 2 doses of vaccine on one day. 8. The model can't enforce people wait enough of the waiting period between two dose.

Restrictions

- Each person can only be associated with one priority category, we only record the highest category the person is in.
- A nurse can be assigned to a slot that is at different location from where he/she works in.
- A nurse can only be assigned to one location everyday, he/she can be assigned to different location on different days. All slots associated with the nurse will be at same place for one day.
- A person will register the slot of each vaccine separately, not at the same time.
- Each vaccine location has max number of people it can take, and number of vaccines it has. The number of vaccine administrated to people on one day would depend on the smaller factor.
- Participation constraint for nurse and Vaccine location, such that each vaccine location must have at least one nurse working in it.

It is possible to combine relations without redundancy.

Overlapping sub entity sets will lead to undesired redundancy, so we should avoid redundancies by not storing the same information more than once. Thus when combining relations we will just do table lookup as we insert, by doing that we avoid storing duplicate information therefore no redundancy.