

# Sepsis Demographic Analysis

Total patients

40336

Non-Sepsis patients

37404

Sepsis patients

2932

Onset patients

2506

 Male

55.95%

 Female

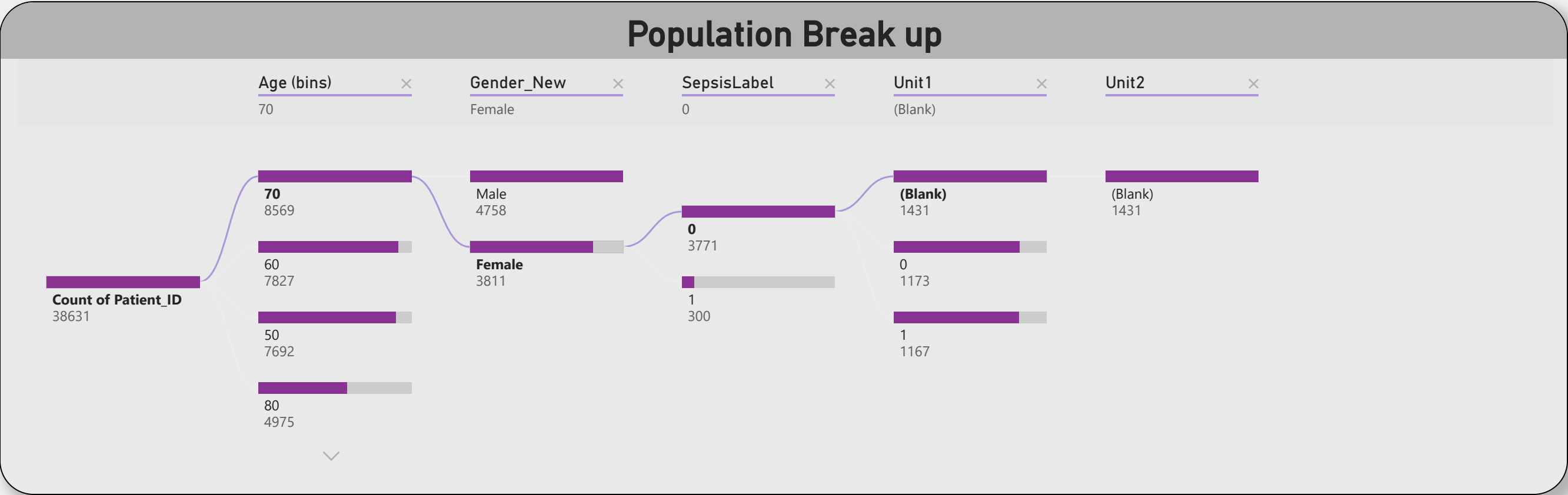
