

## Case Study

# Medway EPR at University Hospital Aintree

This case study follows the history of an 18-year partnership between Aintree University Hospitals NHS Foundation Trust in Liverpool and System C Healthcare.



It is a collaboration that has been delivering excellence in patient management and healthcare information since 1993, and that led in 2010 to the Trust-wide deployment of one of the most modern and comprehensive Electronic Patient Record (EPR) systems in the NHS – the new Sigma version of System C’s Medway EPR. Over 3,200 Aintree staff, including doctors, nurses, allied healthcare professionals, secretaries, clerks and managers, are successfully using Medway to do their daily jobs. Meanwhile, System C and Aintree continue to collaborate to deliver innovative technological solutions to one of the country’s busiest hospitals.

### Aintree University Hospitals NHS Foundation Trust

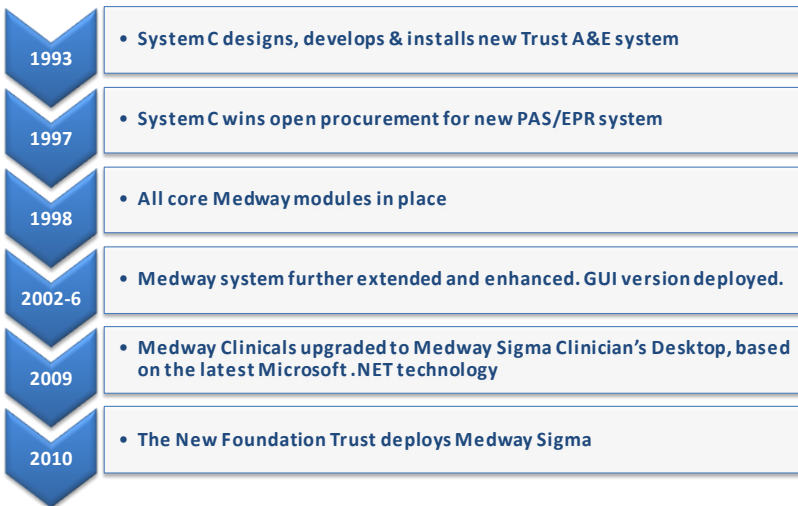
The Trust provides general acute healthcare services to a catchment population of 330,000 across North Merseyside. It also provides specialist services to a much wider population of around 1.5 million over the North West, North Wales and the Isle of Man. Specialist services are provided in Respiratory Medicine, Rheumatology, Maxillofacial and Liver Surgery. The Trust is a teaching hospital of the University of Liverpool.

<b>Annual income</b>	Over £250m
<b>Beds</b>	900
<b>Inpatient and Day-case Episodes:</b>	73,300
<b>Outpatient Attendances:</b>	257,000 (77,800 of which are new patients)
<b>A&amp;E Attendances:</b>	87,900 patients
<b>Users</b>	3,200 including doctors, nurses, allied healthcare professionals, secretaries, clerks and managers.

The population served by Aintree includes some of the most socially deprived communities in the country, with high levels of illness creating a high demand for hospital-based care. Merseyside has some of the worst rates for heart disease and cancer in the UK.

## A History of System C at Aintree

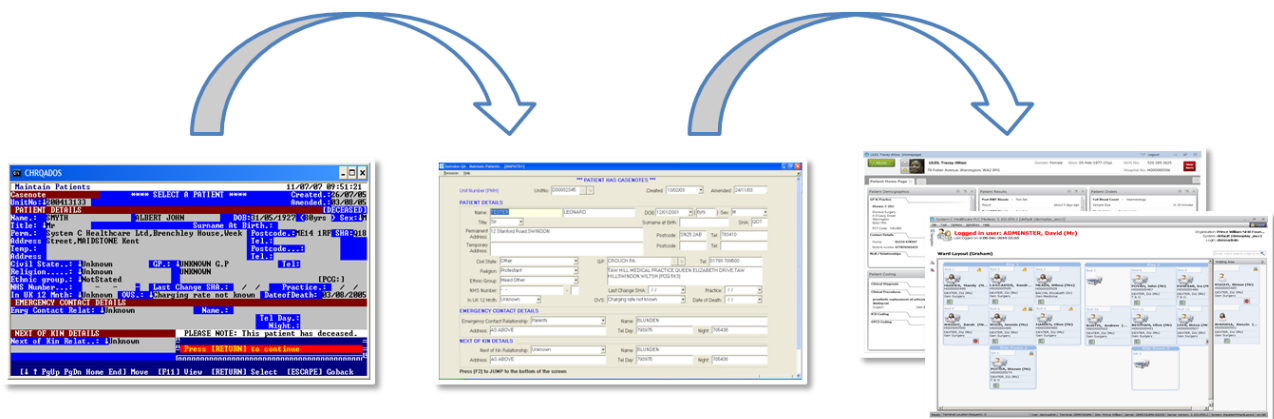
The partnership between Aintree and System C began with the development of a new A&E system in 1993. Today the core IT systems across the Trust are all based on the Medway system.



