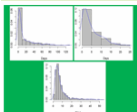


MEASURING HEALTH SYSTEM PERFORMANCE IN DELIVERING QUALITY CARE: AN APPROACH BASED ON HOSPITAL LENGTH OF STAY

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Outline

- Background
- Methodology
- Results
- Conclusion

Background

- Why study LOS(patient flow)?
 - Effective and efficient patient management
 - Effective and efficient hospital management
 - *Health systems*
 - Benchmarking
 - Monitoring and evaluation
 - Capacity planning and efficient utilization of resources.

PATIENT

Fast access, effective Tx by trusted Professionals, involvement in decisions and respect for preferences, continuity of care.....

CITIZEN

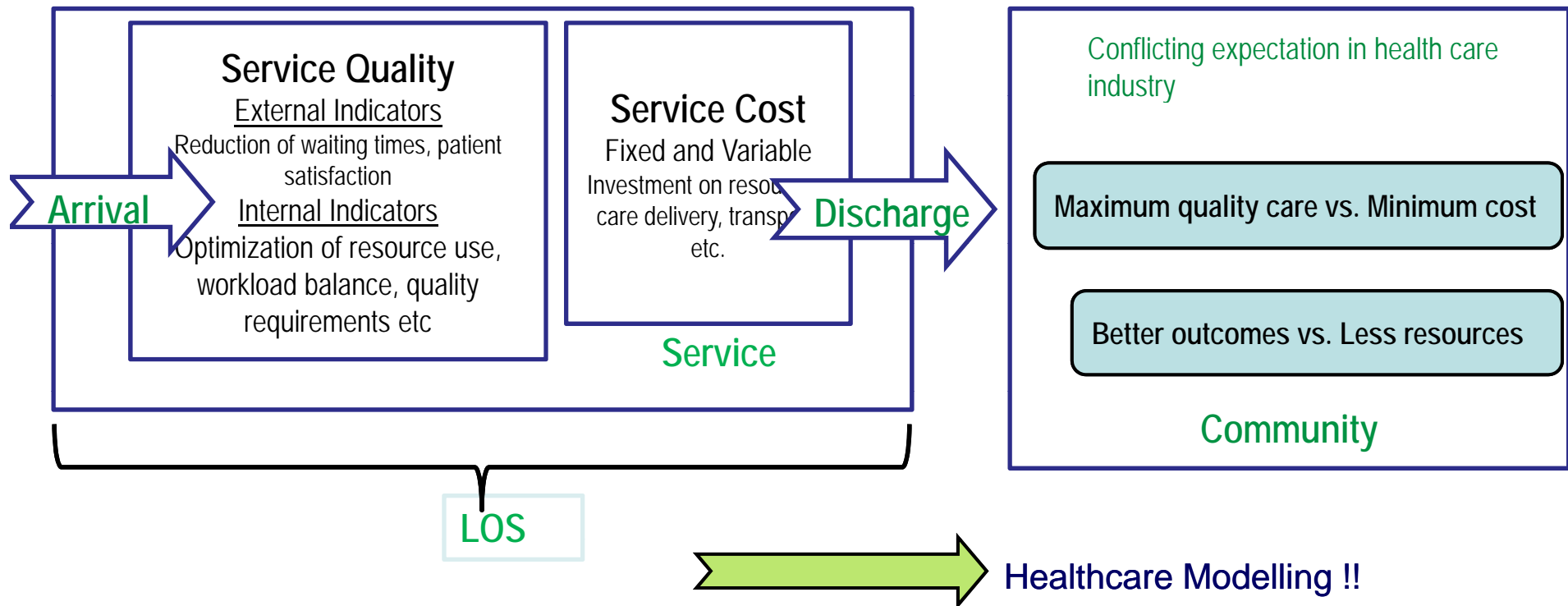
Affordability, universality & equity, safety & quality, health protection and disease prevention..

