

Who is at risk for sepsis?

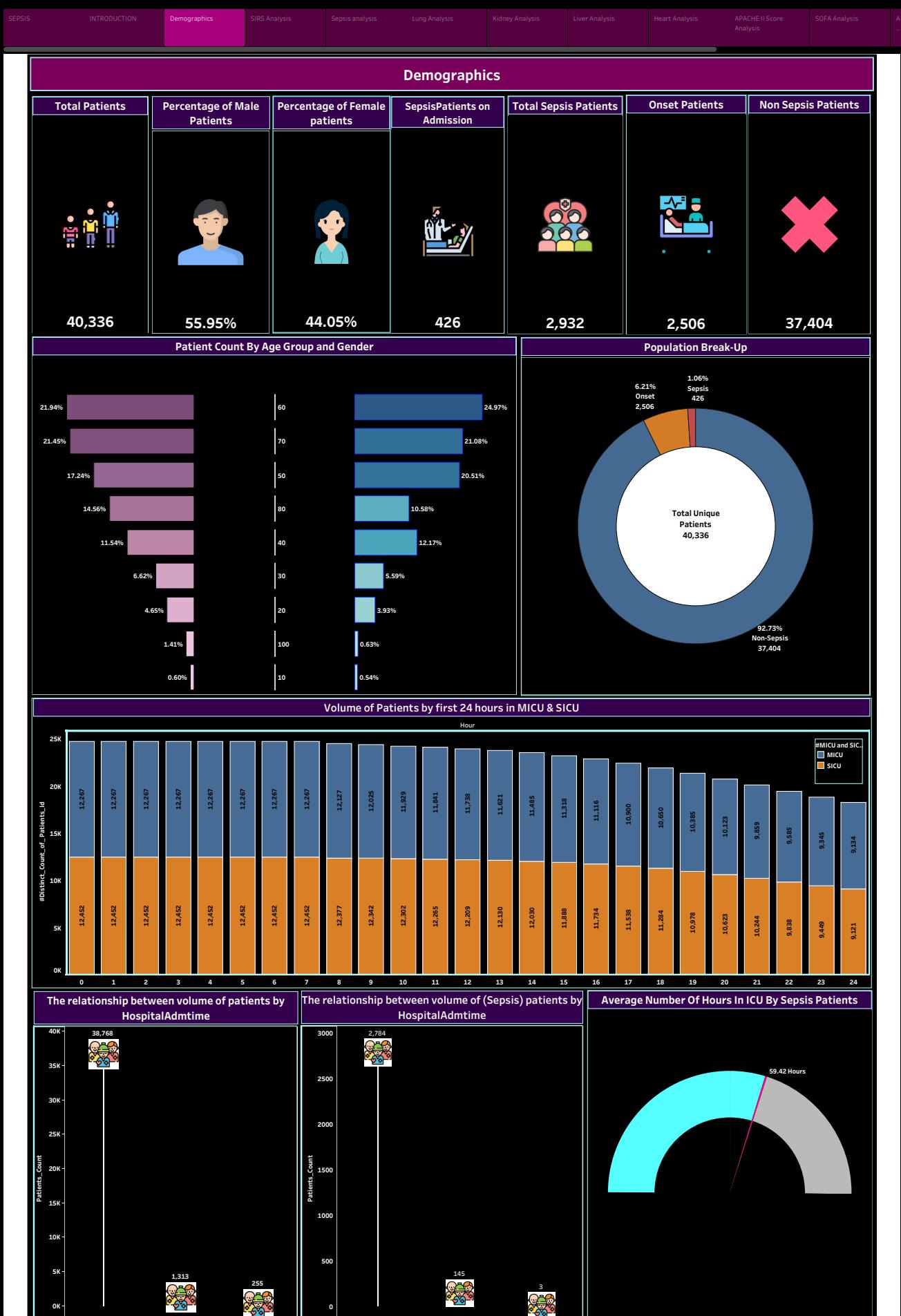
- 65+** Adults 65 or older
- People with weakened immune systems
- People with chronic medical conditions
- People with recent severe illness or hospitalization
- Sepsis survivors
- Children younger than one

