Enabling information flow between patient record systems

An 'Outcomes Interface' between Medisoft and Cerner Millennium demonstrates how interoperability can be improved for the benefit of Trusts, clinicians and patients.

Electronic records are now an integral part of routine healthcare, but data flow between specialist services like ophthalmology and the wider hospital is not always enabled, let alone seamless. Instead, hours of clinician time are wasted typing the same information into different systems, blocking valuable clinic time and resulting in inevitable data entry errors.

Ophthalmology is one of the busiest subspecialties, and patient numbers continue to grow: hospital eye service outpatient attendances rose by more than 42 percent between 2009 and 2019 . The need for improved sharing of data has never been more acute. Recognising that no single IT system can meet the complex needs of multiple hospital departments, NHS leaders are now prioritising interoperability: the adoption of standardised interfaces to allow IT systems to exchange structured clinical information safely.

The NHS Long Term Plan emphasises that NHS Trusts and IT system providers must take steps to ensure the NHS "achieves maximum value by reducing duplication and sharing systems between organisations where possible based on open standards and interoperability". For users of 'best of breed' subspecialty systems, this means

> **"** *Digital services and data interoperability give us the opportunity to free up time and resources to focus on clinical care and staying healthy.* **"**
>
> The NHS Long Term Plan, 2019

establishing data feeds both inwards (e.g. patient address and contact details) and outwards (e.g. chargeable activity). The Royal College of Ophthalmologists reinforces this, advocating integrated patient pathways – as well as updated software and IT infrastructure – in order to maximise use of clinician time, optimise workflow and service capacity and improve the patient experience.

The challenge

To help manage their ophthalmology patients and visits, Royal Berkshire NHS Foundation Trust (RBH) and Calderdale and Huddersfield NHS Foundation Trust (C&H) use two platforms: a specialised ophthalmology electronic medical record (EMR) from Medisoft captures the assessment, diagnosis and treatment of ophthalmology patients, while Cerner Millennium

is used as their hospital-wide electronic health record (EHR).

Previously, these two digital systems were not connected. While much of the ophthalmology patient journey at RBH and C&H was paperless, with appointments and payments managed in Medisoft, processing other information was manual and involved paper notes. This situation had an impact not only on workflow efficiency, but also revenue capture. Each Trust recognised the critical importance of improving the patient and clinician experience and decided to integrate Medisoft and Cerner Millennium.

The solution

In order to consolidate clinical information from all specialties including ophthalmology, experts from both Medisoft and Cerner worked collaboratively with the Trusts to develop the

HL7 'Outcomes Interface'. The eye department enters clinical data into Medisoft and key information required by the Trust is pulled through into Cerner Millennium on a daily basis, as the flow diagram below illustrates.

Crucial information is now captured automatically, including the conclusion of the appointment, procedures performed, planned follow-up appointments, investigations and chargeable activity, along with other documents to help maintain a comprehensive, up-to-date and reliable clinical patient record. As well as huge efficiency gains, this mitigates the risk of data being entered inconsistently into different systems.

Since the flow of information between both systems is in real-time, staff can track the patient journey through the clinic, enabling a smoother and better-informed experience for all.

Delivering value

Prior to introduction of the Outcomes Interface, the project team calculated that an ophthalmologist seeing 24 patients daily would spend an hour every day entering appointment data into the two different systems. An audit at RBH before the interface was released also uncovered that a significant proportion of chargeable activity was missed. The integrated solution led to a reduction in coding errors and unrecorded procedures, helping RBH to generate an additional £500,000 extra revenue each year, a return far in excess of the initial outlay for the project.

The team at C&H are about to go live with the Outcomes Interface and look forward to benefitting from data flowing between systems and departments. The Trust's clinicians will have more time and the right information at the point of care; allowing them to provide safer, better informed care and improved outcomes, as well as a positive patient experience.

Image: © Heidelberg Engineering

The benefits of the Outcomes Interface

1. **Better visibility of information:** Clinicians across the Trust have a complete view of a patient's treatment.
2. **Time savings:** Clinicians no longer need to enter data twice, releasing valuable time to see patients.
3. **Improved patient and appointment tracking:** Live flow of information enables clinicians to follow every patient through a clinic in real time
4. **Accurate coding and billing:** Automated pull-through of outpatient procedures means they are correctly coded, and the Trust is reimbursed for all chargeable activity.
5. **Enhanced patient experience:** Follow-up appointment booking is streamlined, ensuring the patient receives their appointment as intended.

Find out more

Discover how the Outcomes Interface can improve care, save money and enhance patient experience by contacting Medisoft Limited on

0113 347 2020 or info@medisoft.co.uk or visit www.medisoft.co.uk

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Ophthalmology outpatient clinic information flow with the new Outcomes Interface

Cerner

- Outpatient (OP) appointment made →
- Patient is checked-in at the desk
- Appointment is checked out based on outcome. Clock stopped if appropriate
- OP procedures are added
- Order for surgery waiting list, OP procedures and OP appointments is created. If appointment was made within the last 24 hours for the same appointment type, order is reconciled

Medisoft

- Appointment made in Medisoft clinic list on the day of the appointment
- Patient 'arrives' in Medisoft check-in data is updated in clinic list
- **Record opened in Medisoft**
- Clinical information, diagnostics and procedures are recorded
- Outcome patient
  - Discharge
  - Request future appointment
  - List for surgery
  - Record RTT code
  - Record OP procedures and diagnostics*
- Overnight process collates all information and generates messages to Cerner Millennium

*Medisoft is linked to diagnostic equipment and keeps record of procedures carried out such as anti-VEGF injections and FFAs. Medisoft collates this information automatically and identifies procedures carried out on the day to add to Cerner Millennium.