**PROJECT**

**SQL grouping**

**Database schema:**

Diagram, schematic

Description automatically generated

**Problem Statement 1:**

The healthcare department wants a pharmacy report on the percentage of hospital-exclusive medicine prescribed in the year 2022.

Assist the healthcare department to view for each pharmacy, the pharmacy id, pharmacy name, total quantity of medicine prescribed in 2022, total quantity of hospital-exclusive medicine prescribed by the pharmacy in 2022, and the percentage of hospital-exclusive medicine to the total medicine prescribed in 2022.

Order the result in descending order of the percentage found.

SELECT pmc.pharmacyid, pmc.pharmacyname,

SUM(IF(m.hospitalexclusive='S',c.quantity,NULL)) AS 'total hospital exclusive prescibed qty 2022',

SUM(c.quantity) AS 'total prescribed qty 2022',

ROUND(SUM(IF(m.hospitalexclusive='S',c.quantity,NULL)) / SUM(c.quantity) \* 100,2) AS 'percentage'

FROM pharmacy pmc

INNER JOIN prescription psc USING(pharmacyid)

INNER JOIN treatment t USING(treatmentid)

INNER JOIN contain c USING(prescriptionid)

INNER JOIN medicine m USING(medicineid)

WHERE YEAR(t.date) = 2022

GROUP BY pmc.pharmacyid, pmc.pharmacyname

ORDER BY percentage DESC;

**Problem Statement 2:**

Sarah, from the healthcare department, has noticed many people do not claim insurance for their treatment. She has requested a state-wise report of the percentage of treatments that took place without claiming insurance. Assist Sarah by creating a report as per her requirement.

SELECT a.state,

COUNT(t.treatmentid) - COUNT(t.claimid) AS 'total unclaimed treatments',

COUNT(t.treatmentid) AS 'total treatments',

ROUND((COUNT(t.treatmentid) - COUNT(t.claimid)) / COUNT(t.treatmentid) \* 100 , 2) AS '% unclaimed'

FROM treatment t

INNER JOIN patient pnt USING(patientid)

INNER JOIN person psn ON pnt.patientid = psn.personid

INNER JOIN address a USING(addressid)

GROUP BY a.state

ORDER BY `% unclaimed` DESC;

**Problem Statement 3:**

Sarah, from the healthcare department, is trying to understand if some diseases are spreading in a particular region. Assist Sarah by creating a report which shows for each state, the number of the most and least treated diseases by the patients of that state in the year 2022.

WITH tmt\_cnt AS

(SELECT a.state, d.diseasename, COUNT(t.treatmentid) AS treatment\_cnt

FROM treatment t

INNER JOIN disease d USING(diseaseid)

INNER JOIN patient pnt USING(patientid)

INNER JOIN person psn ON pnt.patientid = psn.personid

INNER JOIN address a USING(addressid)

WHERE YEAR(t.date) = 2022

GROUP BY a.state, d.diseasename),

tmt\_cnt\_row\_num AS

(SELECT \*,

ROW\_NUMBER() OVER(PARTITION BY state ORDER BY treatment\_cnt) AS row\_num\_asc,

ROW\_NUMBER() OVER(PARTITION BY state ORDER BY treatment\_cnt DESC) AS row\_num\_desc

FROM tmt\_cnt

)

SELECT state, diseasename, treatment\_cnt

FROM tmt\_cnt\_row\_num

WHERE row\_num\_asc = 1 OR row\_num\_desc = 1

ORDER BY state, treatment\_cnt;

**Problem Statement 4:**

Manish, from the healthcare department, wants to know how many registered people are registered as patients as well, in each city. Generate a report that shows each city that has 10 or more registered people belonging to it and the number of patients from that city as well as the percentage of the patient with respect to the registered people.

SELECT a.city,

COUNT(pnt.patientid) AS 'patient count',

COUNT(psn.personid) AS 'person count',

ROUND(COUNT(pnt.patientid) / COUNT(psn.personid) \* 100,2) AS '%'

FROM person psn

INNER JOIN address a USING(addressid)

LEFT JOIN patient pnt ON psn.personid = pnt.patientid

GROUP BY a.city

HAVING `person count` >= 10

ORDER BY `%` DESC;

**Problem Statement 5:**

It is suspected by healthcare research department that the substance “ranitidine” might be causing some side effects. Find the top 3 companies using the substance in their medicine so that they can be informed about it.

SELECT companyname, COUNT(medicineid) AS 'medicines with ranitidina'

FROM medicine

WHERE substancename = 'ranitidina'

GROUP BY companyname

ORDER BY `medicines with ranitidina` DESC

LIMIT 3;