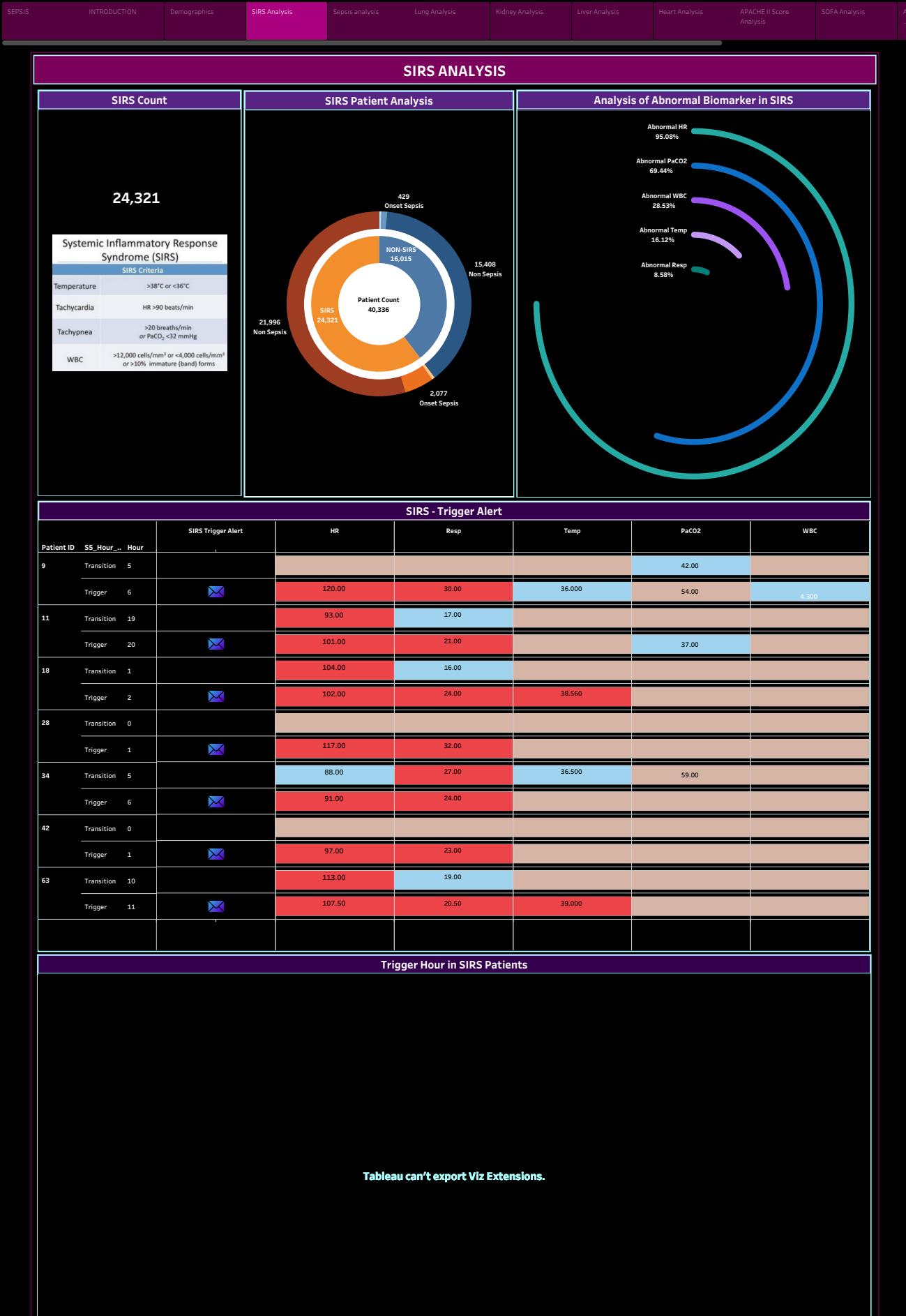
September is Sepsis Awareness Month

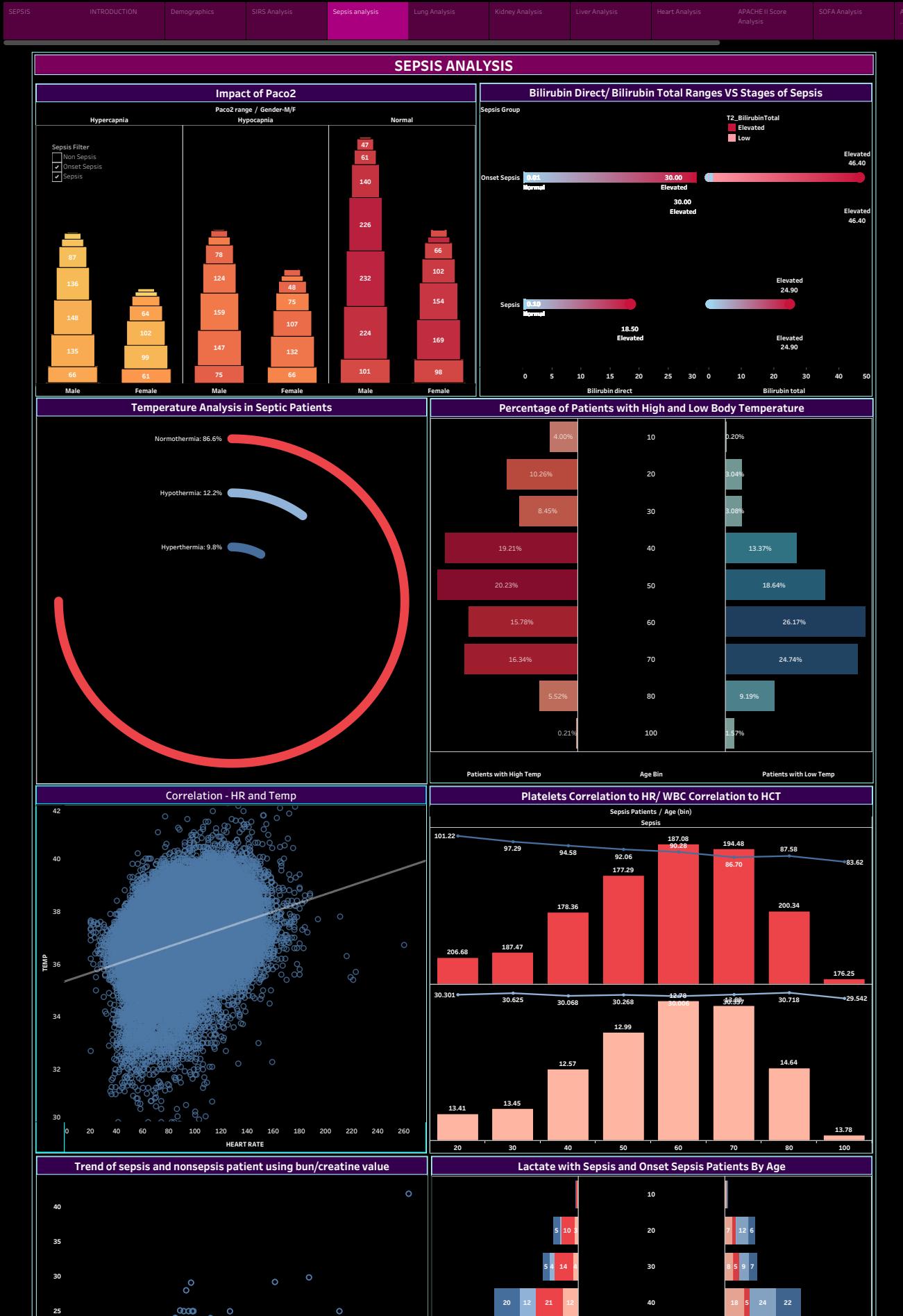
How Sepsis Affects the Body

A central figure of a human body is surrounded by various symptoms in speech bubbles:

