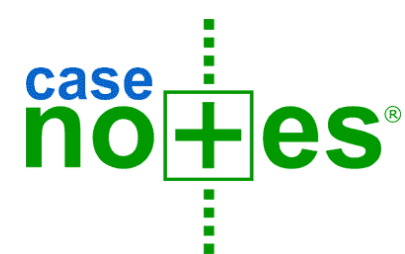
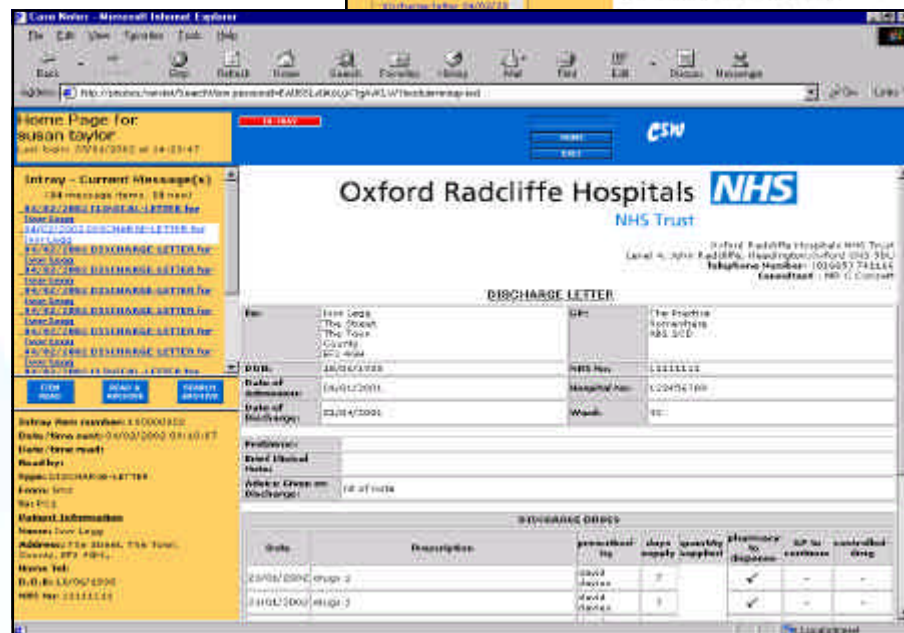
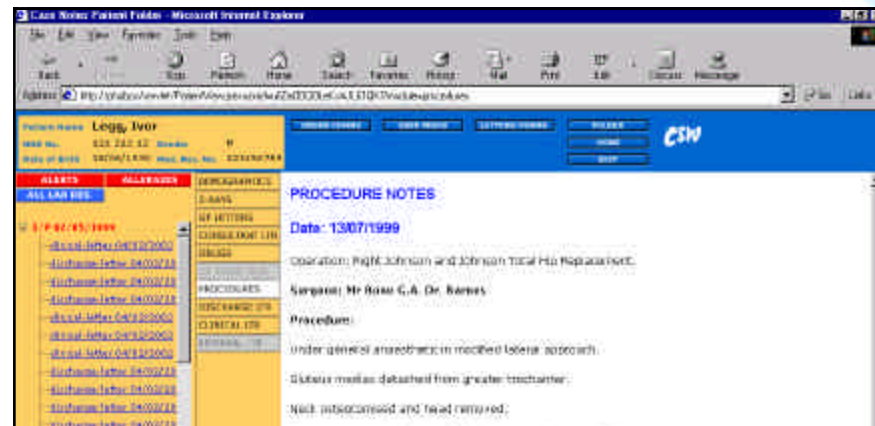


Case Study:



An Electronic Patient Record (EPR) at the Oxford Radcliffe Hospitals



An EPR at the Oxford Radcliffe Hospitals

CSW Health and the medical informatics team at the Oxford Radcliffe Hospitals (ORH) first worked together to develop the award winning Oxford Clinical Intranet (*Information Management Awards, 1998*). This Intranet not only allows clinicians to pick up reports from eight different departmental systems, but also acts as the user interface for the Electronic Patient Record (EPR) to any one of the four hospitals linked computers.

Since 1999 the Oxford Clinical Intranet has been extended through the use of CSW Case Notes™ and the EPR now provides additional applications and functionality, including modules for patient referral and immediate discharge. Oxfordshire GPs have access to this new system through a secure sign-on for remote access to their patients' records.

