### check how many patients has upper LG in ED? → **3147**

sql:

with bleeding\_patient as (

select subject\_id, icd\_version, icd\_code

from **mimic\_ed.diagnosis**

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

-- ICD 10 codes for upper gastrointestinal bleeding

lower(icd\_code) like('k920%') or

lower(icd\_code) like('k921%') or

lower(icd\_code) like('i850%') or

lower(icd\_code) like('i9820%') or

lower(icd\_code) like('i983%') or

lower(icd\_code) like('k2210%') or

lower(icd\_code) like('k2212%') or

lower(icd\_code) like('k2214%') or

lower(icd\_code) like('k2216%') or

lower(icd\_code) like('k250%') or

lower(icd\_code) like('k252%') or

lower(icd\_code) like('k254%') or

lower(icd\_code) like('k256%') or

lower(icd\_code) like('k260%') or

lower(icd\_code) like('k262%') or

lower(icd\_code) like('k264%') or

lower(icd\_code) like('k266%') or

lower(icd\_code) like('k270%') or

lower(icd\_code) like('k272%') or

lower(icd\_code) like('k274%') or

lower(icd\_code) like('k276%') or

lower(icd\_code) like('k280%') or

lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

)

select count(distinct subject\_id)

from bleeding\_patient

### get UpGI patients’ 1st vital signs from ED

with bleeding\_patient as (

select subject\_id, stay\_id, icd\_version, icd\_code

from mimic\_ed.diagnosis

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

-- ICD 10 codes for upper gastrointestinal bleeding

lower(icd\_code) like('k920%') or

lower(icd\_code) like('k921%') or

lower(icd\_code) like('i850%') or

lower(icd\_code) like('i9820%') or

lower(icd\_code) like('i983%') or

lower(icd\_code) like('k2210%') or

lower(icd\_code) like('k2212%') or

lower(icd\_code) like('k2214%') or

lower(icd\_code) like('k2216%') or

lower(icd\_code) like('k250%') or

lower(icd\_code) like('k252%') or

lower(icd\_code) like('k254%') or

lower(icd\_code) like('k256%') or

lower(icd\_code) like('k260%') or

lower(icd\_code) like('k262%') or

lower(icd\_code) like('k264%') or

lower(icd\_code) like('k266%') or

lower(icd\_code) like('k270%') or

lower(icd\_code) like('k272%') or

lower(icd\_code) like('k274%') or

lower(icd\_code) like('k276%') or

lower(icd\_code) like('k280%') or

lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

)

select a.\* from mimic\_ed.triage a

inner join bleeding\_patient b on a.subject\_id = b.subject\_id and a.stay\_id =b.stay\_id

### 

### get UpGI patients’ vital signs from ED

with bleeding\_patient as (

select subject\_id, stay\_id, icd\_version, icd\_code

from mimic\_ed.diagnosis

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

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lower(icd\_code) like('k266%') or

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lower(icd\_code) like('k272%') or

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lower(icd\_code) like('k276%') or

lower(icd\_code) like('k280%') or

lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

)

select a.\* from mimic\_ed.vitalsign a

inner join bleeding\_patient b on a.subject\_id = b.subject\_id and a.stay\_id =b.stay\_id

### ED UpGI patient historical medicine

with bleeding\_patient as (

select subject\_id, stay\_id, icd\_version, icd\_code

from mimic\_ed.diagnosis

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

-- ICD 10 codes for upper gastrointestinal bleeding

lower(icd\_code) like('k920%') or

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lower(icd\_code) like('k2214%') or

lower(icd\_code) like('k2216%') or

lower(icd\_code) like('k250%') or

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lower(icd\_code) like('k256%') or

lower(icd\_code) like('k260%') or

lower(icd\_code) like('k262%') or

lower(icd\_code) like('k264%') or

lower(icd\_code) like('k266%') or

lower(icd\_code) like('k270%') or

lower(icd\_code) like('k272%') or

lower(icd\_code) like('k274%') or

lower(icd\_code) like('k276%') or

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lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