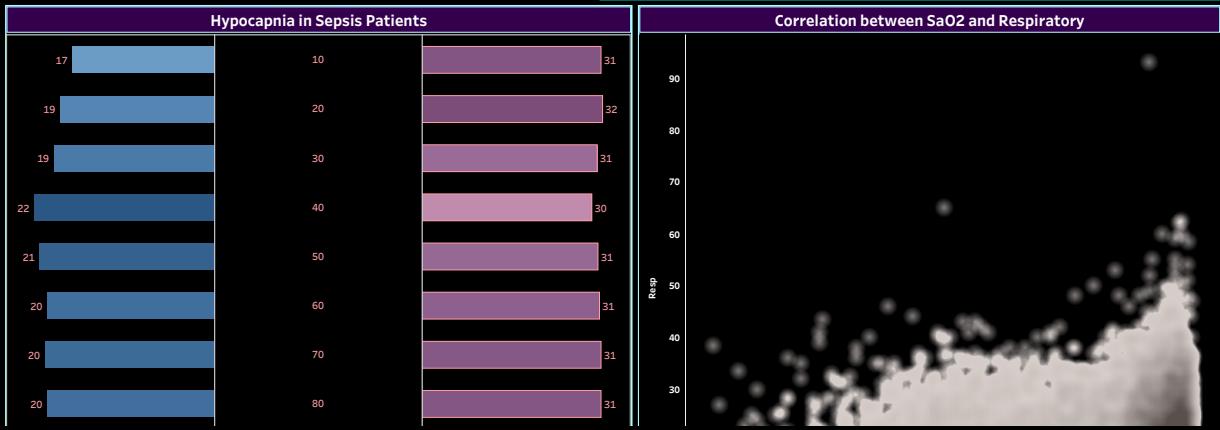
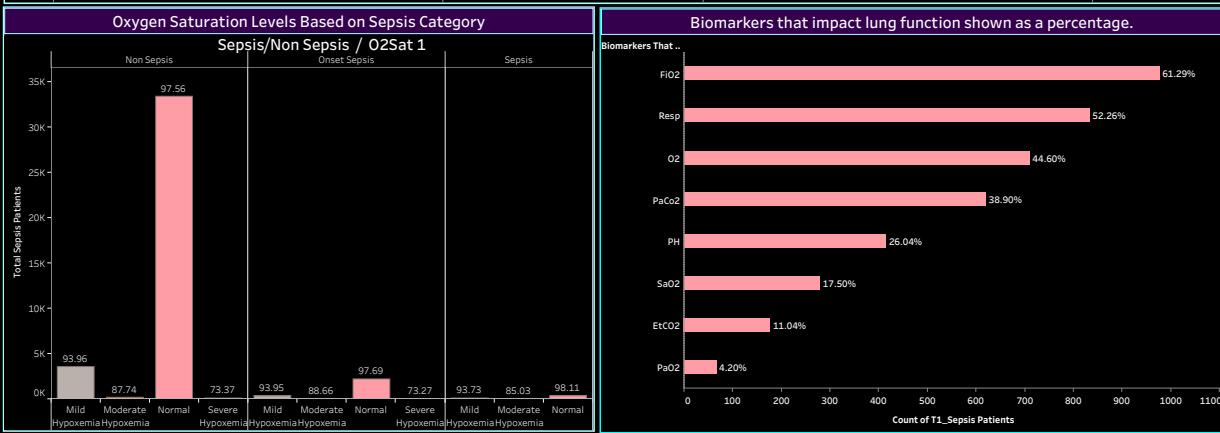
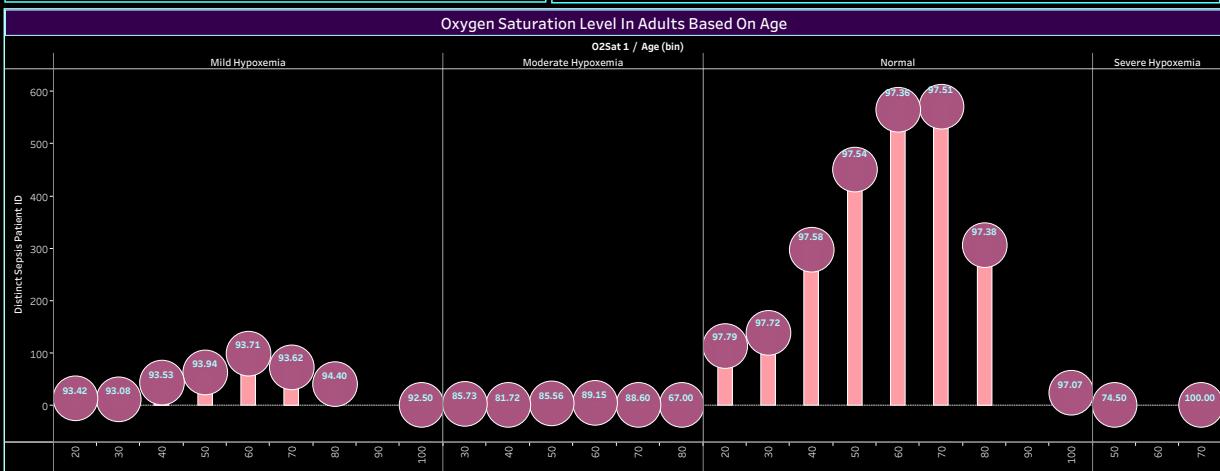
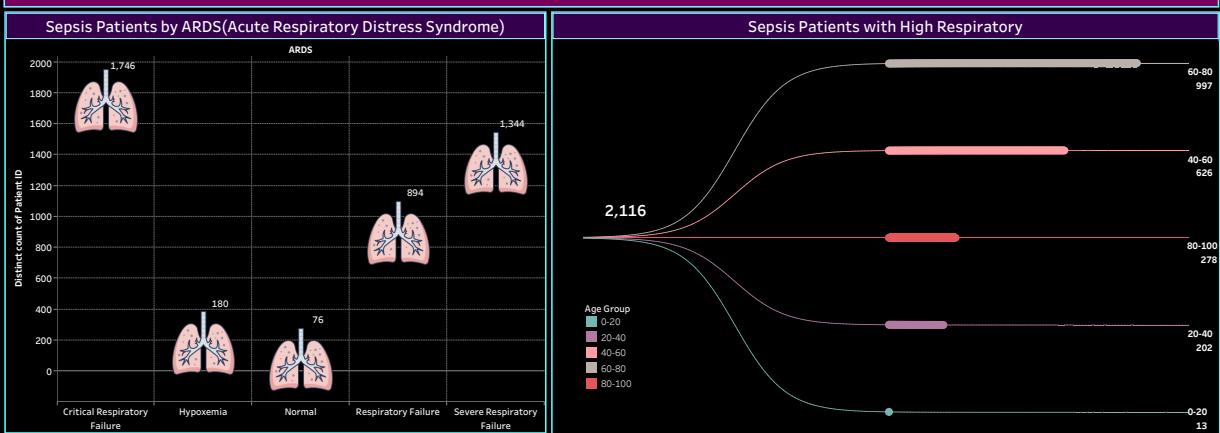
- Vomiting
- Fever
- Fast, Shallow Breathing
- Confusion or Disorientation
- Increased Heart Rate
- Chills or Shivering
- Low Urine Output
- Lethargy
- Low Body Temperature
- Refusing to Eat