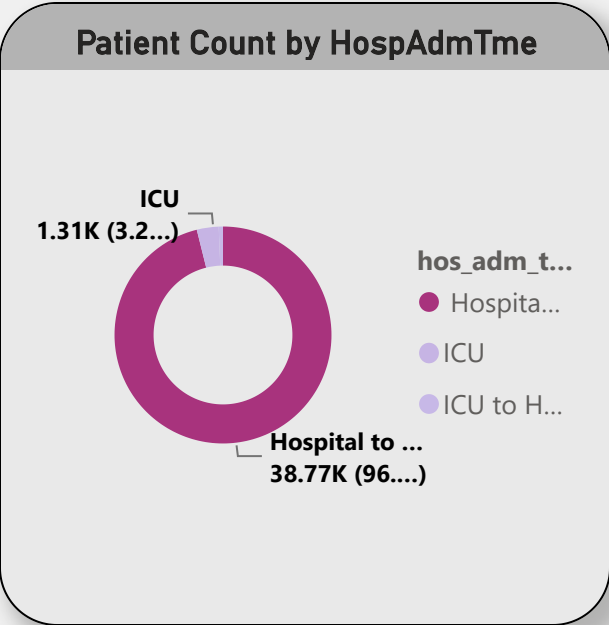
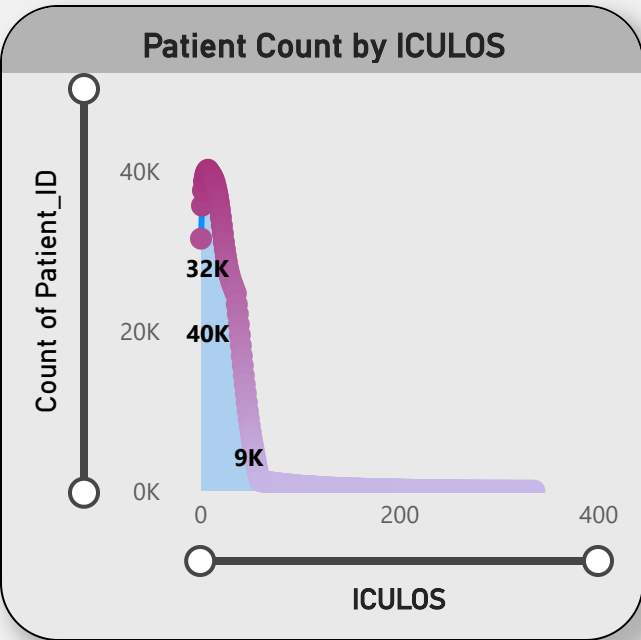
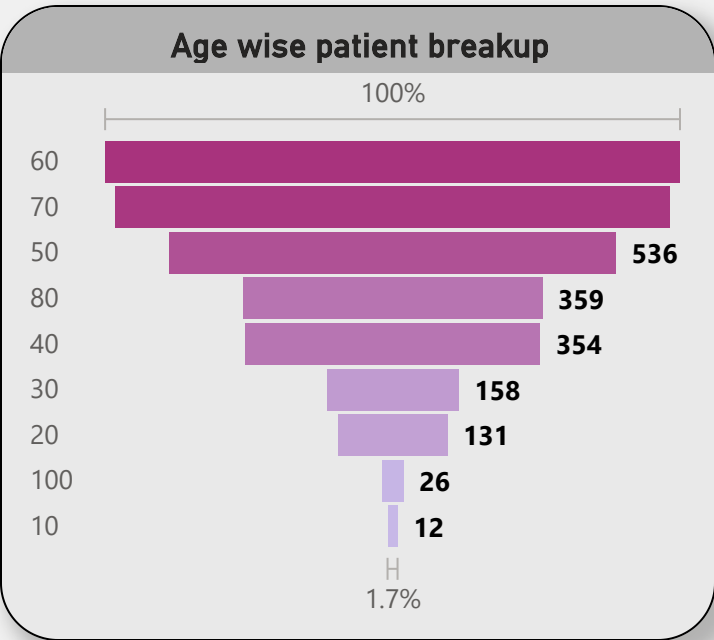
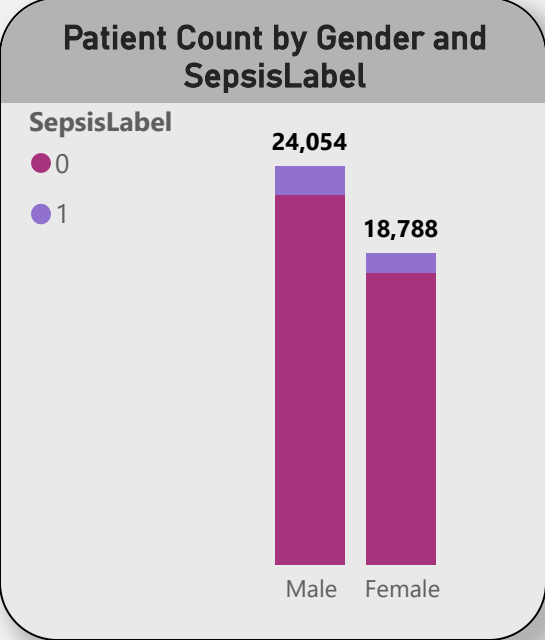
44.05%