)

select a.\* from mimic\_ed.pyxis a

inner join bleeding\_patient b on a.subject\_id = b.subject\_id and a.stay\_id =b.stay\_id

### ED UpGI patient - medicine in ED

with bleeding\_patient as (

select subject\_id, stay\_id, icd\_version, icd\_code

from mimic\_ed.diagnosis

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

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lower(icd\_code) like('k2212%') or

lower(icd\_code) like('k2214%') or

lower(icd\_code) like('k2216%') or

lower(icd\_code) like('k250%') or

lower(icd\_code) like('k252%') or

lower(icd\_code) like('k254%') or

lower(icd\_code) like('k256%') or

lower(icd\_code) like('k260%') or

lower(icd\_code) like('k262%') or

lower(icd\_code) like('k264%') or

lower(icd\_code) like('k266%') or

lower(icd\_code) like('k270%') or

lower(icd\_code) like('k272%') or

lower(icd\_code) like('k274%') or

lower(icd\_code) like('k276%') or

lower(icd\_code) like('k280%') or

lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

)

select a.\* from mimic\_ed.medrecon a

inner join bleeding\_patient b on a.subject\_id = b.subject\_id and a.stay\_id =b.stay\_id

### 5 ED UpGI patient historical disease - recorded in ED

### 

### 6 ED UpGI patient 1st vital signs

select a.\* from **mimic\_ed.triage** a

inner join bleeding\_patient b on a.subject\_id = b.subject\_id and a.stay\_id =b.stay\_id

### 7. calculate age based on admission (including non UPGI patients)

SELECT

ad.subject\_id

, ad.hadm\_id

, ad.admittime

, pa.anchor\_age

, pa.anchor\_year

--, DATETIME\_DIFF(ad.admittime, DATETIME(pa.anchor\_year, 1, 1, 0, 0, 0), YEAR) + pa.anchor\_age AS age

FROM mimiciv\_hosp.admissions ad

INNER JOIN mimiciv\_hosp.patients pa

ON ad.subject\_id = pa.subject\_id

;

### 8 icu details - whether first ICU, dod

SELECT ie.subject\_id, ie.hadm\_id, ie.stay\_id

-- patient level factors

, pat.gender, pat.dod

-- hospital level factors

, adm.admittime, adm.dischtime

, DATETIME\_DIFF(adm.dischtime, adm.admittime, DAY) as los\_hospital

, DATETIME\_DIFF(adm.admittime, DATETIME(pat.anchor\_year, 1, 1, 0, 0, 0), YEAR) + pat.anchor\_age as admission\_age

, adm.race

, adm.hospital\_expire\_flag

, DENSE\_RANK() OVER (PARTITION BY adm.subject\_id ORDER BY adm.admittime) AS hospstay\_seq

, CASE

WHEN DENSE\_RANK() OVER (PARTITION BY adm.subject\_id ORDER BY adm.admittime) = 1 THEN True

ELSE False END AS first\_hosp\_stay

-- icu level factors

, ie.intime as icu\_intime, ie.outtime as icu\_outtime

, ROUND(CAST(DATETIME\_DIFF(ie.outtime, ie.intime, HOUR)/24.0 AS NUMERIC), 2) as los\_icu

, DENSE\_RANK() OVER (PARTITION BY ie.hadm\_id ORDER BY ie.intime) AS icustay\_seq

-- first ICU stay \*for the current hospitalization\*

, CASE

WHEN DENSE\_RANK() OVER (PARTITION BY ie.hadm\_id ORDER BY ie.intime) = 1 THEN True