*"We've had a lot of support from System C. They have worked really well with us as a team and have contributed an impressive depth and wealth of experience. They really know our business, and know what they are talking about."*

Ward Priestman, Director of Informatics  
Aintree University Hospitals NHS Foundation Trust

Three generations of technology and design have characterised Medway at Aintree, from early character based screens to a Windows based Graphical User Interface – to the modern Sigma deployment based on WinForms and Windows Presentation Foundation (WPF) design.



## The Deployment of Medway (Sigma Release) in 2010

In 2010 Aintree University Hospitals NHS Foundation Trust went live with the new Sigma release of System C's Medway EPR. All sites and specialties went live on the same day.

### Scope

The scope of the project was huge – to replace the Trust's earlier Medway EPR system, with a Trust-wide go-live project over a single weekend. The scope includes:

Patient Administration	Clinical Applications	Business Intelligence	Departments
<ul style="list-style-type: none"> <li>• Master patient index</li> <li>• Out Patients</li> <li>• Document tracking</li> <li>• Medical records</li> <li>• In Patients</li> <li>• Patient kiosks</li> <li>• Waiting lists</li> <li>• Clinical coding</li> </ul>	<ul style="list-style-type: none"> <li>• Orders and results</li> <li>• Clinical support tools</li> <li>• Clinical notes</li> <li>• Patient timeline</li> <li>• The EPR</li> <li>• Clinician's desktop</li> </ul>	<ul style="list-style-type: none"> <li>• Contracting</li> <li>• Clinical audit</li> <li>• Clinical dashboards</li> <li>• Reporting</li> <li>• Data warehouse</li> </ul>	<ul style="list-style-type: none"> <li>• A&amp;E</li> <li>• White boards</li> </ul>

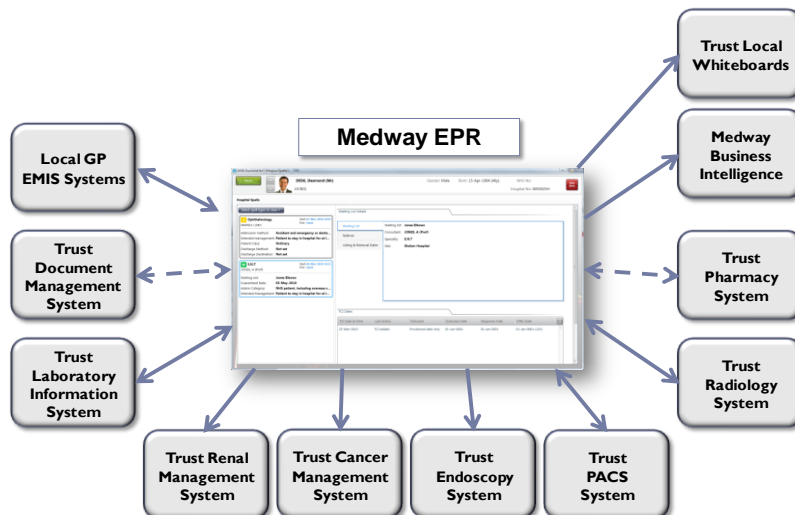
### Data Migration

As part of the project, the joint teams from the Trust and System C migrated over 20 million records, including around 20,000 active RTT pathways. From start of extract to completion, the migration took just 6 hours. Migration included Choose & Book Unique Booking Reference Numbers. Compliance was signed off by NHS Connecting for Health.

As part of the process System C merged an earlier pioneer deployment of the Medway Clinician's Desktop with the new Medway deployment including MPI, Order Comms and Admin and Clinical Correspondence amounting to some 6,000,000 letters and 7,100,000 results.

