

Monitoring of Integrated Cancer Pathways

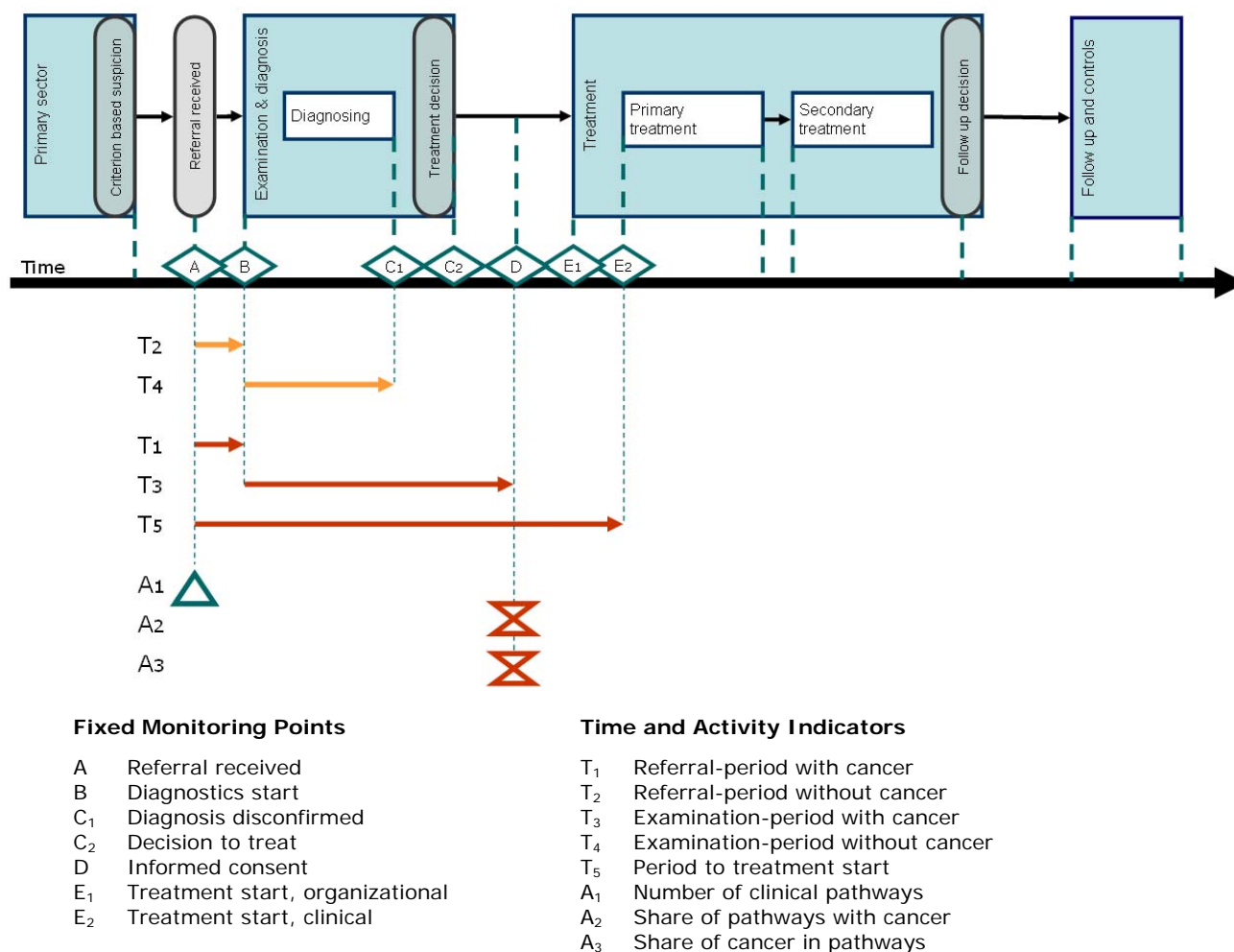
As an integrated part of the development of cancer pathways, a national solution for monitoring the cancer pathways has been developed. The aim is to provide statistical foundation for quality control and development.

Development of the Monitoring Model

The National Board of Health was responsible for the development of a monitoring model in close collaboration with the clinical working groups, who developed the pathways. The model for monitoring had to be general for all cancer types, it had to include patients with criteria based suspicion of cancer, and primarily be based on existing registration.