ELSE False END AS first\_icu\_stay

FROM mimiciv\_icu.icustays ie

INNER JOIN mimiciv\_hosp.admissionsadm

ON ie.hadm\_id = adm.hadm\_id

INNER JOIN mimiciv\_hosp.patients pat

ON ie.subject\_id = pat.subject\_id

9. ED UpGI Como

### 10. Hops- Upgi Commordity

with bleeding\_patient as (

select subject\_id, hadm\_id, icd\_version, icd\_code

from mimiciv\_hosp.diagnoses\_icd

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

-- ICD 10 codes for upper gastrointestinal bleeding

lower(icd\_code) like('k920%') or

lower(icd\_code) like('k921%') or

lower(icd\_code) like('i850%') or

lower(icd\_code) like('i9820%') or

lower(icd\_code) like('i983%') or

lower(icd\_code) like('k2210%') or

lower(icd\_code) like('k2212%') or

lower(icd\_code) like('k2214%') or

lower(icd\_code) like('k2216%') or

lower(icd\_code) like('k250%') or

lower(icd\_code) like('k252%') or

lower(icd\_code) like('k254%') or

lower(icd\_code) like('k256%') or

lower(icd\_code) like('k260%') or

lower(icd\_code) like('k262%') or

lower(icd\_code) like('k264%') or

lower(icd\_code) like('k266%') or

lower(icd\_code) like('k270%') or

lower(icd\_code) like('k272%') or

lower(icd\_code) like('k274%') or

lower(icd\_code) like('k276%') or

lower(icd\_code) like('k280%') or

lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

),

patinet as (

select distinct subject\_id, hadm\_id

from bleeding\_patient

),

comorbidity as (

select a.subject\_id, a.hadm\_id,

case when icd\_version = 9 and (icd\_code like '42731%') then 'Yes'

when icd\_version = 10 and (icd\_code like 'I48%')then 'Yes'

end as Atrial\_Fibrillation,

case when icd\_version = 9 and (icd\_code like '433%' or icd\_code like '434%' or icd\_code like '436%') then 'Yes'

when icd\_version = 10 and (icd\_code like 'I63%' or icd\_code like 'I64%') then 'Yes'

end as Ischemic\_Stroke,

case when icd\_version = 9 and icd\_code like '435%' then 'Yes'

when icd\_version = 10 and icd\_code like 'G45%' then 'Yes'

end as Trsnsient\_ischemic\_attack,

case when icd\_version = 9 and icd\_code like '4402%' then 'Yes'

when icd\_version = 10 and (icd\_code like 'I702%' or icd\_code like 'I703%'or icd\_code like 'I704%' or icd\_code like 'I705%' or icd\_code like 'I706%' or icd\_code like 'I707%' or icd\_code like 'I708%' or icd\_code like 'I709%' or icd\_code like 'I71%' or icd\_code like 'I739%') then 'Yes'

end as Peripheral\_Arterial\_Occusive,

case when icd\_version = 9 and (icd\_code like '410%' or icd\_code like '411%' or icd\_code like '412%' ) then 'Yes'

when icd\_version = 10 and (icd\_code like 'I21%' or icd\_code like 'I22%' or icd\_code like 'I23%' or icd\_code like 'I24%' or icd\_code like 'I25%') then 'Yes'

end as Myocardial\_Infarction,

case when icd\_version = 9 and icd\_code like '428%' then 'Yes'

when icd\_version = 10 and (icd\_code like 'I110%' or icd\_code like 'I130%'or icd\_code like 'I132%' or icd\_code like 'I420%' or icd\_code like 'I50%' or icd\_code like 'I501%' or icd\_code like 'I509%') then 'Yes'

end as Congestive\_Heart\_Failure,

case when icd\_version = 9 and (icd\_code like '401%' or icd\_code like '402%') then 'Yes'

when icd\_version = 10 and (icd\_code like 'I10%' or icd\_code like 'I11%' or icd\_code like 'I12%' or icd\_code like 'I13%' or icd\_code like 'I14%' or icd\_code like 'I15%' or icd\_code like 'I16%') then 'Yes'

end as Hypertension,

case when icd\_version = 9 and icd\_code like '250%' then 'Yes'

when icd\_version = 10 and (icd\_code like 'E100%' or icd\_code like 'E101%%'or icd\_code like 'E109%' or icd\_code like 'E110%' or icd\_code like 'E111%' or icd\_code like 'E119%') then 'Yes'

end as Diabates\_Mellitus,

case when icd\_version = 9 and (icd\_code like '272%') then 'Yes'

when icd\_version = 10 and (icd\_code like ' E78%') then 'Yes'

end as Hyperlipidemia

from patinet a

join mimiciv\_hosp.diagnoses\_icd b on a.subject\_id = b.subject\_id and a.hadm\_id = b.hadm\_id