The Problem

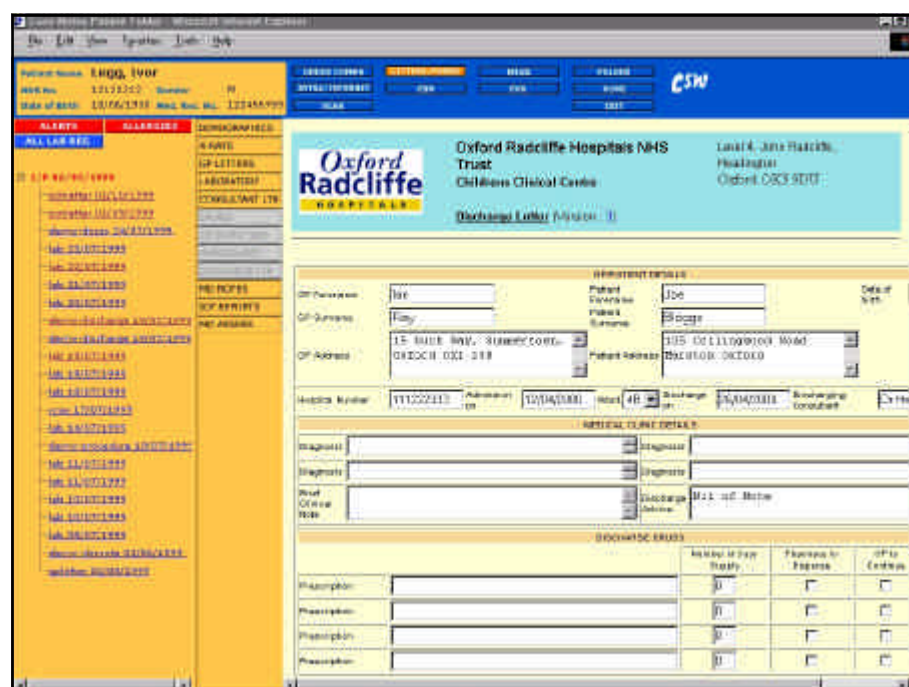
The Oxford Radcliffe Hospitals is a large teaching hospital with over 1000 beds and more than 2,500 clinical users spread across four sites in and around Oxford. The problem of integrating and sharing information across many departmental systems has challenged the Oxford Radcliffe for many years. Dr Jonathan Kay, consultant chemical pathologist and Head of the Medical Informatics Group at the Oxford Radcliffe explained, *"Many departments have chosen systems which are best of breeds, but this makes it difficult for a clinician to have one source of access to all."*



