



GUIDELINES
FOR CLINICIANS
ON THE USE
OF THE
PATIENT
ADMINISTRATION
SYSTEM
IN
NORTHERN IRELAND

CREST
CLINICAL RESOURCES EFFICIENCY SUPPORT TEAM

This booklet has been produced by CREST (the Clinical Resource Efficiency Support Team).

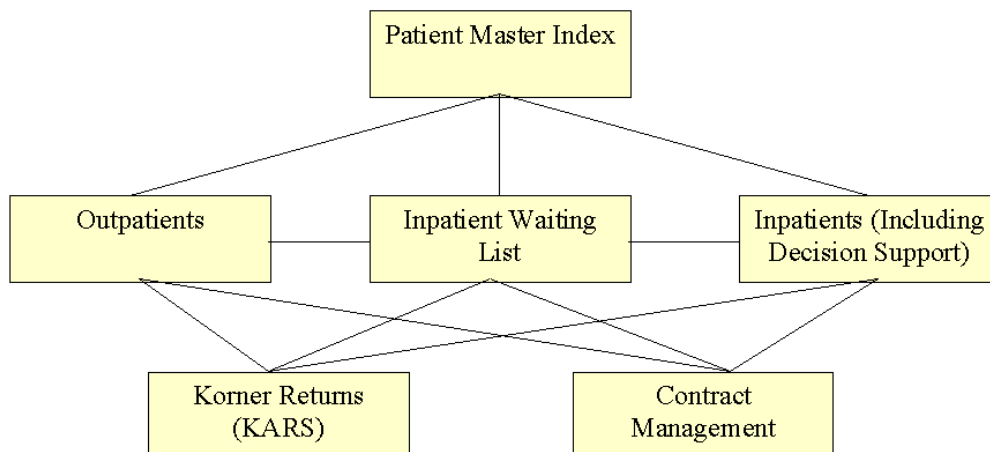
CREST is a small committee of doctors established, under the auspices of the Central Medical Advisory Committee, to promote clinical efficiency in the health service in Northern Ireland while ensuring that the highest possible standard of clinical practice is maintained.

Special thanks are due to Dr Clive Russell, Consultant Physician, Tyrone County Hospital who prepared the guide in consultation with Dr Jim Jamison, Department of Health and Social Services.

1. Introduction

- 1.1 A computerised Patient Administration System (PAS) is now operational in all major acute hospitals in Northern Ireland. The system consists of a series of modules, one of which maintains the Patient Master Index which is linked to each of the other modules and which is the core of the system. The objective of this guide is to describe the various modules available within the system; to indicate their potential and their limitations, and to outline how the system is made available to clinicians and others.

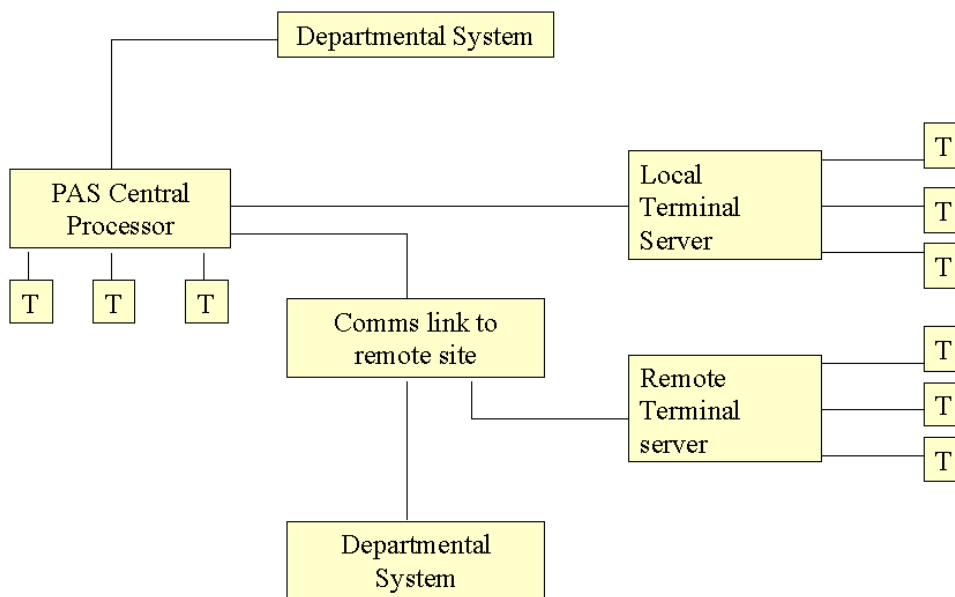
Interaction between PAS modules



1.2 The PAS in use throughout Northern Ireland hospitals was developed by a commercial supplier, Shared Medical Systems (SMS). It has also been implemented within several Regional Health Authorities in England. In Northern Ireland, support is provided through the Directorate of Information Systems of the HPSS Management Executive. The System runs on a series of powerful mini-computers which can either service one hospital or be shared by a number of hospitals. There are considerable advantages in having the same software modules in use throughout all Northern Ireland hospitals while still providing local flexibility.