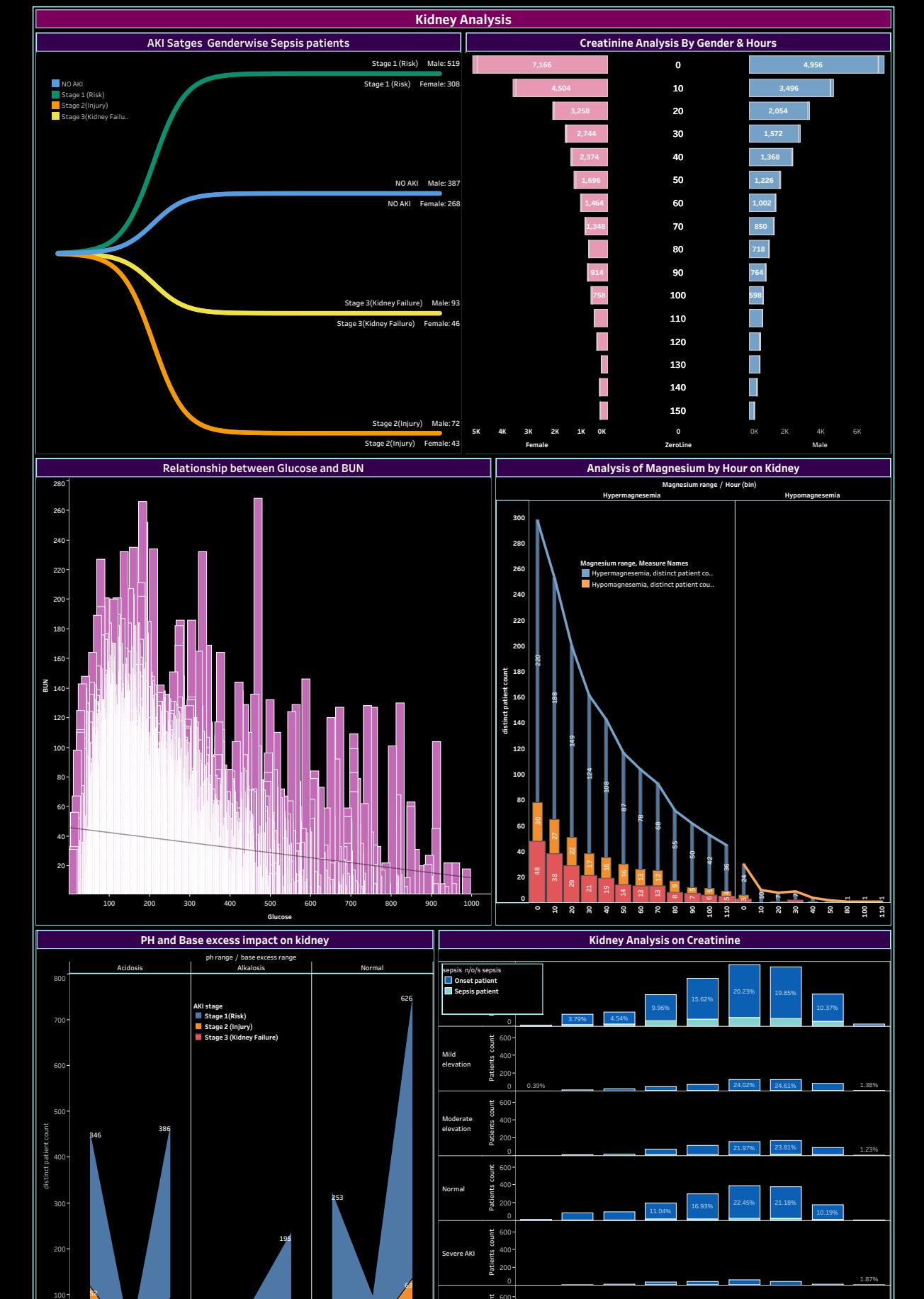


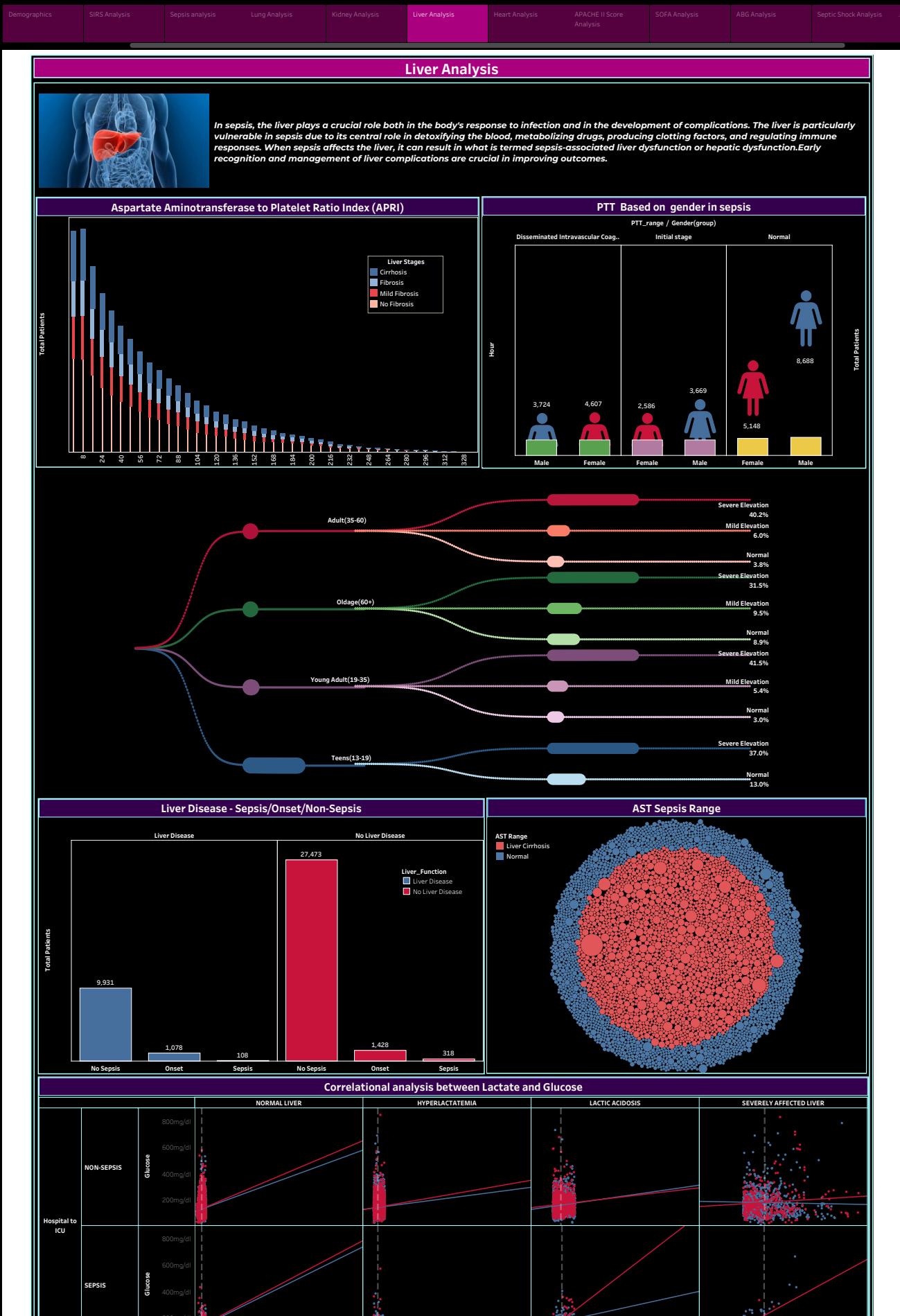




Lung Analysis







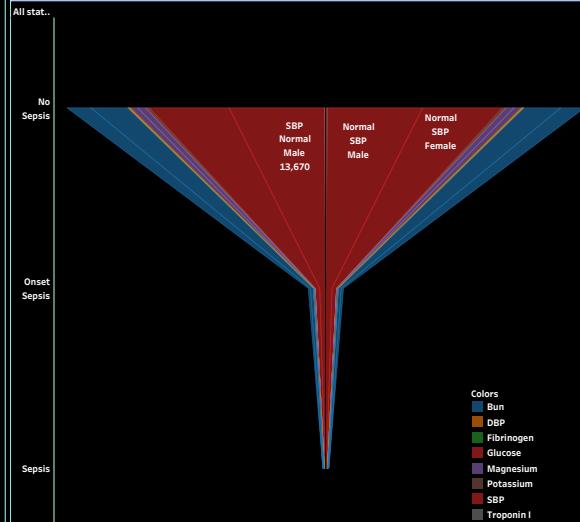
HEART ANALYSIS



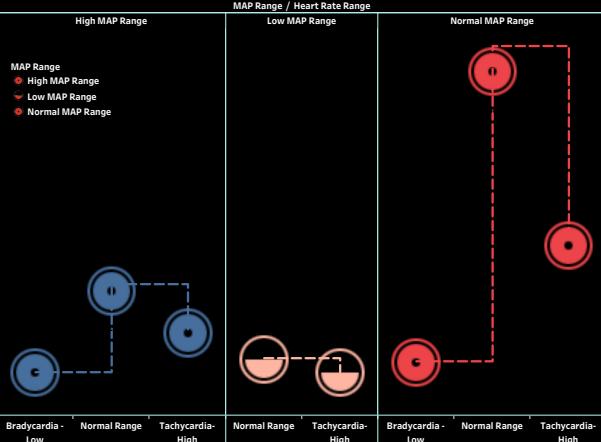
Heart rate is a vital sign that can indicate a patient's response to infection. A Heart Rate of more than 90 beats per minute is one of the crucial bio markers for sepsis in adults. Heart rate analysis involves evaluating the heart's rhythm, rate, and patterns to assess cardiovascular health. Factors Influencing Heart Rate are physical