),

cleaned\_data as(

select distinct

subject\_id,

hadm\_id,

Atrial\_Fibrillation,

Ischemic\_Stroke,

Trsnsient\_ischemic\_attack,

Peripheral\_Arterial\_Occusive,

Myocardial\_Infarction,

Congestive\_Heart\_Failure,

Hypertension,

Diabates\_Mellitus,

Hyperlipidemia

from comorbidity ),

cleaned\_data\_1 as (

select subject\_id, hadm\_id,

case when Atrial\_Fibrillation is not null then 1 end Atrial\_Fibrillation\_flag,

case when Ischemic\_Stroke is not null then 1 end Ischemic\_Stroke\_flag,

case when Trsnsient\_ischemic\_attack is not null then 1 end Trsnsient\_ischemic\_attack\_flag,

case when Peripheral\_Arterial\_Occusive is not null then 1 end Peripheral\_Arterial\_Occusive\_flag,

case when Myocardial\_Infarction is not null then 1 end Myocardial\_Infarction\_flag,

case when Congestive\_Heart\_Failure is not null then 1 end Congestive\_Heart\_Failure\_flag,

case when Hypertension is not null then 1 end Hypertension\_flag,

case when Diabates\_Mellitus is not null then 1 end Diabates\_Mellitus\_flag,

case when Hyperlipidemia is not null then 1 end Hyperlipidemia\_flag

from cleaned\_data

)

select subject\_id, hadm\_id,

sum(Atrial\_Fibrillation\_flag) as Atrial\_Fibrillation,

sum(Ischemic\_Stroke\_flag) as Ischemic\_Stroke,

sum(Trsnsient\_ischemic\_attack\_flag) as Trsnsient\_ischemic\_attack,

sum(Peripheral\_Arterial\_Occusive\_flag) as Peripheral\_Arterial\_Occusive,

sum(Myocardial\_Infarction\_flag) as Myocardial\_Infarction,

sum(Congestive\_Heart\_Failure\_flag) as Congestive\_Heart\_Failure,

sum(Hypertension\_flag) as Hypertension,

sum(Diabates\_Mellitus\_flag) as Diabates\_Mellitus,

sum(Hyperlipidemia\_flag) as Hyperlipidemia

from cleaned\_data\_1

group by 1,2

### 11. ED\_upgi commordity

with bleeding\_patient as (

select a.subject\_id, hadm\_id, a.icd\_version, icd\_code, a.stay\_id

from mimic\_ed.diagnosis a

left join mimic\_ed.edstays b on a.subject\_id = b.subject\_id and a.stay\_id = b.stay\_id

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

-- ICD 10 codes for upper gastrointestinal bleeding

lower(icd\_code) like('k920%') or

lower(icd\_code) like('k921%') or

lower(icd\_code) like('i850%') or

lower(icd\_code) like('i9820%') or

lower(icd\_code) like('i983%') or

lower(icd\_code) like('k2210%') or

lower(icd\_code) like('k2212%') or

lower(icd\_code) like('k2214%') or

lower(icd\_code) like('k2216%') or

lower(icd\_code) like('k250%') or

lower(icd\_code) like('k252%') or

lower(icd\_code) like('k254%') or

lower(icd\_code) like('k256%') or

lower(icd\_code) like('k260%') or

lower(icd\_code) like('k262%') or

lower(icd\_code) like('k264%') or

lower(icd\_code) like('k266%') or

lower(icd\_code) like('k270%') or

lower(icd\_code) like('k272%') or

lower(icd\_code) like('k274%') or

lower(icd\_code) like('k276%') or

lower(icd\_code) like('k280%') or

lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

),

patinet as (

select distinct subject\_id, hadm\_id, stay\_id

from bleeding\_patient

),

comorbidity as (

select a.subject\_id, a.hadm\_id,

case when icd\_version = 9 and (icd\_code like '42731%') then 'Yes'