MICU Patients

12267

SICU Patients

12452



# Biomarker Analysis

## Non-Sepsis

## Sepsis

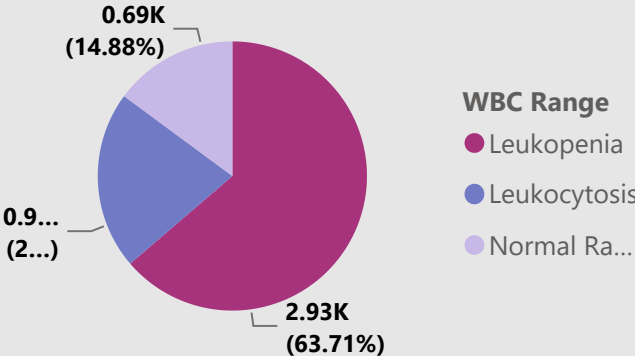
Average of B:C ratio



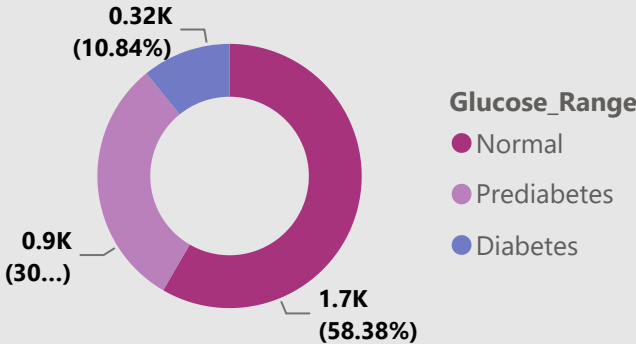
Average of B:C ratio



WBC Range in Sepsis



Glucose Range in Sepsis



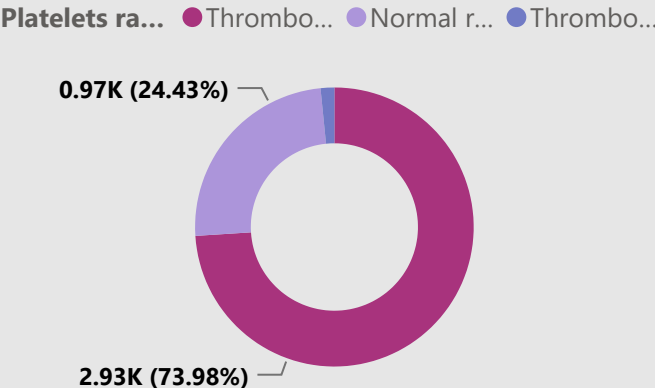
Average of Bilirubin



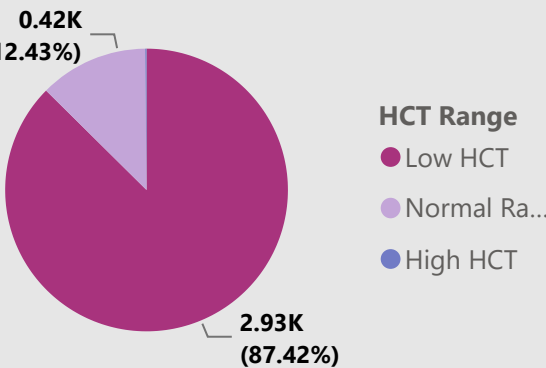
Average of Bilirubin direct