activity, emotions, medications, health conditions -> Fever, infections, and other medical issues can affect heart rate and for patients with known heart conditions. In conditions like sepsis, heart rate is a vital sign that helps guide diagnosis and treatment decisions.



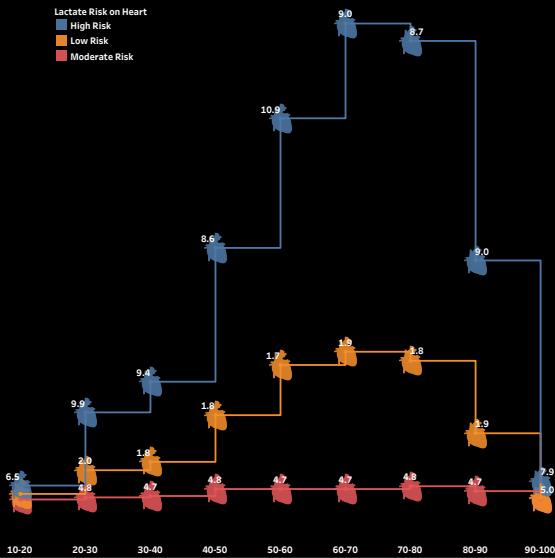
Biomarkers impacting Heart



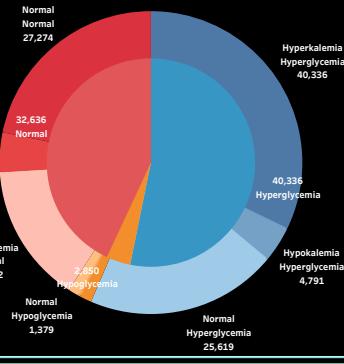
MAP Range Vs Heart Rate



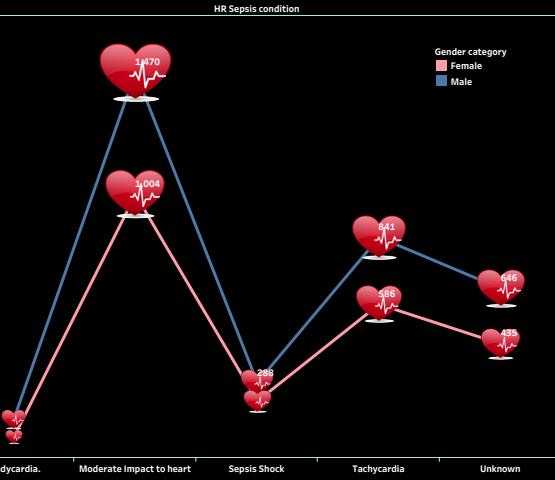
Lactate Levels and Cardiac Risk



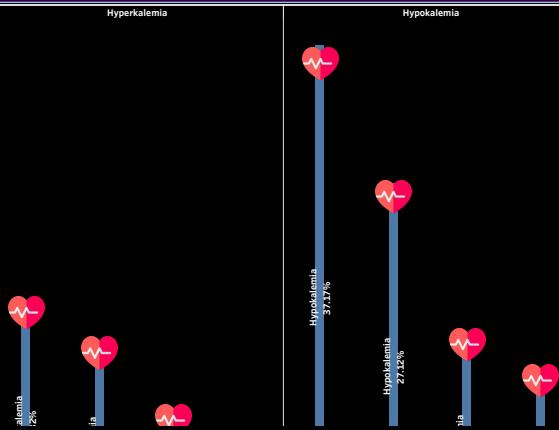
Glucose Potassium Level Distribution Among Patients