Background

Main objectives in the healthcare industry

- To determine the most efficient and effective organisation for the delivery of care
- ↳ To maximise the quality of service at a limited cost

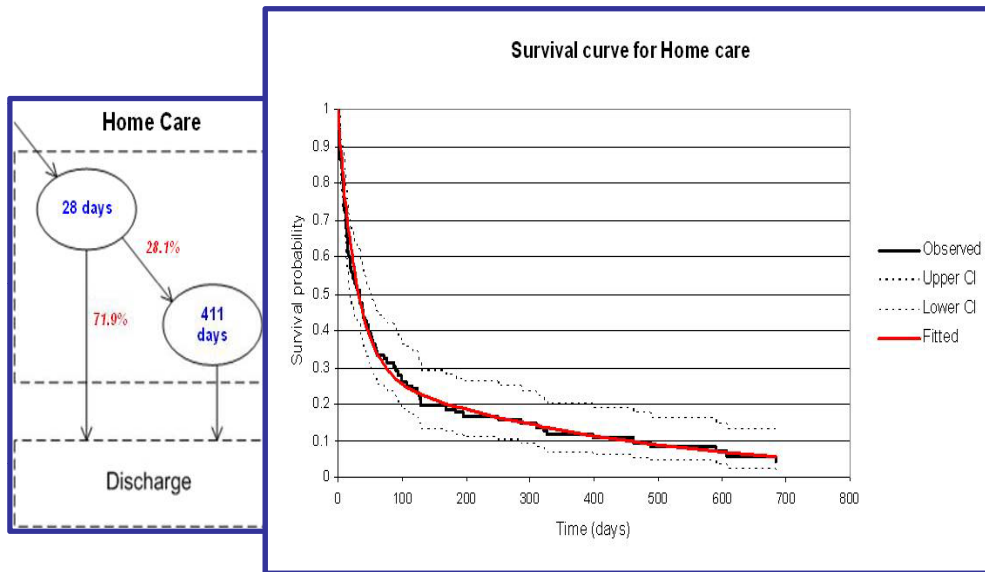
To some degree, **quality** is in the eye of the beholder. This means balancing the competing views and needs of purchasers(HMOs, Govts), patients, and health care professionals.



Results: LoS Modelling

Modelling Long Term Care LOS and Cost

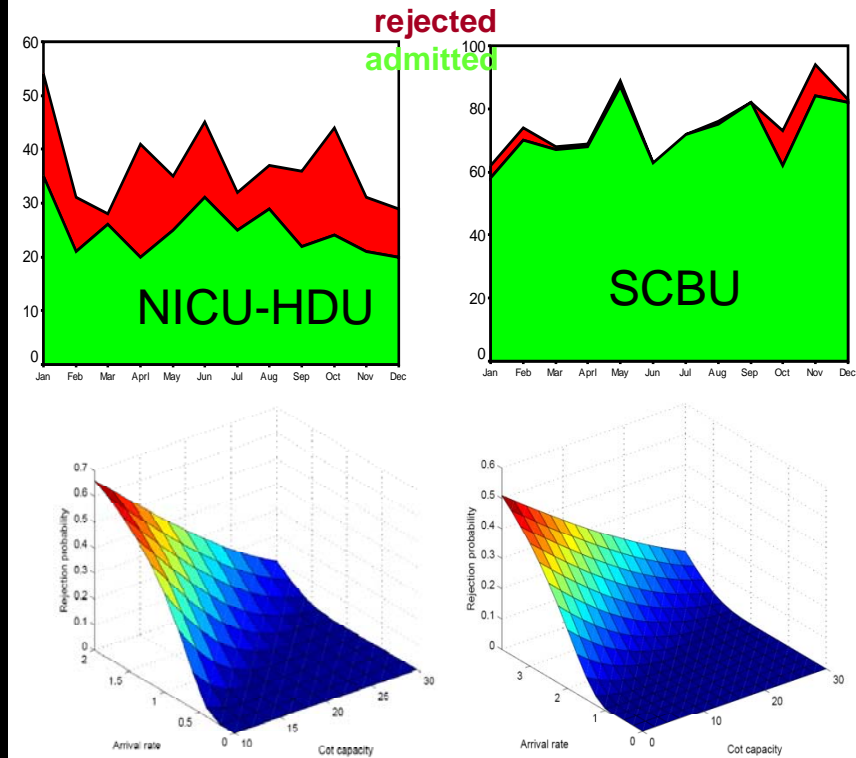
- to capture the movements in the system => *survival model*
- This model is then used to project numbers and costs in care => *cost model*