The model is shown in Figure 1. It illustrates the typical steps of a cancer patients' pathway through the healthcare system. The focus is on the period from referral received at hospital to start of treatment. It was not possible to monitor the time before referral to hospital since data from general practice is limited. Eight general indicators are calculated for each cancer type: Five indicators focusing on time (duration of pathways) and three activity indicators (number of patients in pathways).

Figure 1: The monitoring model



The monitoring is based on the national administrative database of hospital episodes, the National Patient Registry (NPR). It was not possible to use the disease specific quality databases since their focus are patients diagnosed with cancer, and not all patients with suspicion of cancer.

NPR contains primarily administrative data on single episodes and is not designed to follow patients through the hospital sector. In order to monitor the pathways data of the individual episodes are combined into pathways by means of personal identification numbers and assumptions of data appearing in certain patterns.

Some new registrations had to be introduced in order to monitor the pathways. A particular challenge was to identify the start and end points of the pathways. Specific referral diagnoses were introduced to indicate a patients' entry into a pathway. For patients not diagnosed with cancer a new registration of 'diagnosis disproven' was introduced to identify the end of the pathway. The new registrations started in April 2008. The National Board of Health developed guidelines and arranged regional courses on how to register correctly.

Presentation of Results

It is a regional responsibility to make the information available for clinicians and administrators of the hospital sector. A National Monitoring Information System on Cancer (MIS Cancer) was developed with the Capital Region as the executive part and a cross-regional steering committee was set up.

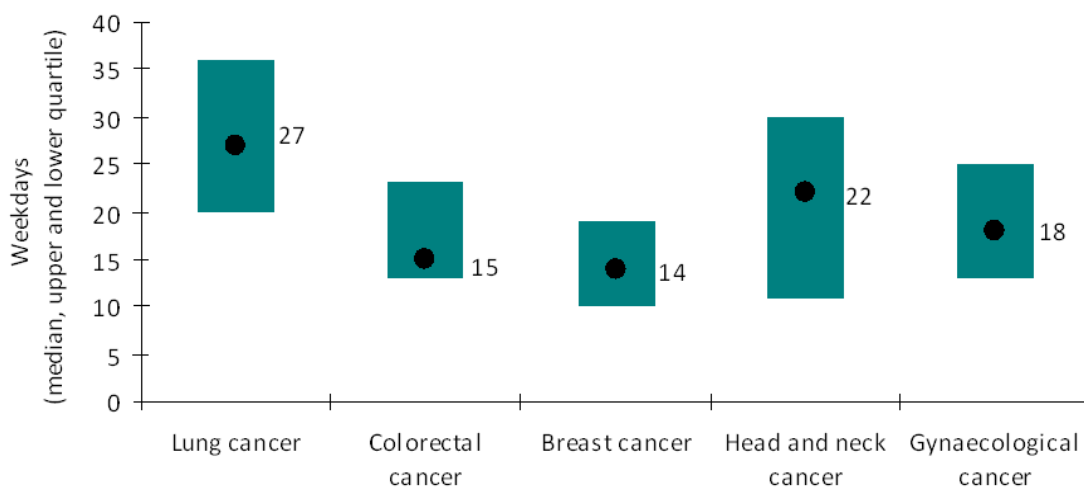
MIS Cancer contains shared data at different user levels in a closed system. The purpose is data dissemination to clinical, hospital, and regional management. The system makes it possible to do benchmarking, statistical process control, user-defined analyses, and to detect errors in the registration. The first data were available in MIS Cancer in October 2008 and data will be updated weekly.

The data in MIS Cancer is also used for the public presentation. The public results are presented at regional and national level twice a year. In April this year – a year after implementation of the pathways – the first results were published. This delay was incorporated in order to give regions time to evaluate and improve data completeness and correctness.

Results

In Figure 2 'time from referral received at hospital to treatment start' is shown for the first five cancer pathways implemented. The time is calculated in weekdays and illustrated by median (•), upper and lower quartile. Many of the patients are treated within the time limits set up for the cancer pathways.

Figure 2: Period from referral received at hospital to treatment start



Data source: National Patient Registry and MIS Cancer, 1st half of 2009

It should be noted that the monitoring model does not take into account that duration of pathways can be prolonged due to co-morbidity. Furthermore, not all patients following a cancer pathway is included in the model. Some are excluded because of data technical assumptions of the model; others are excluded because of invalid data. Data quality has improved over time but there is still room for further improvement.

The future perspectives are to clarify the possibilities of combining data from NPR with data from national disease specific quality databases in order to incorporate measures of clinical quality. Along with that the efforts of improving data correctness and completeness will continue.

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