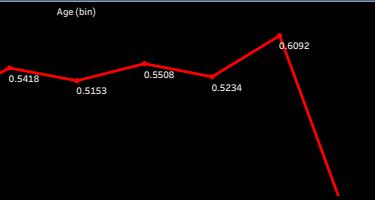
HR Risk in SICU and MICU with Gender

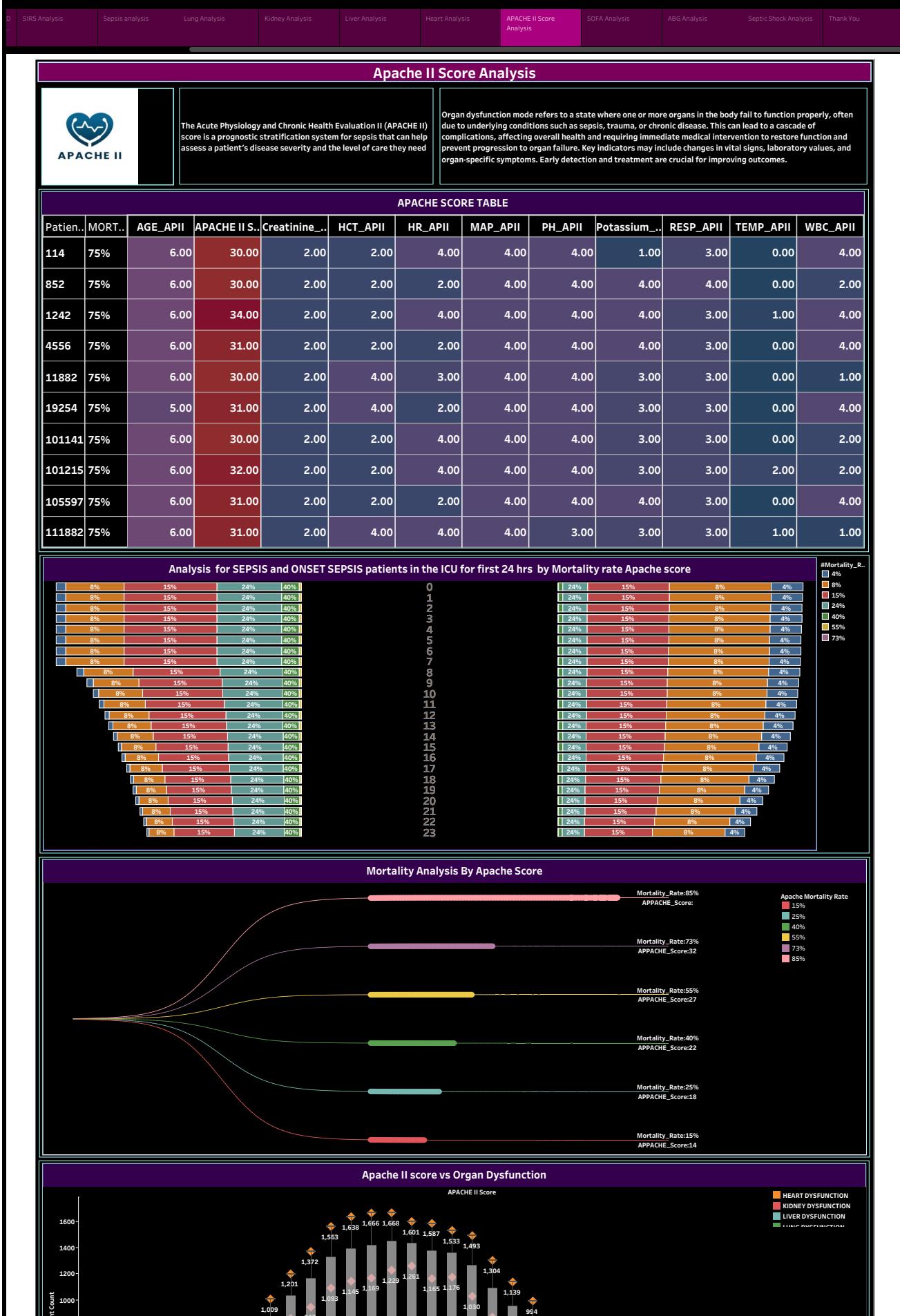


Potassium Level and Length of Stay



Correlation of Bicarbonate(HCO3) with PACO2

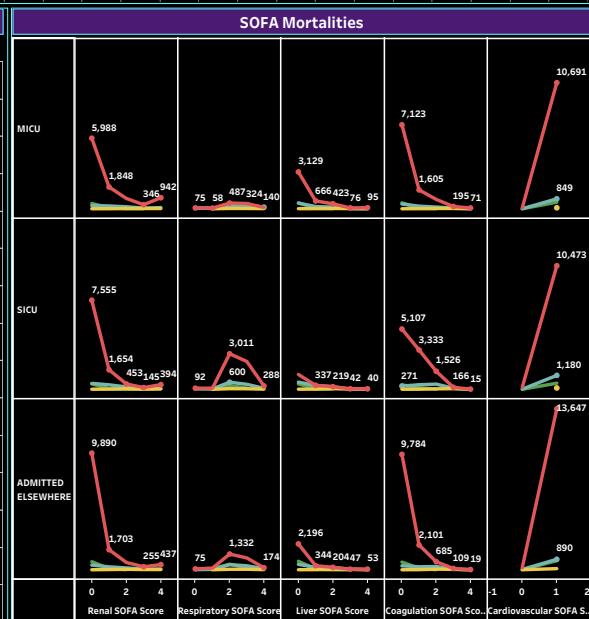




SOFA Score Analysis

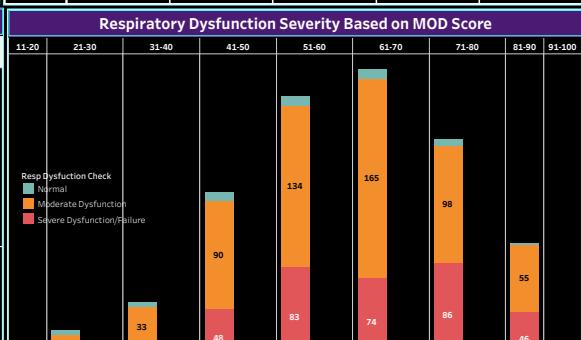


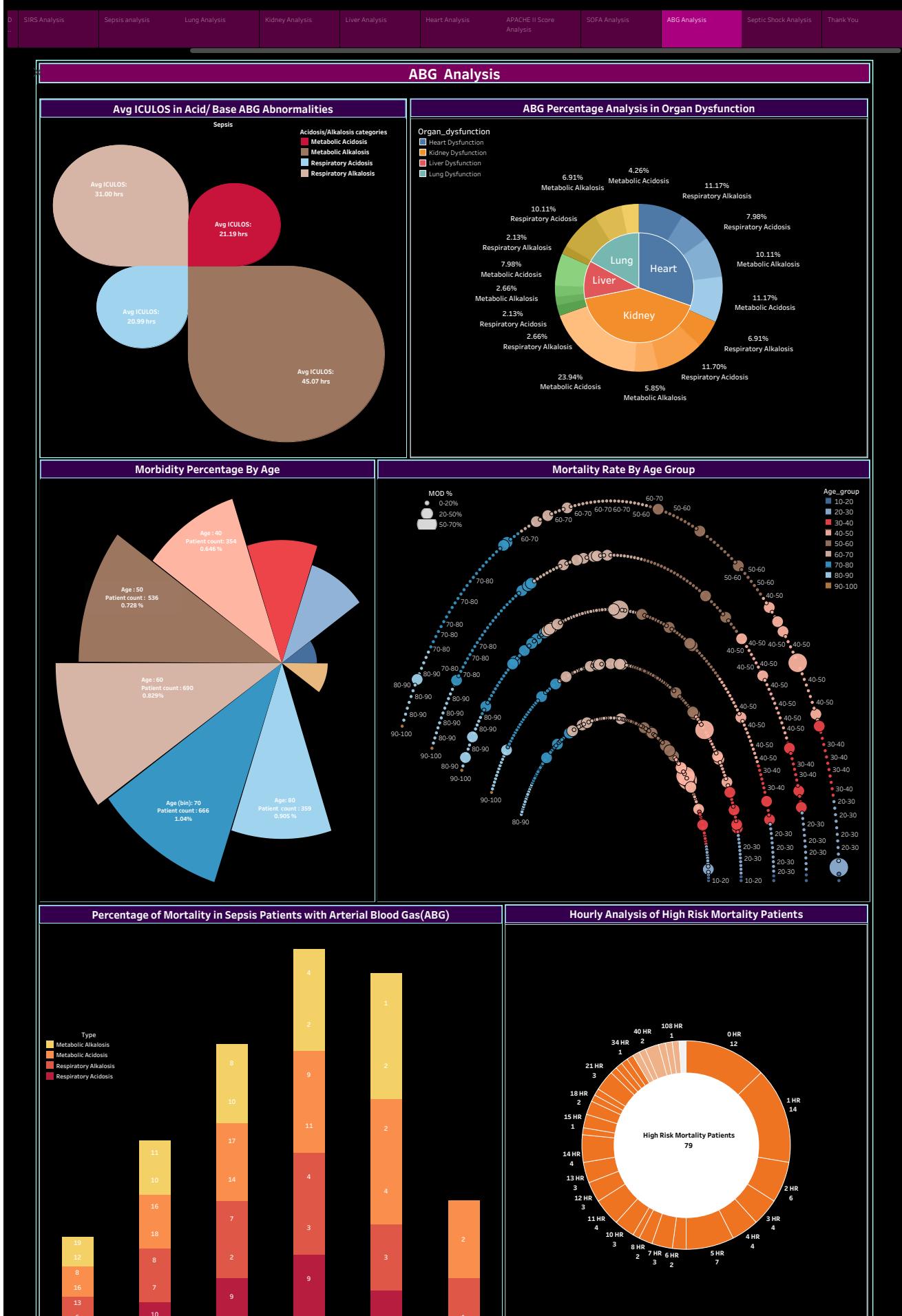
SOFA Score And Mortality Rate								
Non sepsis Sepsis patient status	Patient ID	He..	Coagulatio..	Kidney SO..	Liver SOF..	Lung SOF..	Total..	
	119826	1	0	4	0	3	8	
	119203	1	1	4	2	2	10	
	118591	1	0	4	0	3	8	
	118189	1	2	4	0	3	10	
	117894	1	2	4	0	3	10	
	116744	0	0	4	0	0	4	
	116033	0	0	4	0	0	4	
	115710	1	0	3	0	4	8	
	115683	1	1	3	0	4	7	
	114168	1	3	3	2	3	12	
	114136	1	0	3	0	4	8	
	113979	0	0	3	2	2	7	
	109754	0	0	3	0	1	4	
	108324	1	2	3	1	4	11	
	108198	1	0	3	0	3	8	



The chart displays the distribution of respiratory scores across five categories (Normal, Mild Respiratory Failure, Moderate Respiratory Failure, Severe Respiratory Failure, Critical Respiratory Failure) for females and males. The size of each肺 icon represents the count of individuals in that category.

Gender	Category	Count
FEMALE	NORMAL	258
