SEPSIS WATCH: USING AI TO COMBAT SEPSIS

A Case Study from the Duke Institute for Health Innovation
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THE PROBLEM

- 1 in 3 patients who die in a hospital have Sepsis
- $27B in hospital costs each year are attributable to Sepsis Care
- The median length of stay is 10 days
- The average cost per case for hospital-associated Sepsis is $70K

THE SOLUTION: SEPSIS WATCH

The Steps Taken:

- Define Adult Sepsis
- Create machine learning model to predict Sepsis quickly and accurately
- Design web application to show real-time model results and track treatment

BEST PRACTICES

Recommended Actions:

- Create a Rapid Response Team Workflow
- Create an Implementation Timeline
- Create a Data Pipeline
- Create a Model Fact Sheet

THE RESULTS

Sepsis Watch Features:

- Sepsis is identified every five minutes and Sepsis risk is computed every hour
- The system normalizes data, groups clinically related concepts into meaningful features, and ensures valid inputs to deep learning model

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