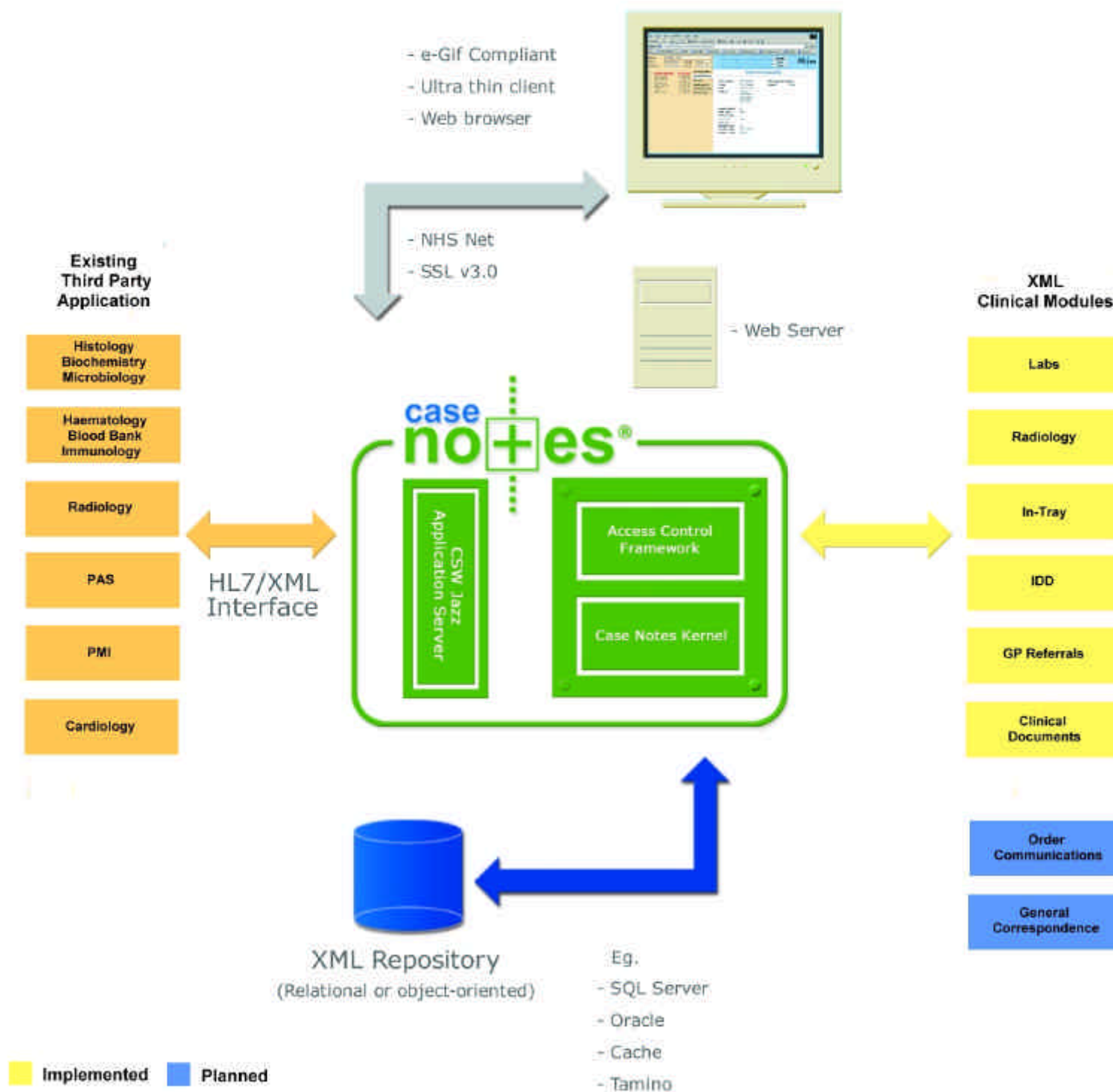
Objectives

The major objectives of the EPR developments at Oxford Radcliffe Hospitals were:

1. To provide clinicians with secure access to information about their patients held on multiple remote disparate computer systems.
2. To achieve this using a thin-client, web-based architecture with cross-platform ability.
3. To provide the impression of a single Electronic Patient Record (EPR) for each patient.
4. To provide a framework for progressively extending the system to support further EPR application modules.
5. To provide access to existing support and advisory information, developed both within the organisation and collected from other sites and projects.
6. To provide automated retrieval and presentation support information, which is contextually appropriate to the component of the EPR currently viewed by the clinician.
7. To provide a framework for the evaluation of EPR application records to support the clinical process.



CSW Case Notes™ - Oxford Radcliffe Hospitals EPR Architecture



Installation and Maintenance

CSW Case Notes™ is used by the Oxford Radcliffe Hospitals in a multi-tiered architecture that allows for rapid scalability on the server-side and reduces the client configuration to zero. CSW have provided the Trust with modules that allow progressive development of a full EPR. All that is needed for user access is a standard web-browser such as Microsoft Internet Explorer or Netscape Navigator.

Secure

The Oxford Radcliffe Hospitals needed a single secure logon to conform with the NHS' current security recommendations. CSW Health achieved this through Case Notes' Access Control Framework (ACF). The ACF is a generic security and access control framework, essential to the control and tracking of user and system access to the underlying XML repository.

