



Alder Hey Children's Transforms Care with MEDITECH's Interoperability Solutions

Introduction

Healthcare delivery in the United Kingdom is undergoing a digital transformation. Outlined in the National Health Service's **Five Year Forward View**, the plan aims to remove silos that prevent information sharing among the patient's physical and mental healthcare providers and social services. The plan also indicates that far more care will be delivered locally to support people with multiple health conditions, not just single diagnoses.

The NHS in the northwest counties of Cheshire and Merseyside (C&M), which includes Alder Hey Children's Hospital, is working within the NHS roadmap to connect healthcare and social services organisations through interoperability initiatives. These efforts are expected to improve quality, safety, and outcomes, while at the same time enhancing the patient experience.

SNAPSHOT

Opportunity

Create a shared patient record to advance interoperability across the region. As a **Global Digital Exemplar (GDE)**, Alder Hey has taken the lead in piloting this digital health effort.

Solution

MEDITECH's interoperability solutions use of global standards and collaboration through the NHS' **Share2Care programme**.

Benefits

Alder Hey has embedded shared documents within clinical workflows, saving time and clicks. Their scalable, vendor-agnostic solution allows for flexible growth and platform expansion.

- Record sharing across seven sites
- Over 2 million unique patients registered
- 350,000 documents shared

Profile

Alder Hey Children's Hospital (Liverpool, England) is one Europe's largest children's hospitals, with over 330,000 patients and families visiting the Trust each year. In addition to the hospital's main site, Alder Hey offers paediatric services at a number of community sites across Merseyside, Cumbria, Shropshire, Wales, and the Isle of Man.

The Path to Transforming Care

The NHS roadmap designates the creation of local collaborations between care providers and organisations that provide funding for care. These sustainability and transformation partnerships (STPs) promote more coordinated, cost-effective care.

The Cheshire and Merseyside Health and Care Partnership (C&M STP) manages healthcare and social services for approximately 2.6 million people. The partnership is home to a number of digitally mature organisations and includes the following Trusts:

- Alder Hey NHS Foundation Trust
- Clatterbridge Cancer Centre NHS Foundation Trust
- Liverpool Heart and Chest Hospital NHS Foundation Trust
- The Royal Liverpool and Broadgreen University Hospitals NHS Trust
- St Helens and Knowsley Teaching Hospitals NHS Trust
- The Walton Centre NHS Foundation Trust
- Wirral Teaching Hospital NHS Foundation Trust.

Through the Share2Care programme, STPs strive to connect local healthcare organisations and social services, ensuring that information is available to the right people, in the right place, at the right time. The key component of the programme is the 'e-Xchange' workstream, which promotes the electronic exchange of patient and social services records across the region to provide a comprehensive picture of the individual.

Within their STP, Cheshire and Merseyside launched a **local digital strategy** to help advance a healthcare transformation in the region. Alder Hey is at the forefront of this initiative, as a GDE and leading children's hospital. Its approach to data exchange is an example of breaking down silos to create sustainable care models.



Connecting Care Outside of Hospital Walls

A main provider of paediatric care, Alder Hey works with children who transition to various outpatient settings; thus, they aspired to develop a method for sharing patient records across the region.

While each Trust produces and sends discharge summaries, clinic letters, pathology results, and radiology reports to primary care providers, data sharing across secondary care (hospital and community care) is severely limited. GPs, for example, cannot share records with each other. Information is faxed or mailed, causing delays and creating risks of either losing information or sending it to the wrong person.

Under the STP's governance, Alder Hey worked with partner members to ensure digital support for developing fully integrated pathways through integration and interoperability — a common approach to information governance and a health information exchange (HIE). The goal of the project centered around creating:

- A single information-sharing framework and agreement across C&M
- A regional HIE to facilitate interoperability across C&M
- A unified interoperability approach to facilitate transfers of care between providers and primary care.

