

Case study Lean Management

Title: Lead time for a patient with medium-emergency abdominal pain in the emergency room

Assignment:

Map the process below by:

- a. A Value Stream Map (VSM), consider the waiting times!
- b. Indicate which VA, NVA and BVA you can find in the process
- c. To which type of waste (TIMWOODS) can you relate the NVA?

Description case:

Patients for the Emergency Department always report to reception first. New patients are registered. This occurs in one of six patients. The waiting time for registration at the reception is on average 2 minutes, registration takes two minutes.

In all cases, a patient name card will be printed. Then the patient is asked to wait in the waiting room. Within five minutes the determination of the urgency takes place; this process is called 'triage' and takes an average of eight minutes. During this triage, the nurse records the basic data of the patient and the triage outcome. The outcome of the triage can be: high, medium, medium or low. The patient then rejoins the waiting room. The average waiting time for a medium-weight patient is 45 minutes.

Patients are picked up by the nurse and placed in the treatment room as soon as room is available. Upon entry, the triage is validated, this takes about three minutes. The nurse then searches for a blood pressure monitor and thermometer, in the meantime the nurse is asked to perform a double check on the medication for another patient. Before returning to the treatment room, the ambulance nurse helps to lift a patient. This happens one in five times. After five minutes, the nurse returns to the treatment room. Measuring blood pressure, saturation and temperature takes five minutes.

The data is then registered in the emergency room's ICT system. This happens outside the treatment room and takes an average of five minutes. The nurse will then contact the doctor and consult with the doctor about pain medication.

After ten minutes, the doctor makes a preliminary diagnosis. This takes five minutes, then he/she goes looking for the nurse. The average search time is three minutes. He asks the nurse to administer medication and request laboratory tests; in 95% of cases, the same type of examination is requested. The nurse provides the authorized medication; this takes two minutes. The nurse then arranges the request for the laboratory examination. He/she does this by walking to the secretariat (half a minute). The secretariat makes the application from the hospital's ICT system within one minute and the nurse registers this application separately in yet another ICT system as soon as he/she has the time to do so; this also takes one minute. It takes about ten minutes for the lab technician to come for blood collection. In the meantime, the nurse helps the patient on the toilet. After thirty minutes, the blood results are known. As soon as the doctor notices them (on average after fifteen minutes of activity in other treatment rooms), the doctor visits the patient and starts treatment in collaboration with the nurse.

Finally, the patient is discharged.....