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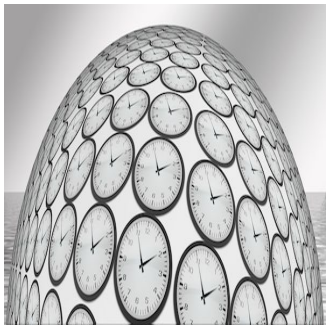
# Management of Medical Imaging Appointments



**The Curie Institute in Paris primarily sees patients with planned attendances and few emergencies. However, they are not immune to the difficulties that can emerge in the management and scheduling of appointments, difficulties that are common to many other institutions, and the prescribed procedures facilitating an optimised organisation of imaging appointments can be applied anywhere. Dr. Sylvia Neuenschwander and colleagues share their experiences in this area with a useful checklist for successful planning. This case study was first published in HealthManagement's predecessor journal, *Imaging Management*.**

#### Case Study - The Curie Institute

This first step, to have a good knowledge of your facility and its evolution, might seem obvious, but although it is easy to generate yearly activity reports, it is much more difficult to obtain more refined and essential indicators, such as the weekly distribution of consultations or the proportion of patients undergoing different procedures in a single day. These are the sorts of elements it is necessary to delineate, in order to streamline department management.

Our institution is a private hospital integrated into the public hospital system (PSPH) specialised in cancer treatment. Outpatient and ambulatory activity is predominant: 110,000 consultations take place per year with approximately 25,000 hospital stays in medicine, surgery, paediatrics and support care. Emergencies only refer to patients treated within the centre. Consequently, 80% of imaging patients are outpatients or ambulatory patients, mostly present for the day. 10% of them are unplanned. Another feature is the frequency of repeated exams, the timing of which depends on therapy requirements.

#### Optimise Capacities

Any optimisation of the imaging department's capacities is only as good as its internal organisation: opening hours, the real duration of machine usage, and the theoretical and real duration of exam protocols are all essential parameters that should be reviewed regularly. This information allows one, on one hand, to plan realistically, and on the other, to evaluate global capacities and consequently to know how many patients can be taken on in the department. The debate around the typology of patients that can be treated within the establishment or referred to other centres cannot take place without the input of senior clinicians. In this delicate situation, data and figures can be convincing.

#### Selecting a System

Since the 1980's, our institution chose a centralised appointment management system accessible by all secretarial staff. This is how successive electronic developments went by without meeting reluctance on the part of the users, since a global and centralised process "culture" was already integrated. The principle is that of the visibility of all planned requirements for a patient, in order to avoid making incompatible appointments, even though each department autonomously sets its own parameters.

Our procedure for booking appointments is set in stone: for imaging appointments, planning is established by managers, exams requiring a radiologist's approval or overbookings can only be entered by department secretaries, while all the other appointments are made by hospital secretaries. Planning takes into account the estimated exam duration for each protocol, medical presence for specialised acts, maintenance or special periods (e.g. summer holidays). Scheduling also takes into account the unavailability of the patient after certain exams (general anaesthesia, PET scan). It attaches written information on the exam which will be sent to the patient along with a confirmation of their appointment.

Interoperability with other computer applications is an essential component for smooth information flow. Each night, the appointment system generates a RIS (radiological information system) worklist for planned patients. All upcoming appointments, whether clinical or paraclinical, are visible in the electronic medical record, which facilitates follow-up care if an anomaly is spotted during an imaging exam. An ideal flow must take into account all the steps of the process, from the request to the transmission of exam results. For this reason, we ideally expect interaction between the electronic exam request and the appointment software.

#### Main Difficulties

• **Missed Appointments:** Even if, as in our case, there are not many, it is useful to detect their cause (in this case, it is generally a change of address which was not updated). It is also necessary to follow up on them to keep the clinician informed.
• **Emergencies:** Their potentiality is assessed according to activity statistics. Consequently, time slots are reserved for them on heavy equipment. However, their random nature and competing exam requests add to the disorganisation that can happen with overloaded equipment, e.g. MRIs.
• **Clinical Trials:** These can cause problems if accurate information on their activity and additional workload for the department has not been anticipated by the clinician in charge.
• **Repeated Exams:**These constitute the main difficulty - the planning of follow up exams clog up time slots in the mid-term and limit appointment possibilities in the shortterm. One solution is not to allow the scheduling of longterm appointments and to block off a certain number of mid-term time slots. However, this method might be outpaced eventually, by the constant growth in a patient cohort. In our establishment, one example is the yearly follow- up MRI for high-risk breast cancer patients: a quick calculation of patients joining the cohort every year and of the percentage of close follow-up exams generated by screening programmes anticipates that by 2010 all available breast MRI slots will be filled by these patients.

#### Checklist for Successful Planning

Two essential requirements are outlined here:
• Define at the outset, and in collaboration with clinicians, those exams that must be carried out in a specialised centre and those which can be delegated to nonspecialised facilities, and be familiar with patient flows and procedures for planning those appointments.
• Acquire tools for exam planning/performing processes. These are essential for process regulation. This operation should be easy to achieve through pre-established automated requests, for example:
  • Time limit to get a response for an exam requiring a radiologist's approval;
  • Appointment time limit;
  • Patient waiting time in the department;
  • Number of delays and consequences on shifts, and
  • Number of missed appointments and causes.

New conditions on the allocation of resources have put increased pressure on all imaging facilities to optimise their equipment usage. It is up to us to devise appropriate tools for the regular assessment of those factors that can optimise appointment and scheduling management, to adapt our services.

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