when icd\_version = 10 and (icd\_code like 'I48%')then 'Yes'

end as Atrial\_Fibrillation,

case when icd\_version = 9 and (icd\_code like '433%' or icd\_code like '434%' or icd\_code like '436%') then 'Yes'

when icd\_version = 10 and (icd\_code like 'I63%' or icd\_code like 'I64%') then 'Yes'

end as Ischemic\_Stroke,

case when icd\_version = 9 and icd\_code like '435%' then 'Yes'

when icd\_version = 10 and icd\_code like 'G45%' then 'Yes'

end as Trsnsient\_ischemic\_attack,

case when icd\_version = 9 and icd\_code like '4402%' then 'Yes'

when icd\_version = 10 and (icd\_code like 'I702%' or icd\_code like 'I703%'or icd\_code like 'I704%' or icd\_code like 'I705%' or icd\_code like 'I706%' or icd\_code like 'I707%' or icd\_code like 'I708%' or icd\_code like 'I709%' or icd\_code like 'I71%' or icd\_code like 'I739%') then 'Yes'

end as Peripheral\_Arterial\_Occusive,

case when icd\_version = 9 and (icd\_code like '410%' or icd\_code like '411%' or icd\_code like '412%' ) then 'Yes'

when icd\_version = 10 and (icd\_code like 'I21%' or icd\_code like 'I22%' or icd\_code like 'I23%' or icd\_code like 'I24%' or icd\_code like 'I25%') then 'Yes'

end as Myocardial\_Infarction,

case when icd\_version = 9 and icd\_code like '428%' then 'Yes'

when icd\_version = 10 and (icd\_code like 'I110%' or icd\_code like 'I130%'or icd\_code like 'I132%' or icd\_code like 'I420%' or icd\_code like 'I50%' or icd\_code like 'I501%' or icd\_code like 'I509%') then 'Yes'

end as Congestive\_Heart\_Failure,

case when icd\_version = 9 and (icd\_code like '401%' or icd\_code like '402%') then 'Yes'

when icd\_version = 10 and (icd\_code like 'I10%' or icd\_code like 'I11%' or icd\_code like 'I12%' or icd\_code like 'I13%' or icd\_code like 'I14%' or icd\_code like 'I15%' or icd\_code like 'I16%') then 'Yes'

end as Hypertension,

case when icd\_version = 9 and icd\_code like '250%' then 'Yes'

when icd\_version = 10 and (icd\_code like 'E100%' or icd\_code like 'E101%%'or icd\_code like 'E109%' or icd\_code like 'E110%' or icd\_code like 'E111%' or icd\_code like 'E119%') then 'Yes'

end as Diabates\_Mellitus,

case when icd\_version = 9 and (icd\_code like '272%') then 'Yes'

when icd\_version = 10 and (icd\_code like ' E78%') then 'Yes'

end as Hyperlipidemia

from patinet a

join mimic\_ed.diagnosis b on a.subject\_id = b.subject\_id and a.stay\_id = b.stay\_id

),

cleaned\_data as(

select distinct

subject\_id,

hadm\_id,

Atrial\_Fibrillation,

Ischemic\_Stroke,

Trsnsient\_ischemic\_attack,

Peripheral\_Arterial\_Occusive,

Myocardial\_Infarction,

Congestive\_Heart\_Failure,

Hypertension,

Diabates\_Mellitus,

Hyperlipidemia

from comorbidity ),

cleaned\_data\_1 as (

select subject\_id, hadm\_id,

case when Atrial\_Fibrillation is not null then 1 end Atrial\_Fibrillation\_flag,

case when Ischemic\_Stroke is not null then 1 end Ischemic\_Stroke\_flag,

case when Trsnsient\_ischemic\_attack is not null then 1 end Trsnsient\_ischemic\_attack\_flag,

case when Peripheral\_Arterial\_Occusive is not null then 1 end Peripheral\_Arterial\_Occusive\_flag,

case when Myocardial\_Infarction is not null then 1 end Myocardial\_Infarction\_flag,

case when Congestive\_Heart\_Failure is not null then 1 end Congestive\_Heart\_Failure\_flag,