	MILD RESPIRATORY FAILURE	309
	Moderate Respiratory Failure	2,989
	Severe Respiratory Failure	2,012
	Critical Respiratory Failure	385
MALE	NORMAL	4,345
	MILD RESPIRATORY FAILURE	564
	Moderate Respiratory Failure	3,435
	Severe Respiratory Failure	2,012
	Critical Respiratory Failure	385





SIRS Analysis | Sepsis analysis | Lung Analysis | Kidney Analysis | Liver Analysis | Heart Analysis | APACHE II Score Analysis | SOFA Analysis | ABG Analysis | Septic Shock Analysis | Thank You

Septic Shock Analysis



Septic shock is a severe and life-threatening condition that occurs when sepsis leads to dangerously Low Blood Pressure and Organ Dysfunction. It is characterized by an overwhelming immune response to widespread inflammation and tissue damage, impairing blood flow and oxygen delivery to vital organs.



infection, which causes SBP < 90mmHg / SBP > 40mmHg SBP leads to Hypotension in Septic Shock patients



MAP < 60 mmHg
Low MAP leads to Hypoperfusion



LACTATE > 2 mmol/L
High lactate levels lead to Hyperlactatemia in Septic Shock patients



RESP >= 22 bpm
Both Elevated and Decreased levels of Respiratory Rate can lead to potential Respiratory Failure.