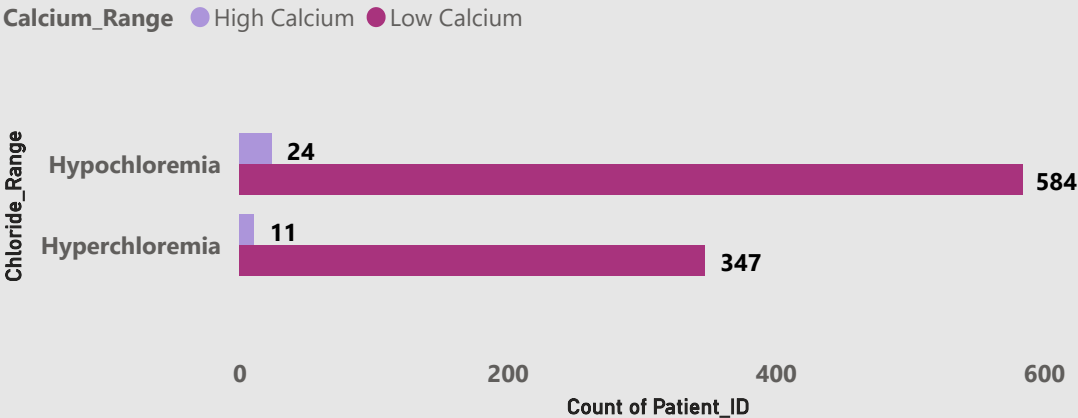
Platelets Range in Sepsis



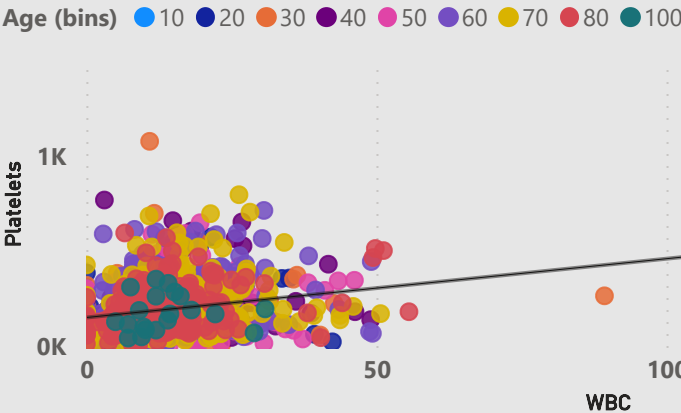
HCT Range in Sepsis



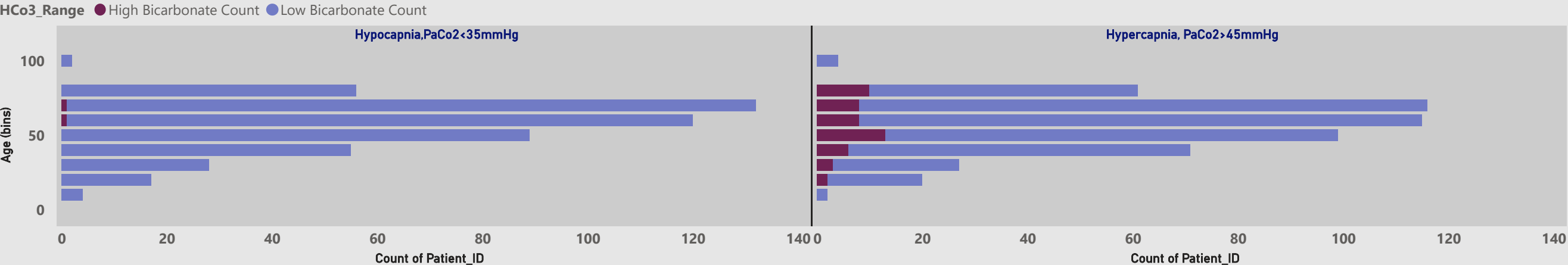
Calcium/Chloride Range in Sepsis



WBC and Platelets Correlation



HCo3/ PaCo2 Range in Sepsis with Age

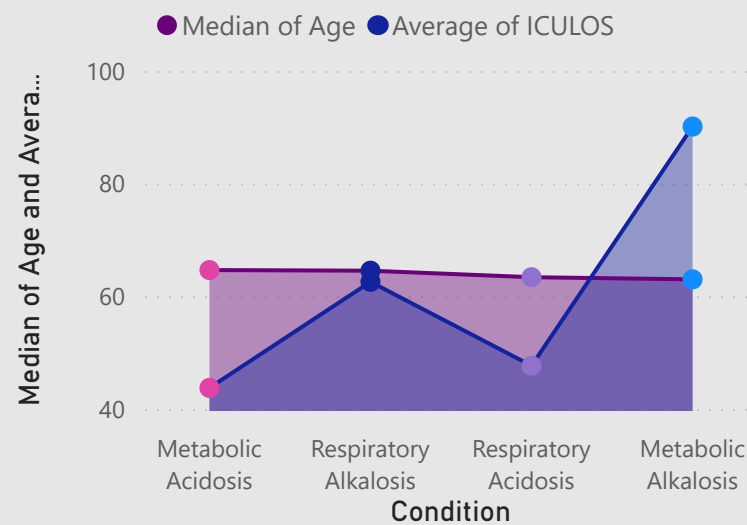


# ABG Analysis

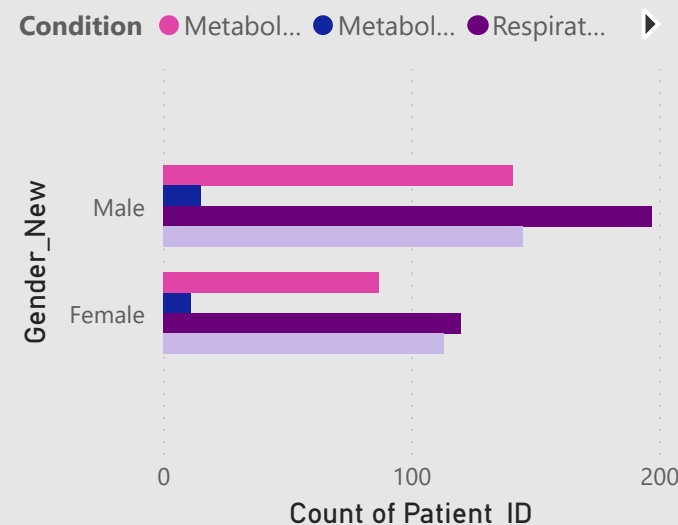
Characteristics of acid-base disturbances.