1.3 PAS can also be used to support Clinical Information Systems and Departmental Systems throughout the hospital.

Communication links between Central Processor and Local Terminals



T = Terminal

2 PAS Modules

2.1 Patient Master Index (PMI)

2.1.1 This module represents the core of PAS and all other modules are linked to and depend on it. The module maintains an index of all inpatients and outpatients who have been in contact with the hospital. The Patient Master Index holds all the basic patient details such as names (and previous surname), address, date of birth, GP, next-of-kin and the casenotes number.

2.1.2 The Index can be searched for patient details at any time using any of a number of key data items such as surname or hospital number. Retrieval of patient details can be quickly achieved so that, for example, previous patient charts for “out of hours” admissions can be quickly identified and retrieved.

2.1.3 The Index also retains episode summary details of all previous admissions, outpatient attendances, waiting list bookings and pre-admission records for each patient who has had contact with the hospital or any other hospital linked to the same PAS.

2.2 Outpatient Module

2.2.1 This module facilitates the management of outpatient clinics, starting with clinic booking procedures. The clinician initially specifies the clinic set-up to his own requirements in terms of timing and frequency as well as the target ratio of new review patients, appointment timings and “overbooking” rules. Within these parameters new and review patients can be booked to attend specific clinic sessions so that clinicians or their secretarial staff can preview and plan clinics for days or months in advance.

- 2.2.2 When an appointment is made, the outpatient module will prepare a letter setting out the time and place of attendance. Consultants can design the “standard” letter to their patients’ particular needs; for example, to attend five minutes before the allotted time or to bring a specimen of urine to the clinic.
- 2.2.3 At any stage prior to the clinic, copies of the clinic list can be printed to allow the patients’ charts to be traced and prepared or to help senior medical and nursing managers to allocate the appropriate staff for the particular clinic.
- 2.2.4 The module acts as an electronic diary so that trained staff can deal quickly with GP and patient enquiries about urgent requests and cancellations. A competent secretary or clerical officer with direct access to a system terminal can initiate new appointments, cancellations, and alternatives over the telephone.
- 2.2.5 Having been seen at the clinic, the patient can be booked for a review appointment by a receptionist or a nurse before leaving the outpatient department. This can considerably reduce postage costs and the task of re-arranging appointments which do not suit the patient.
- 2.2.6 The outpatient module accumulates transaction information from which outpatient statistics - such as those required by Boards and the Department - can be automatically produced. In addition the clinician can use this information to monitor the number of patient sessions held, the ratios of new and review patients and the numbers of patients not attending.

2.3 Waiting List Module

- 2.3.1 This module is designed to assist clinicians in managing their inpatient waiting lists. They can set the waiting list management parameters to their own requirements and can tailor pre-admission details to their own needs. This allows the clinician to select patients for admission and to review the waiting list regularly.
- 2.3.2 In addition to patients' personal details the clinician can include planned procedures, working diagnoses, expected admission dates, estimated theatre time, the date of the last outpatient review appointment and the date the patient was added to the waiting list. There are facilities to defer, remove or re-instate patients, and to transfer patients to another "common list". The clinician can allocate the degree of urgency to be attached to a particular case.
- 2.3.3 The module has several standard waiting list reporting functions and others can be tailored for specific requirements. Properly used, the waiting list module will replace existing manual systems such as card indexes, diaries and "operation books".

2.4 Inpatient Module

- 2.4.1 This module records the main clinical and administrative details of an inpatient stay. The introduction of Korner-based statistics gave rise to the concept of the “hospital spell” - i.e. the total time a patient is in hospital between admission and discharge. Within this, there may be a number of “consultant episodes” which in total make up the spell. For example, a patient may be admitted to a General Surgical Unit as an emergency, spend some time in an Intensive Care Unit (ICU) after surgery, return to the General Surgical Unit from the ICU and finally be transferred to a rehabilitation department before discharge. Each of these episodes may involve the patient being managed by different teams or specialists. The PAS enables these transfers to be recorded within the overall stay. There is also provision to record day case activity.
- 2.4.2 On admission, data in the Patient Master Index are updated, if necessary, and details of the admission are recorded. These include the source of admission, eg GP referral, transfer from another hospital etc., the date the patient was placed on the waiting list, the responsible consultant and specialty etc. Where the patient had been on a waiting list much of the data will be automatically transferred to the inpatient module from the waiting list module. At the end of the spell, discharge-related data such as the method of discharge and the destination on discharge are recorded together with codes indicating the diagnosis and operative procedures.

