



# CRITiCAL PLANNER

Critical Planner helps prevent major operations being cancelled due to lack of critical care bed capacity. It does this by estimating length of stay ahead of operations taking place, so that peaks in demand can be identified and managed.



# OUTLINE

1. What is Critical Planner?
2. User interface
3. Case study
4. Why Critical Planner works



## WHAT IS CRITICAL PLANNER?

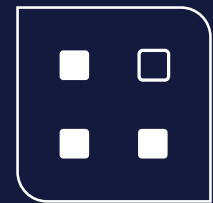
Critical Planner is a decision support tool for critical care bed planning and management



By using machine learning, Critical Planner predicts length of stay for patients undergoing major surgery that will require critical care post-operation. This allows peaks in critical care bed demand to be spotted and managed ahead of time.

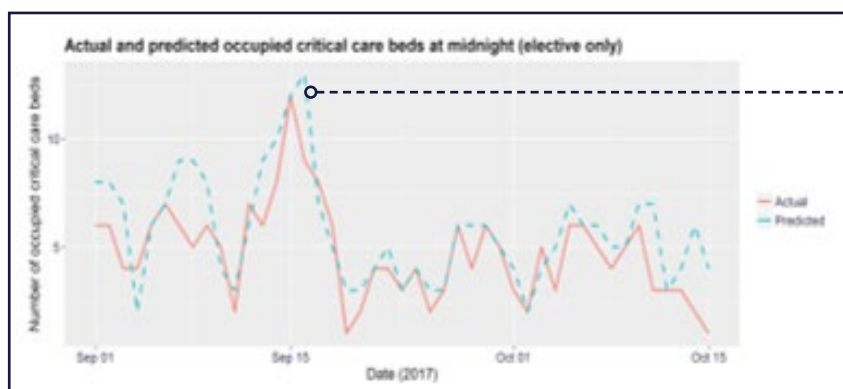
Through these advanced analytics, Critical Planner helps smooth demand. This means major surgeries can be rescheduled if needed – not cancelled.

# CRITICAL PLANNER'S USER INTERFACE



**PREDICT LOS:** How long will the patient need to stay in a critical care or high dependency bed?

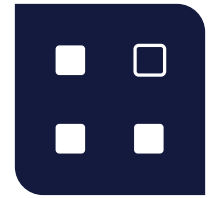
**VIEW UNCERTAINTY:** Build trust in the model through viewing information on the certainty of the prediction



**SEE BOTTLENECKS:** When combined, predictions are summarised for all proposed cases so that potential bottlenecks can be identified in advance.

*(Note: chart shows out of sample prediction versus actual occupancy)*

# CRITICAL PLANNER: A CASE STUDY



## THE IMPACT

Where some hospitals struggle to consistently predict the length of time someone may stay in critical care, Critical Planner has enabled this uncertainty to be removed from one Foundation Trust.

## USING TECHNOLOGY

Through machine learning and a simple user interface, Critical Planner provided the Trust with a robust and usable decision support tool. This can allow bottlenecks in critical care bed capacity to be managed ahead of time through giving visibility of potential peaks in demand – often missed when cases are booked by different departments.

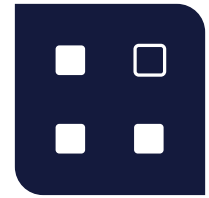


## THE FEEDBACK

“Critical Planner is a sophisticated tool that will enable our hospital to manage our critical care beds more effectively”

Digital Control Centre Programme Director

# WHY CRITICAL PLANNER DELIVERS RESULTS



## SIMPLE USER INTERFACE

Critical Planner has been designed to be used by critical care bed managers dealing with multiple demands. Its purpose is to provide scientific insights that can easily be digested and operationalised.

## REAL TIME INSIGHT

Critical Planner works in real time. As new cases are booked, it updates. This provides insights and warnings when, for example, too many major cases are booked in too small a period of time.

## MACHINE LEARNING

Predicting critical care is challenging when length of stay is dependant on a large number of patient and operation specific characteristics. Through the use of machine learning, Critical Planner makes efficient use of available data to make effective predictions.

## PAINLESSLY INTEGRATES

Critical Planner is driven by your team interfacing with the decision support tool as new cases are booked into critical care.





## CRITICAL PLANNER

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# CRITiCAL PLANNER

Edge Health's vision is to transform the NHS by combining engagement with economics and data science to produce robust outputs for our clients. It has been built by founders that share this vision from their years of working in the health sector and seeing what can be achieved.

In delivering this vision, we understand the importance of maintaining the confidentiality of our clients' proposals, plans and data. To support this we have a range of internal procedures and regular internal audits to make sure these are being followed. We ask in return that our proprietary analysis, approaches, insights, and methodologies are protected by our clients.