Acid-Base Disorder	pH	Primary Problem	Compensatory Mechanism
Respiratory Acidosis	↓	↑ in PaCo2	↑ in HCo3
Metabolic Acidosis	↓	↓ in HCo3	↓ in PaCo2
Respiratory Alkalosis	↑	↓ in PaCo2	↓ in HCo3
Metabolic Alkalosis	↑	↑ in Hco3	↓ in PaCo2

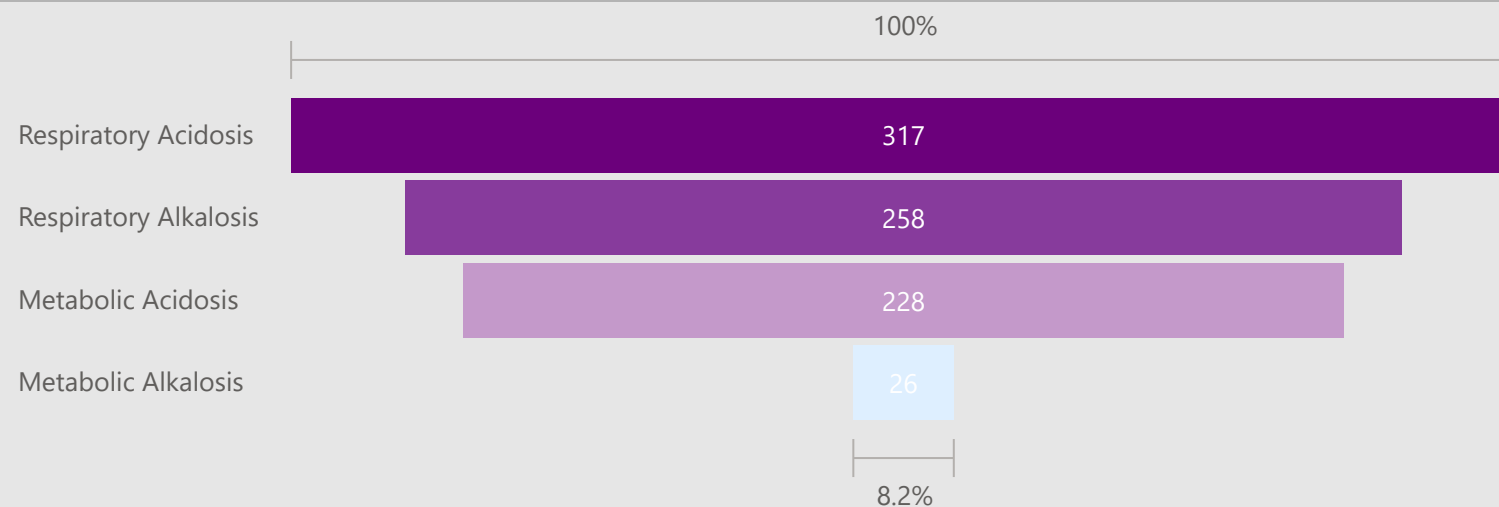
Median of Age and Average of ICULOS by Condition



Distribution of Sepsis patients gender-wise



Count of Patient\_ID by Condition



## Key influencers Top segments

What influences pH to  ?