Laying the Integration and Interoperability Groundwork

As part of the NHS, it is important to proceed in a unified manner. Therefore, the interoperability framework had to encompass the use of open standards that would also allow for the future development of a federated architecture to support STP-wide interoperability.

Also, as a GDE, Alder Hey is responsible for demonstrating the risks and benefits against each project they commission. Before expanding across the region, they began with a pilot programme that would provide a large sampling of patient populations. Working together, senior leaders and clinicians in the STP examined patient flows in the region, as well as referrals, and made a conscious decision to include specialist Trusts and crossover patients. Six use cases were identified, including:

- Emergency care
- Oncology patients
- Alder Hey patients who travel from the other side of the River Mersey
- Crossovers that come to Alder Hey for specialist care
- Heart and chest patients
- Neurology patients.

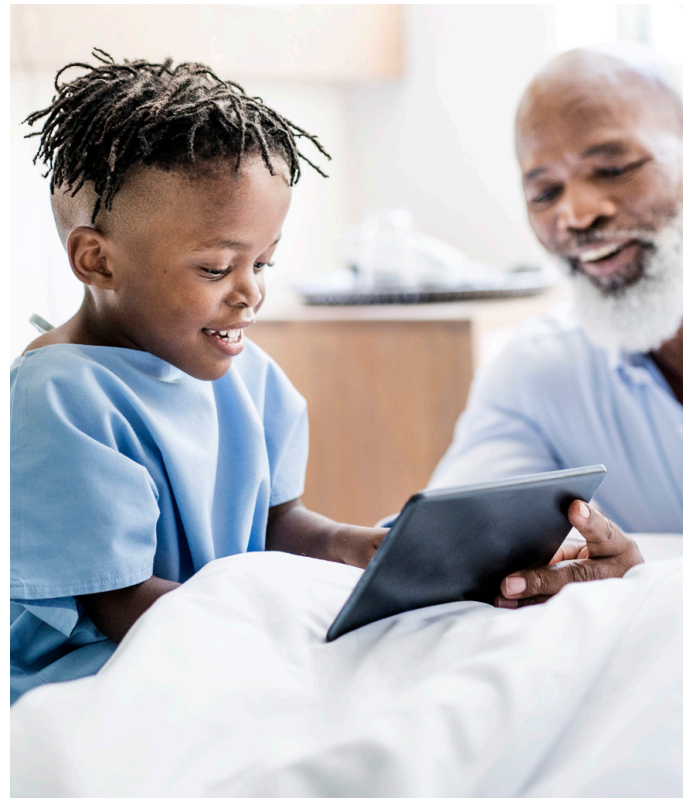
Many different suppliers would be feeding the HIE. However, it was essential to remain vendor-agnostic so the project could be scalable. By not locking into specific vendor systems or variations of standards, the HIE would also be sustainable, allowing for growth, flexibility, and expansion.

However, with integration resources being light in the region, project stakeholders were concerned with the amount of time it would take to get the project off the ground. To avoid reinventing the wheel, Trusts looked to their information systems vendors for help.

The use of structured data elements was a major factor in Alder Hey's decision to select the continuity of care document (CCD) available through MEDITECH. MEDITECH is the only vendor using formatted data and global standards for cross-enterprise document sharing. Project leaders are delighted the CCD is a structured document containing useful information that can be viewed by clinicians — and not simply a .PDF file. In addition, MEDITECH is one of the only suppliers in the region to be ready with FHIR. XDS and FHIR can be used together, as they are not competing open standards.

Looking to MEDITECH to help them achieve their goal, Alder Hey lined up the following:

- MEDITECH CDA interface, for coded discharge documents
- Intelligent Medical Objects (IMO), for ICD-10 mappings
- Structured data that can be analysed and compared
- **IHE frameworks.**



Results

Interoperability is an important support mechanism for the timely and effective exchange of information critical for delivering patient care. When paediatric patients at Alder Hey are referred to other organisations in the C&M STP, clinicians see the full patient story with the proper exchange of information, eliminating gaps that can occur during care transitions.