case when Hypertension is not null then 1 end Hypertension\_flag,

case when Diabates\_Mellitus is not null then 1 end Diabates\_Mellitus\_flag,

case when Hyperlipidemia is not null then 1 end Hyperlipidemia\_flag

from cleaned\_data

)

select subject\_id, hadm\_id,

sum(Atrial\_Fibrillation\_flag) as Atrial\_Fibrillation,

sum(Ischemic\_Stroke\_flag) as Ischemic\_Stroke,

sum(Trsnsient\_ischemic\_attack\_flag) as Trsnsient\_ischemic\_attack,

sum(Peripheral\_Arterial\_Occusive\_flag) as Peripheral\_Arterial\_Occusive,

sum(Myocardial\_Infarction\_flag) as Myocardial\_Infarction,

sum(Congestive\_Heart\_Failure\_flag) as Congestive\_Heart\_Failure,

sum(Hypertension\_flag) as Hypertension,

sum(Diabates\_Mellitus\_flag) as Diabates\_Mellitus,

sum(Hyperlipidemia\_flag) as Hyperlipidemia

from cleaned\_data\_1

group by 1,2

12. History Medicine - check

with bleeding\_patient as (

select subject\_id, stay\_id, icd\_version, icd\_code

from mimic\_ed.diagnosis

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

-- ICD 10 codes for upper gastrointestinal bleeding

lower(icd\_code) like('k920%') or

lower(icd\_code) like('k921%') or

lower(icd\_code) like('i850%') or

lower(icd\_code) like('i9820%') or

lower(icd\_code) like('i983%') or

lower(icd\_code) like('k2210%') or

lower(icd\_code) like('k2212%') or

lower(icd\_code) like('k2214%') or

lower(icd\_code) like('k2216%') or

lower(icd\_code) like('k250%') or

lower(icd\_code) like('k252%') or

lower(icd\_code) like('k254%') or

lower(icd\_code) like('k256%') or

lower(icd\_code) like('k260%') or

lower(icd\_code) like('k262%') or

lower(icd\_code) like('k264%') or

lower(icd\_code) like('k266%') or

lower(icd\_code) like('k270%') or

lower(icd\_code) like('k272%') or

lower(icd\_code) like('k274%') or

lower(icd\_code) like('k276%') or

lower(icd\_code) like('k280%') or

lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

),

combined as (

select a.\*, c.hadm\_id from mimic\_ed.pyxis a

inner join bleeding\_patient b on a.subject\_id = b.subject\_id and a.stay\_id =b.stay\_id

left join mimic\_ed.edstays c on a.subject\_id = c.subject\_id and a.stay\_id =c.stay\_id

),

medicine as (

select subject\_id, stay\_id, hadm\_id,

case when name = 'Aspirin' then 1 end as Aspirin,

case when name = 'Warfarin' then 1 end as Warfarin,

case when name in( 'Atenolol', 'CARVedilol','Labetalol','Metoprolol','Propranolol') then 1 end as bb,

case when name = 'Octreotide' then 1 end as Octreotide

from combined

)

select subject\_id, hadm\_id, sum(Aspirin) as Aspirin,

sum(Warfarin) as Warfarin,

sum(bb) as bb,

sum(Octreotide) as Octreotide

from medicine

group by 1,2

### 12. historical \_ medicine\_clean

with bleeding\_patient as (

select subject\_id, stay\_id, icd\_version, icd\_code

from mimic\_ed.diagnosis

--from mimiciv\_hosp.diagnoses\_icd

where 1=1

and (icd\_version = 9 and

(icd\_code like ('5310%') or

icd\_code like ('5312%') or

icd\_code like ('5314%') or

icd\_code like ('5316%') or

icd\_code like ('5320%') or

icd\_code like ('5322%') or

icd\_code like ('5324%') or

icd\_code like ('5326%') or

icd\_code like ('5330%') or

icd\_code like ('5332%') or

icd\_code like ('5334%') or

icd\_code like ('5336%') or

icd\_code like ('5340%') or

icd\_code like ('5342%') or

icd\_code like ('5344%') or

icd\_code like ('5346%') or

icd\_code like ('5780%') or

icd\_code like ('5781%') or

icd\_code like( '5789%')