When... ..the average of pH increases by

Condition is Respiratory Alkalosis → 0.12

Condition is Metabolic Alkalosis → 0.12

Lactate is 2.58 or less → 0.05

PaCO2 is 20 - 38 → 0.04

Condition is No Acidosis or Alkalosis → 0.04

BaseExcess goes up 4.21 → 0.04

Chloride is 93 - 104 → 0.02

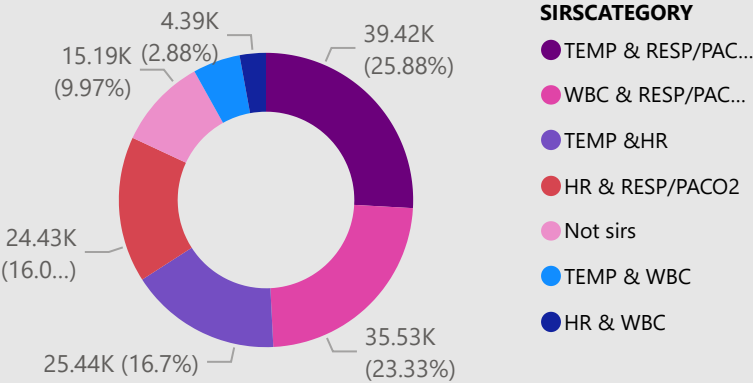
O2Sat is more than 91 → 0.02

Magnesium is 1.5 - 2.6 → 0.01

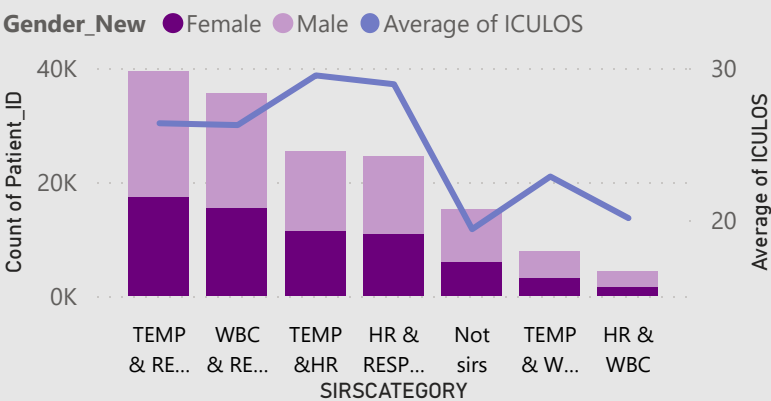
# SIRS/SOFA Analysis

## SIRS - Systemic Inflammatory Response Syndrome

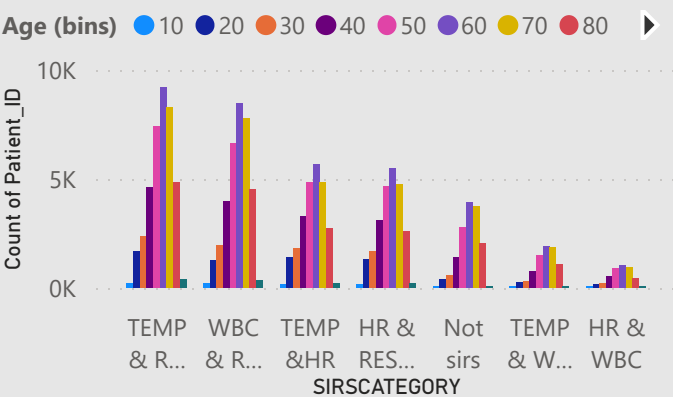
Patients by SIRS CATEGORY



Average Time spent in ICU By SIRS Patients



Agewise Breakup of SIRS Patients



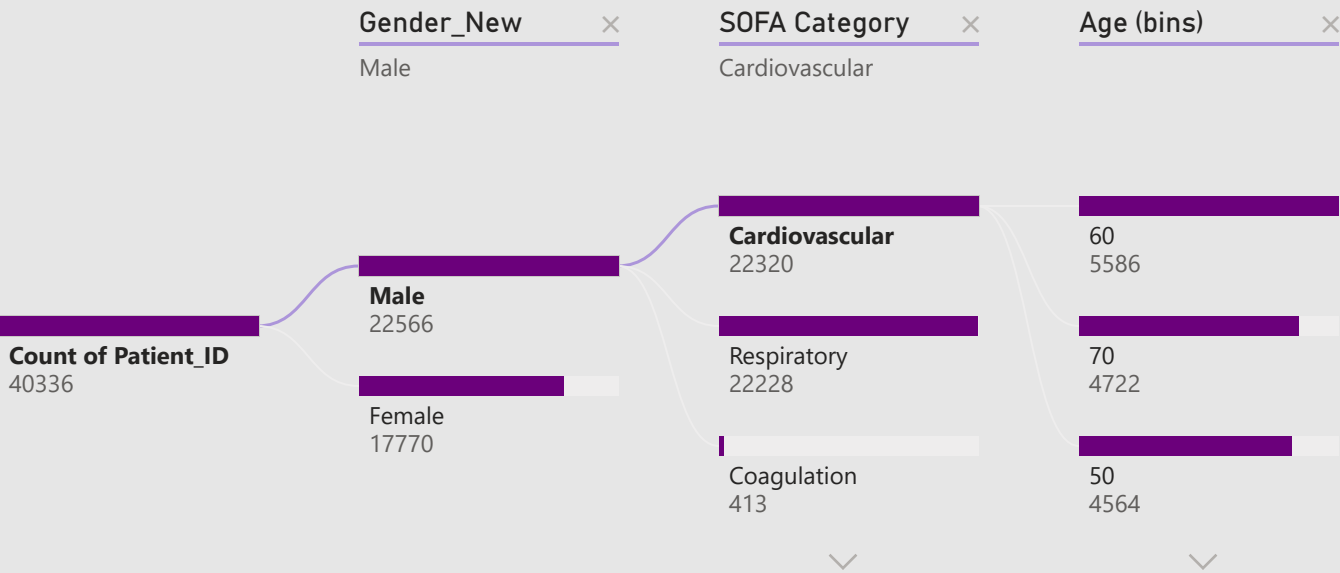
Hourly Monitoring of SIRS Patients

Patient_ID	Hour	HR	Temp	WBC	Resp	PaCO2
1	0					
1	1	97.00			19.00	
1	2	89.00			22.00	
1	3	90.00			30.00	100
1	4	103.00			24.50	
1	5	110.00			22.00	
1	6	108.00	36.11		29.00	
1	7	106.00			29.00	
1	8	104.00			26.00	
1	9	102.00			30.00	
1	10	104.00	37.17		19.00	86
1	11					
1	12	102.00			24.00	
1	13	108.00			27.00	
1	14	106.00			25.00	
1	15	109.00	36.56		24.00	
1	16	103.00		5.70	30.00	90
1	17	104.00			28.00	
1	18					
1	19	109.00	37.11		22.00	
1	20	113.00			17.00	
1	21	98.00			28.00	
Total						