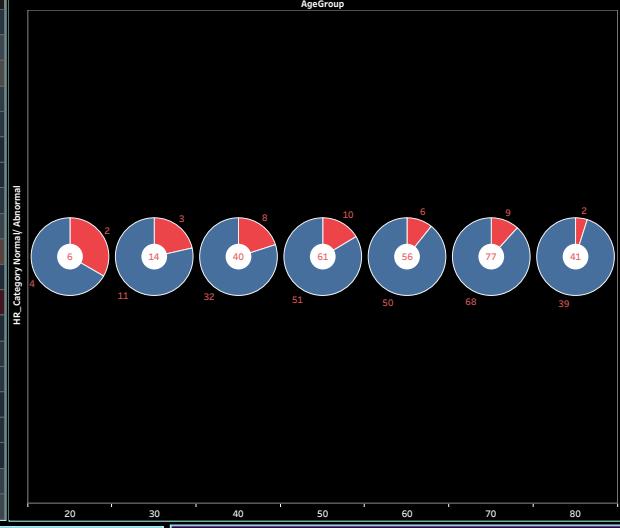
Elevated and Low Temperature can indicate severe sepsis, leading to Septic Shock.

Septic Shock Biomarker Analysis

Septic S..	S ..Hour	SepticShock..	Email	Lactate >2	MAP<60	Resp >= 22	SBP<90
403	4	Septic Shock	Email	3.20	51.00	43.50	79.75
107511	1	Septic Shock	Email	4.64	58.00	32.00	66.00
5987	3	Septic Shock	Email	2.60	57.50	31.00	61.50
8506	1	Septic Shock	Email	5.40	46.00	30.00	74.00
1384	2	Septic Shock	Email	3.20	58.00	30.00	80.00
5391	2	Septic Shock	Email	2.30	55.33	29.00	88.00
18760	1	Septic Shock	Email	4.80	58.00	28.00	87.00
14518	3	Septic Shock	Email	10.00	56.00	28.00	80.00
11090	34	Septic Shock	Email	3.10	57.67	28.00	69.00
1917	0	Septic Shock	Email	6.60	33.00	28.00	59.00
106246	74	Septic Shock	Email	4.44	56.00	27.50	87.00
110106	15	Septic Shock	Email	6.41	32.00	27.00	34.00
10957	11	Septic Shock	Email	6.20	59.00	27.00	88.00
2425	12	Septic Shock	Email	4.30	52.00	27.00	79.25
19481	8	Septic Shock	Email	11.30	56.50	26.00	80.00
13985	1	Septic Shock	Email	2.50	47.83	24.50	87.50
16051	5	Septic Shock	Email	3.00	46.33	24.00	85.00
2700	206	Septic Shock	Email	8.40	55.00	24.00	87.50
19311	100	Septic Shock	Email	3.90	44.00	23.00	71.00
4749	8	Septic Shock	Email	2.20	48.00	22.00	66.50

HR Analysis in Septic Shock Patients

AgeGroup

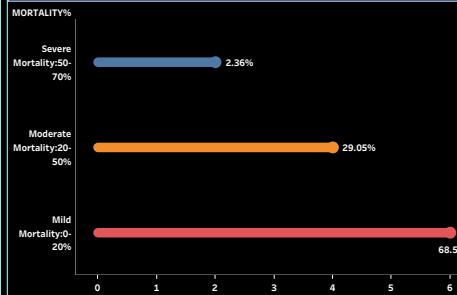


AgeGroup	HR - Category Normal/Abnormal
20-29	6 11
30-39	14 32
40-49	40 32
50-59	61 51
60-69	56 50
70-79	77 68
80+	41 39

Organ Failure Analysis

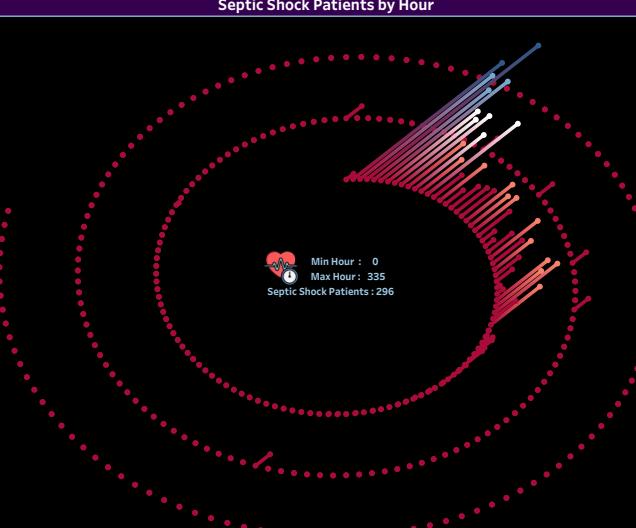
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Mortality rate Based On MOD Score



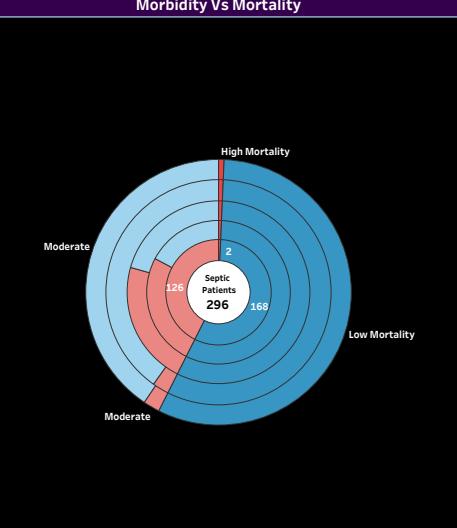
MORTALITY%	Severe Mortality:50-70%	Moderate Mortality:20-50%	Mild Mortality:0-20%
Severe Mortality:50-70%	2.36%		
Moderate Mortality:20-50%		29.05%	
Mild Mortality:0-20%			68.58%

Septic Shock Patients by Hour



Min Hour : 0
Max Hour: 335
Septic Shock Patients : 296

Morbidity Vs Mortality



High Mortality
Moderate
Low Mortality
Morbidity
Septic Patients 296

CONCLUSION

- Sepsis remains a formidable adversary in healthcare, posing a significant threat to patient health and outcomes.
- Data analytics can inform more effective prevention, diagnosis and treatment strategies.
- Early detection and intervention are crucial in sepsis.
- Age, gender and underlying health conditions influence patient outcomes.
- Targeted protocols and advanced analytics can enhance decision-making.
- Continued research and collaboration are essential to combat sepsis.
- The future of sepsis management lies in data-driven insights and innovation.