- Average LoS in short stay state is 28 days, where there is a 71.9% chance for a patient to be discharged by death.
- The survival probabilities
 - can be used to project demand and cost
 - can be used to benchmark against other local authorities.

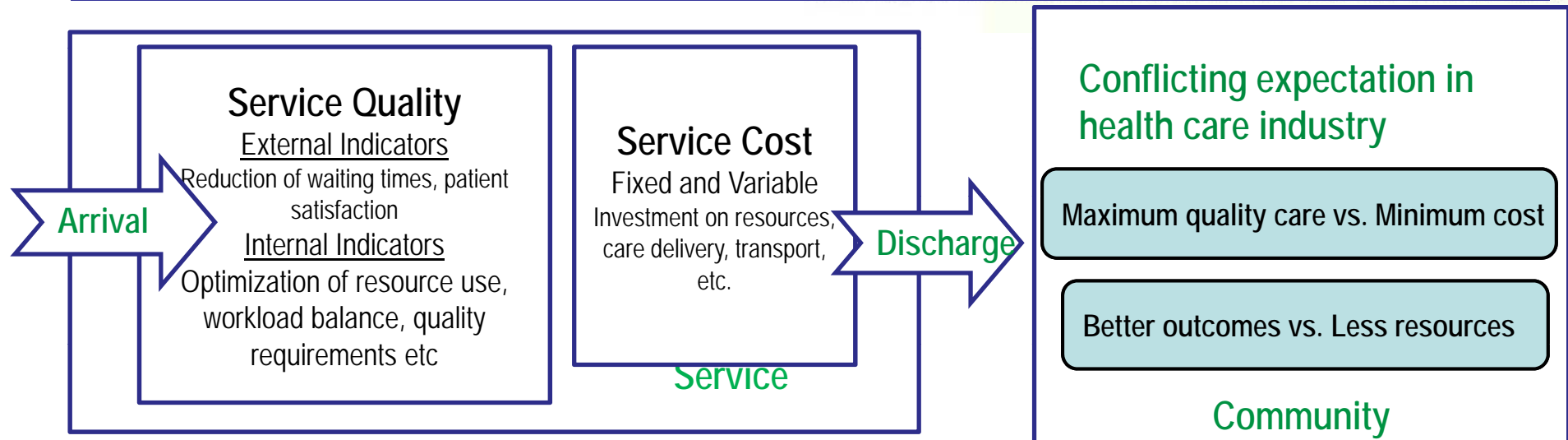
Neonatal Capacity Planning

-The model gives rejection probability in terms of Arrival rate and number of cots



1. NICU-HDU needs seven more cots to accept 90% NICU-HDU babies.
2. SCBU has < 5% rejection probability, because of transition care.

Conclusions

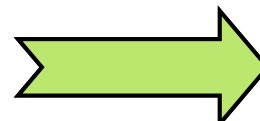


-Health care system is a complex system with attending complex questions that require **optimal** solutions for accurate decision making .

-Optimal solutions require optimization techniques from experienced experts (Statisticians, OR, Applied Mathematicians, Data Miners, etc,) in finding solutions to the complex problems.

-We have demonstrated how LOS can be used to understand the performance and resource consumption of a health care system.

-Finding answers to complex health system problems



Healthcare Modelling !

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...the key to making informed decisions about our health service

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Thank you