## SOFA Score (Sequential Organ Failure Assessment Score)

- Cardiovascular - MAP < 70mmHg or SBP < 90mmHg
- Respiratory - SpO<sub>2</sub>/FiO<sub>2</sub> < 300
- Coagulation - Platelets < 150\*10<sup>3</sup>microlitre
- Renal - Creatinine > 1.2mg/dL
- Liver - Bilirubin > 1.2mg/dL

SOFA Decomposition Tree



# Organ Dysfunction

## Liver

### Hypoxic hepatitis

10

Sepsis Patients

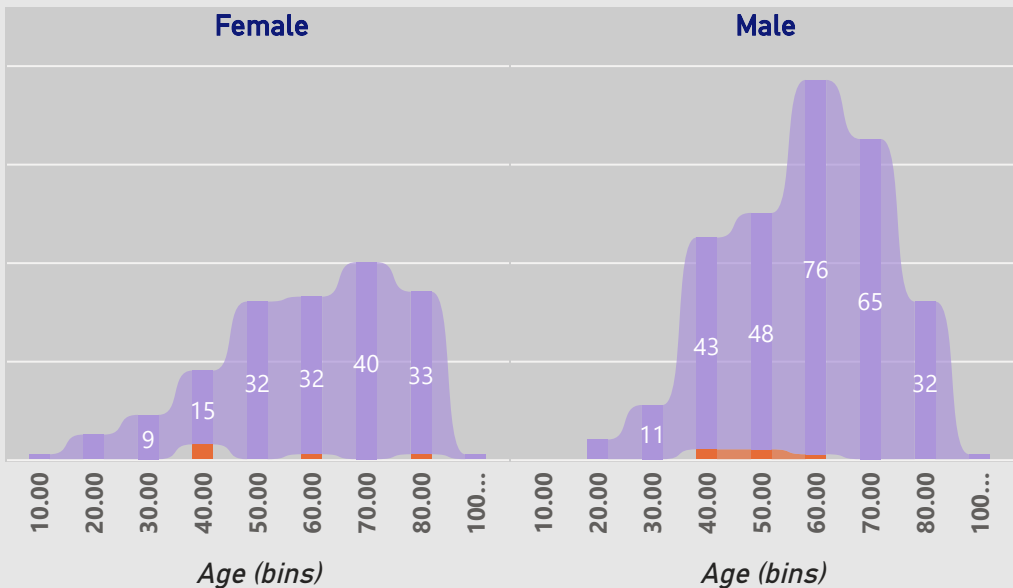
### Liver Dysfunction

448

Sepsis Patients

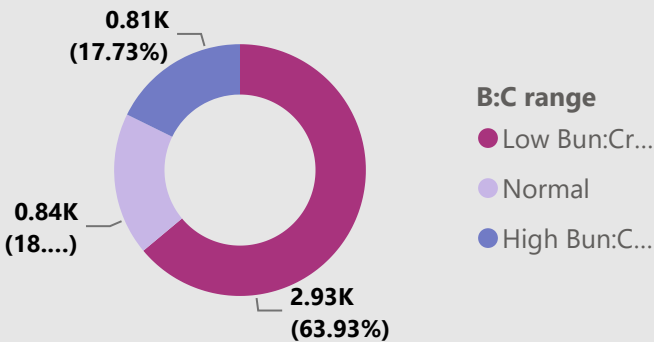
### Sepsis patients having Liver failure