- 2.4.3 Data within the inpatient module thus provide a rich source of information for clinicians, as well as central returns required by Boards and the Department for monitoring and accountability. Analyses are readily available by consultant, ward, specialty or for the whole hospital to provide information such as lengths of stay, patient throughput, turnover intervals and bed occupancy.
- 2.4.4 The inclusion of diagnostic codes (including ICD 9) and operation/procedure codes (OPCS 4) enables inpatient activity for particular diagnoses or operations to be analysed. This allows the clinician to review the range and type of work undertaken in a more informed way than merely counting the numbers of patients admitted. Thus much of the gathering of data to support medical audit can be substantially speeded up.
- 2.4.5 Clinical coding is crucial to the successful introduction of the NHS Reforms, especially in areas such as contracting, medical audit and epidemiology. It is worth noting that diagnostic and procedure codes are now mandatory data items.

2.5 Decision Support

2.5.1 A major problem, from the clinician's viewpoint, of the early versions of PAS was that the provision of statistics, while comprehensive, did not reflect the information needs of clinicians or others who wanted to view data at a detailed level. In response to this need a "decision support system" has been developed. This is comprised of a micro-computer attached to the PAS which allows the use of proprietary software packages such as LOTUS 123 to display data available from the PAS in tabular or graphical form, eg the postcode of patients which provides information on the catchment area. Several hospitals and units have now attached this system to the PAS and have tailored it to abstract the data which meets their local requirements for analysis. This development has been a major success and provides considerable flexibility to a clinician to analyse those data which are of particular interest in a preferred format.

2.6 Contract Management Module

2.6.1 The Contract Management Module is central to the operation of the contract process, utilising data which has already been input. It facilitates the recording and monitoring of contracts, produces "Claims for Payment" returns which support invoices, and produces the Contract Minimum Data Sets.

2.7 Korner Aggregate Returns (KARS)

2.7.1 This module extracts data from the inpatient, outpatient and inpatient waiting list modules and produces the Korner Aggregate Returns, as required by the Boards and the Department.

3. Use of PAS

- 3.1 Access to the PAS is through computer terminals which can be geographically remote from the mini-computer. There is a series of security controls to ensure that access is limited to those with authority to see and use specific information. PAS is not merely a medical records system accessed only from the medical records department. It is a patient-based information system which can provide valuable facilities for a range of departments and terminals and should be located close to where related functions are carried out. Terminals should certainly be readily available at admission points, outpatient departments and in clinical departments, in addition to the medical records department.

- 3.2 To date not all hospitals have implemented the full range of PAS modules but they are working towards this objective. Unless the functions and capabilities of the various modules are clearly understood and made use of a hospital and its staff will not obtain the full benefits offered by the system.

- 3.3 As well as having terminals close to all those involved in doctor/patient contacts it is essential that all the relevant staff, of whatever discipline, are properly trained on how to use the system for routine tasks and how to exploit its capabilities to their advantage. The system has the capability to operate in a training mode which exactly replicates the live environment and several staff can be trained in this way at the same time. Experience has shown that it is important that training should be performed "on-site" by training staff who have local knowledge of the staff and hospital. The best results have been achieved using small groups and only covering knowledge on a small range of tasks at any one time. This incremental approach minimises confusion and "learning fatigue".

4. Conclusion

- 4.1 It is important to emphasise that the PAS is not a replacement for a medical records system, nor does it eliminate deficiencies in a medical records department. It is self-evident that the benefits occurring from any system such as PAS can only be achieved if information recorded in it is timely, complete and accurate.
- 4.2 PAS provides a means to improve the administrative processes which support the patient/doctor contact. It allows doctors, nurses, secretaries and medical records staff to exercise better control of these processes, whether for spells of inpatient treatment, outpatient attendances or for maintenance of waiting lists. It provides clinicians with a valuable information management system and removes many of the administrative irritations which they encounter.

- 4.3 If used correctly the PAS can also improve the job satisfaction of medical records staff and eliminate some of their mundane routine activities such as multiple recording of patient details and manual preparation of statistics.
- 4.4 In addition, there are significant benefits for patients. Problems of lost patient charts, overbooked clinics, inaccurate waiting lists, patients' complaining of long outpatient delays and unsuitable appointment times can all be reduced.
- 4.5 It is important for clinicians that access to the system is shared at clinical level. Clinicians do not need to have a working knowledge of computers but it is essential that their clinical and secretarial support staff are adequately trained in using the system and have access to advice to resolve any difficulties encountered.
- 4.6 The provision of the associated decision support tools at clerical level will enable the full potential of the PAS to be realised. Where management and clinicians are in effective partnership the system provides information which can be of enormous benefit in managing and planning the running of the hospital.