))

or

(icd\_version = 10 and

(

-- ICD 10 codes for upper gastrointestinal bleeding

lower(icd\_code) like('k920%') or

lower(icd\_code) like('k921%') or

lower(icd\_code) like('i850%') or

lower(icd\_code) like('i9820%') or

lower(icd\_code) like('i983%') or

lower(icd\_code) like('k2210%') or

lower(icd\_code) like('k2212%') or

lower(icd\_code) like('k2214%') or

lower(icd\_code) like('k2216%') or

lower(icd\_code) like('k250%') or

lower(icd\_code) like('k252%') or

lower(icd\_code) like('k254%') or

lower(icd\_code) like('k256%') or

lower(icd\_code) like('k260%') or

lower(icd\_code) like('k262%') or

lower(icd\_code) like('k264%') or

lower(icd\_code) like('k266%') or

lower(icd\_code) like('k270%') or

lower(icd\_code) like('k272%') or

lower(icd\_code) like('k274%') or

lower(icd\_code) like('k276%') or

lower(icd\_code) like('k280%') or

lower(icd\_code) like('k282%') or

lower(icd\_code) like('k284%') or

lower(icd\_code) like('k286%') or

lower(icd\_code) like('k290%') or

lower(icd\_code) like('k6380%') or

lower(icd\_code) like('k3180%')

)

)

),

combined as (

select a.\*, c.hadm\_id from mimic\_ed.pyxis a

inner join bleeding\_patient b on a.subject\_id = b.subject\_id and a.stay\_id =b.stay\_id

left join mimic\_ed.edstays c on a.subject\_id = c.subject\_id and a.stay\_id =c.stay\_id

),

medicine as (

select subject\_id, stay\_id, hadm\_id,

case when name = 'Aspirin' then 1 end as Aspirin,

case when name = 'Warfarin' then 1 end as Warfarin,

case when name in( 'Atenolol', 'CARVedilol','Labetalol','Metoprolol','Propranolol') then 1 end as bb,

case when name = 'Octreotide' then 1 end as Octreotide

from combined

)

select subject\_id, hadm\_id, sum(Aspirin) as Aspirin,

sum(Warfarin) as Warfarin,

sum(bb) as bb,

sum(Octreotide) as Octreotide

from medicine

group by 1,2

### 13 Vital\_aggregated

with vital\_triage\_raw as (

select subject\_id, hadm\_id, stay\_id, intime as charttime, heartrate, sbp, dbp

from mimic\_ed.ugib

left join mimic\_ed.triage using(subject\_id, stay\_id)

order by subject\_id, hadm\_id, stay\_id, intime

)

, vital\_raw as (

select subject\_id, hadm\_id, stay\_id, charttime, heartrate, sbp, dbp

from mimic\_ed.vitalsign

left join mimic\_ed.edstays using(subject\_id, stay\_id)

where hadm\_id is not null

order by subject\_id, hadm\_id, stay\_id, charttime

)

, vital\_raw1 as (

select subject\_id, hadm\_id, stay\_id, charttime, heartrate, sbp, dbp

from mimic\_ed.ugib

left join vital\_raw using(subject\_id, hadm\_id, stay\_id)

)

, vital\_stg0 as (

select \* from vital\_triage\_raw

union all

select \* from vital\_raw1

)

, hour6\_stg0 as (

select vital\_stg0.\*, ed.intime, ed.outtime

from vital\_stg0

left join mimic\_ed.edstays ed using(subject\_id, hadm\_id, stay\_id)

order by subject\_id, hadm\_id, stay\_id, charttime

)

, hour6 as (

select \*, round(sbp/3 + dbp/3\*2, 2) as map

from hour6\_stg0

where charttime <= intime + interval '6' hour

)

select hadm\_id, max(heartrate) as heartrate\_max, min(sbp) as sbp\_min, min(dbp) as dbp\_min, min(map) as map\_min

from hour6

group by hadm\_id