Clinicians in every Trust can now see a list of documents in the patient record, including discharge summaries, radiology reports, pathology results, and standard demographics; sites can also perform a patient search. Documents can then be pulled directly into MEDITECH as the patient is admitted, saving time and clicks.

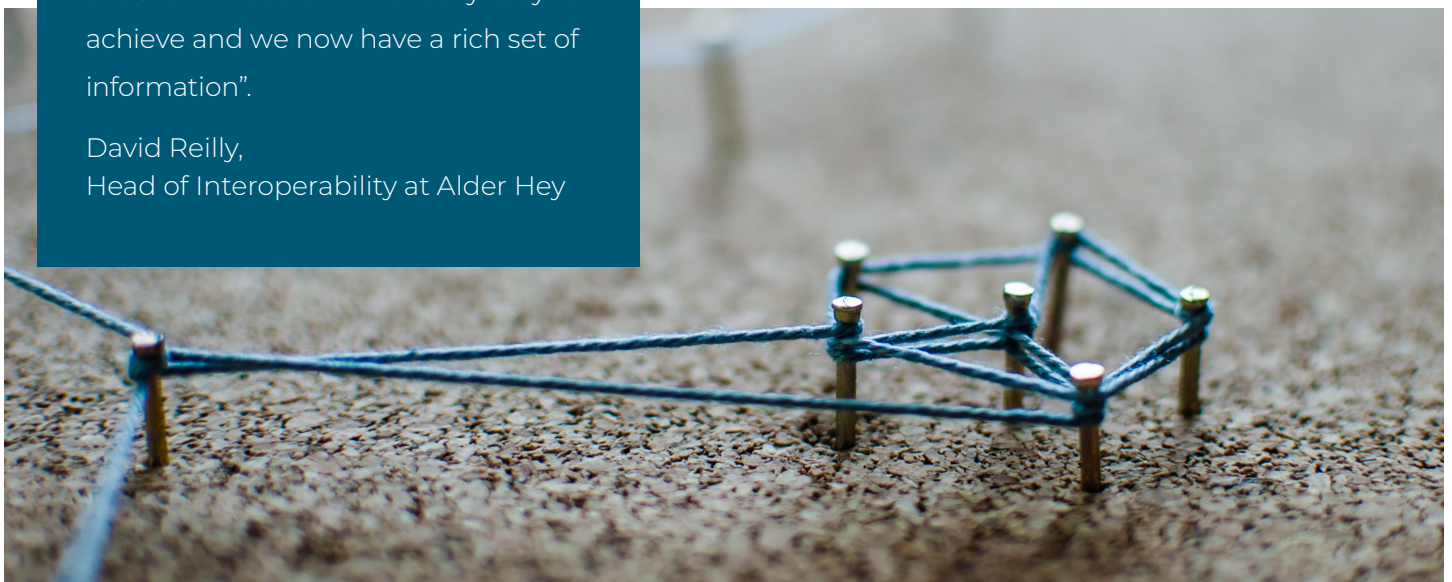
“We wanted to do something based on IHE standards and didn’t want to rely on complex integration. We quickly selected MEDITECH for their use of formatted data using XDS standards, and within only six weeks we had developed a CDA feed into the shared record. It was really easy to achieve and we now have a rich set of information”.

David Reilly,
Head of Interoperability at Alder Hey

Clinicians also have access to the shared record when they see patients in their clinics, and can access the record on demand when a patient has been to another provider in the region. Other benefits include:

- An improved user experience, as clinicians access information from other Trusts and GPs as part of their workflow
- The availability of necessary clinical information, to prevent duplicate investigations
- A reduction in time spent collating and summarising clinical information from other Trusts and GPs
- Improved clinical decision-making due to the availability of relevant information during the clinical encounter.