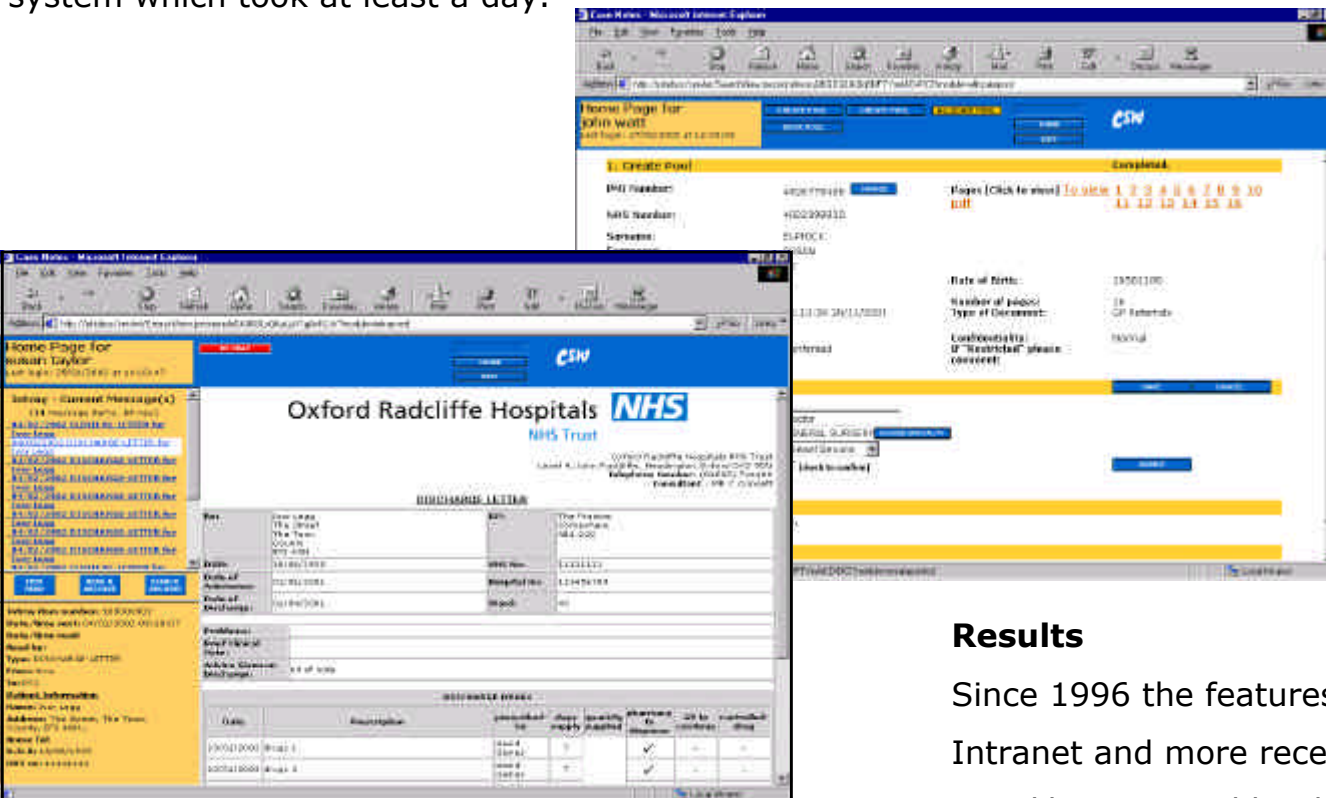
Results Reporting:

Pathology, Radiology and Blood Bank Reporting

Case Notes supports the core diagnostic and support services of Pathology, Radiology and Blood Bank by integrating existing e-GIF compliant Laboratory, Radiology and Blood Bank modules. Pathology modules include Biochemistry, Haematology, Immunology, Histology and Microbiology. Users are able to view single reports, select tests for cumulative tabular display, and then graph individual analytes. These diagnostic services modules are used by clinical staff across all Oxford Radcliffe sites, except for the Horton.

In-tray module

The Oxford Radcliffe Hospitals uses the In-tray module, a mechanism that allows targeted Clinicians and patients GP practices access to specific documents. The In-tray allows Clinicians to view patient specific documents, such as laboratory reports and discharge letters. Through In-tray these documents can now be viewed just minutes after the documents have been issued, compared with the traditional EDI and paper system which took at least a day.



Immediate Discharge Documents (IDD)

The IDD module creates an electronic discharge document that summarises information from a patient's care in the ORH. The information contained in this document includes, details of the patients stay, discharge information/advice and details of drugs prescribed on discharge. The IDD can then be accessed by a patient's GP through the In-tray. The IDD module is integrated with the Pharmacy to provide a workflow system for drug dispensing on discharge.

Simple Correspondence

Simple Correspondence is a letter creation module implemented at the ORH, which enables clinicians to use letter templates to create patient related documents more efficiently. The template draws patient demographics from existing documents and the completed documents can then be sent via In-tray to the patient's GP. As this module forms part of the Case Notes EPR at the Oxford Radcliffe Hospitals, the letter in turn forms part of the patient's individual EPR.

GP Referrals

The Oxford Radcliffe Hospitals wanted a more controlled and effective way to manage GP referrals. Previously all GP referrals were processed through a number of clinical departments and administrative locations. By using CSW's GP Referral Module the ORH has a workflow process that can be used to process, monitor and streamline the referral process. All GP referral letters are now collated in designated locations and scanned into CSW Case Notes™ forming a central

electronic letter pool. This pool is then used to allocate referrals to relevant Consultants or Clinical leads across the ORH. The referrals are then prioritised and appointments booked.

Results

Since 1996 the features available on the Oxford Clinical Intranet and more recently the Case Notes EPR have steadily increased by the addition of further modules. Usage has grown from a few hundred users per day to over 2,500 daily clinical user sessions.

The Oxford Radcliffe Hospitals is one of the largest teaching hospitals in the NHS. By using CSW Case Notes™ the Trust is able to support all clinical staff with electronic patient information at the point of care through a fully e-GIF compliant web-based environment.