

Case Study III - Patient Admission – MedModel

Within the central patient admission (CPA), the reorganization of the administrative patient admission is discussed. During the first investigations, the following important information and processes were already collected:

- On average, the CPA is reached by six patients per hour, with a maximum of 50 patients per day being administratively admitted.
- The interarrival times are exponentially distributed with an average of 10 minutes.
- Three patient admission reception desks are available for the administrative patient admission.
- Patients choose one (usually the shortest) queue in front of a patient reception desk.
- The time required for administrative patient admissions is lognormal distributed with an average of 7 minutes (± 2 minutes).
- After the administrative admission, the patient goes to the ward.

The CPA now wonders whether a reorganization of the administrative process would be useful? For this purpose, it should first be analyzed

- how long is a patient on average in the CPA?
- Furthermore, it is planned to install a "number draw system". However, it is questionable whether this has positive effects on the time of the patients in the CPA.
- How would you assess the situation? Would the new System of "drawing a number" result in a positive effect on the time in the system?
- Can the assumption of the positive effect be secured by a simulation?
- Develop a simple model of the administration process, define locations, resources, entities, arrival rates and the processing for the baseline scenario.
- Change the baseline scenario to investigate the new administration process of "drawing a number".