Alder Hey’s GDE fast follower partnership with Clatterbridge Cancer Centre, also a MEDITECH customer, has enabled **Clatterbridge** to take on some of the CCD elements for their patient context launch; the cancer centre has commissioned delivery of the CCD interface.



Lesson Learned

Direct care in the NHS requires consent. For project purposes, Alder Hey reused a data-sharing agreement in the C&M areas, which was aimed at primary care explicit consent; the agreement required clinicians to ask for patient consent each time clinicians accessed the record. However, that consent was only available for a 72-hour time period.

Unanimous feedback from clinical teams indicated that the current model would impede the care process. Alder Hey has since removed the consent element; by default, teams are able to access the patient record for the purpose of direct care. Patients are able to revoke consent at any time.

Next Steps in Expanding the Shared Record

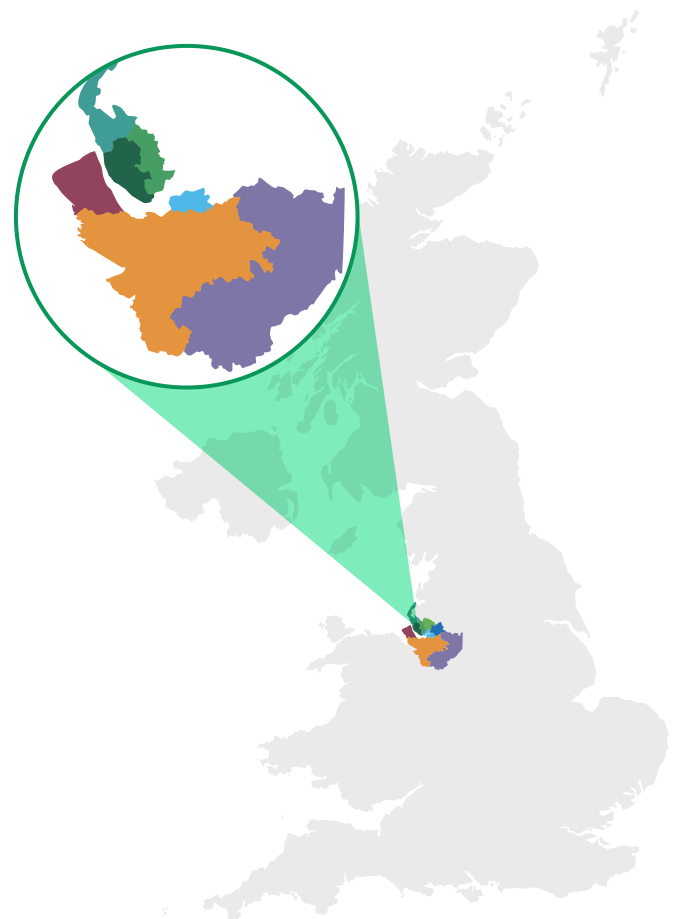
Alder Hey is currently working to bring in PACS and lab information into the CCD by the summer. The project will continue to plan for, and gather input from, senior clinicians and leaders on the following:

- Adding elements to the shared record
- Refining the information being shared
- Pulling elements for trending, such as discharges
- Including the North West ambulance service, to enable initial access to the shared record for first responders.

Also underway are plans to incorporate the shared record into the GP system, as primary and secondary care have historically been split and without an established mechanism for access. The STP is working within the roadmap to create a link to GP records; clinicians will then have LIVE access to GP data, and GPs will be able to share the care record.

According to C&M's digital strategy, the overarching goal is to achieve a step-change in the delivery of seamless care for the 4.2 million people living in the North West Coast (NWC). The Share2Care programme will eventually connect the C&M STP and the Lancashire & South Cumbria STP to deliver electronically shared healthcare records.

Long range, the C&M and L&SC STPs hope to secure funding to further develop a sustainable regional model. The partnership aspires to develop a solid offering for population health as it connects with other regional STPs.





MEDITECH

+1 (781) 821-3000

www.meditech.com

info@meditech.com

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