Supplementary file 1. The simplified patient and data flow

The studied patient and data flow start when a patient referral is registered at the hospital and ends when care starts.

After registration of a new referral, a physician evaluates the case and sets a due date for care, based on priority. Subsequently, scheduling takes place. Between registration and start care, patients are part of the waiting list.

![Figure 1 - Patient and data flow](image)

The continuous version of the patient flow is represented by the inflow registration, the stock waiting list, and the outflow start care. The orange arrows represent average daily flow rates, measured as patients/day.

The discrete version of the patient flow is represented by the numbered arrows. Starting from the point of registration (1), every individual patient is followed throughout the process. The planned capacity and the appointment diary are checked (2), and a booking is made for a future date where
capacity is available (3). Start care (4) is signalled when the booked appointment takes place. At this time the patient leaves the appointment diary and the waiting list.

The appointment diary holds scheduled appointments for today, tomorrow, etc, represented by the boxes inside the appointment diary in the figure. The arrow (3) from booking to appointment diary shows an example where a patient is given an appointment 4 days into the future.

At the end of every day, planned capacity and appointment diary are shifted one day to the left, as illustrated by the 2 left-pointing arrows (♂).

As shown in the bottom of the figure, waiting time and waiting limit are calculated from the historic data associated with each case; registration date (referral is registered), due date (latest date to start care, based on priority) and start date (care is actually started).