Liver fialure ● Hypoxic hepatitis ● Liver Dysfunction



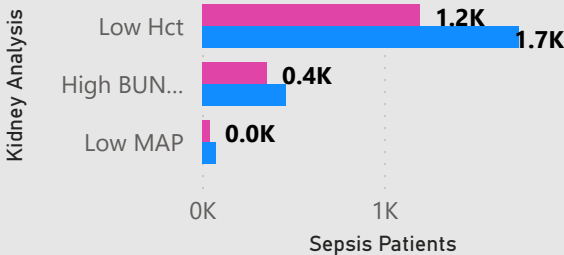
## Kidney

### Count of Patient\_ID by B:C range



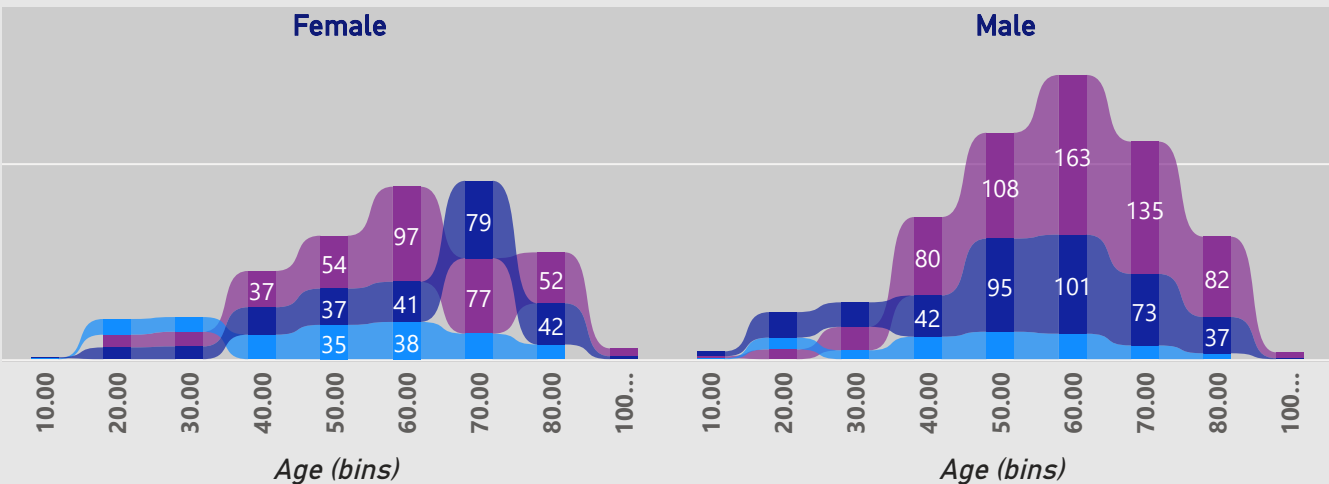
### MAP, BUN, Hct in Sepsis

Gender\_... ● Female ● Male

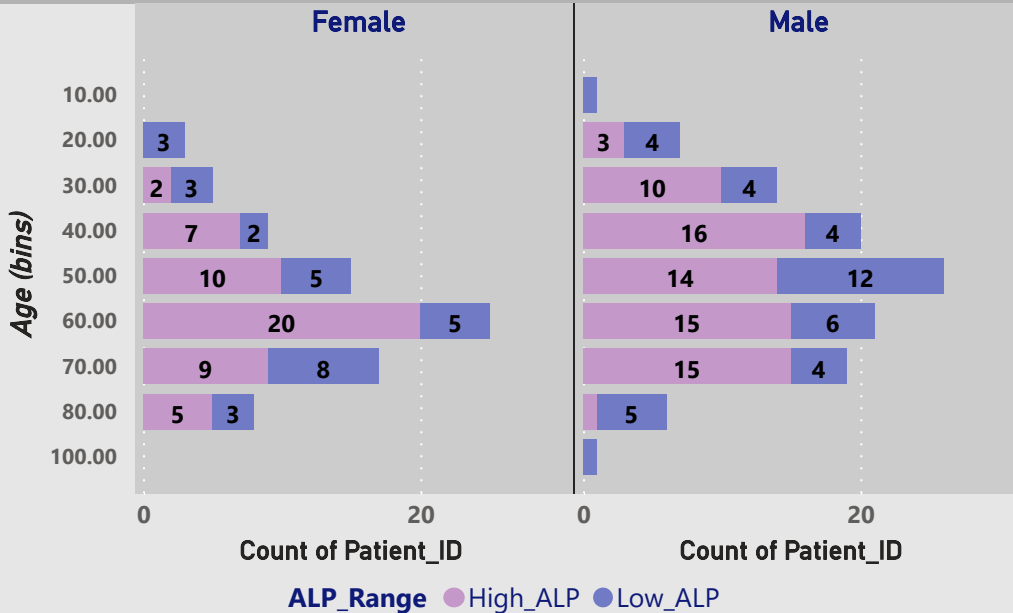


### Creatinine in sepsis

Creatinine\_Range ● High\_Creatinine ● Low\_Creatinine ● Normal



### Alkalinephos in sepsis



### Decomposition Tree of Chloride