### Interfaces

The Medway suite deployed at Aintree integrates with EMIS Web for access to primary care records for emergencies. It also interfaces with Electronic Document Management, Pharmacy and a specialist Renal system, and supports numerous departmental applications such as localised whiteboards for admissions and A&E status. Medway offers integrated portal functionality within the main EPR.



This means that users can call information from third party systems for the patient they are currently working with (i.e. in context). In other words, a clinician working on a patient list in an outpatient clinic can look at X-Rays for that patient without having to log in to the PACS or reselect the patient.

All of this provides information to support clinical and business management through the Medway Business Intelligence solution (Medway BI).

System C has used Medway BI to develop nearly 100 standard operational and management reports, supplied as part of the PAS/EPR delivery. In addition, the Trust builds its own reports using BI and adds them to the report library.

## Clinical Proformas

Over the years Aintree has pioneered the use of 'proformas' - clinical support forms that are used to track patients throughout their hospital journey from referral to treatment and beyond. At the time of the 2010 system upgrade, the Trust had over 400 proformas in circulation. A joint project, using the enhanced capability of the Medway Sigma application, has streamlined this to 90 proformas. They include specialties like Diabetes, Cardiology, Physiotherapy, Endoscopy, ITU, MFU, Nephrology, Rheumatology, Rehab, Orthopaedics, and Urology. The proformas in use range from simple assessments to complex clinical assessments and discharge letters. The proformas become an integrated part of each patient's medical history and provide a useful database to study trends in patient care.

## Training

At Aintree the Trust was able to use its own dedicated training team to assist with training for the new system. Ten training rooms were made available – each with 12 workstations. Fourteen trainers were involved in the training programme, which offered half day sessions and could train over 200 people in a day. Training is role-based, so users were only trained in the aspects of the system they needed to use. Over an 8 week training period the Trust trained over 3,000 users.

## The Medway Sigma Release

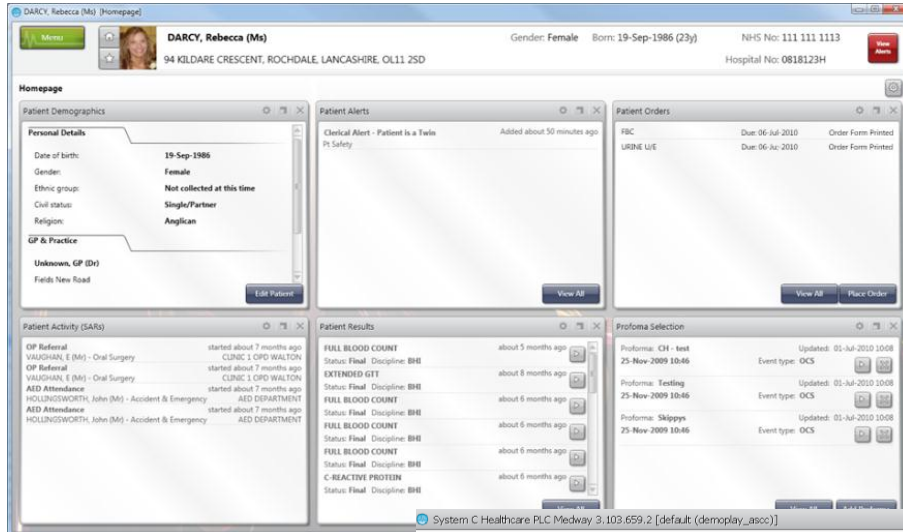
The Medway EPR solution is a modern, Microsoft-based set of applications designed to be easy to use, functionally rich, and easy to integrate with other applications.

Medway at Aintree:

- combines advanced PAS functionality such as live bed state and multi-disciplinary scheduling with extended clinical functionality and departmental modules all in the same integrated product
- incorporates advanced business intelligence tools and reliable reporting
- is designed through its UK heritage to support care provision and operational processes in the NHS
- is the only PAS/EPR solution that conforms with the Microsoft Common User Interface guidelines for healthcare – designed to increase usability and improve patient safety
- is the only PAS/EPR solution developed using Microsoft's Windows Presentation Foundation (WPF) giving the application a powerful contemporary look and feel
- provides a Service Oriented Architecture for easy integration and interoperability
- is designed to support data quality and to support healthcare processes
- is highly configurable and easy to deploy
- provides advanced security features to protect confidential patient data

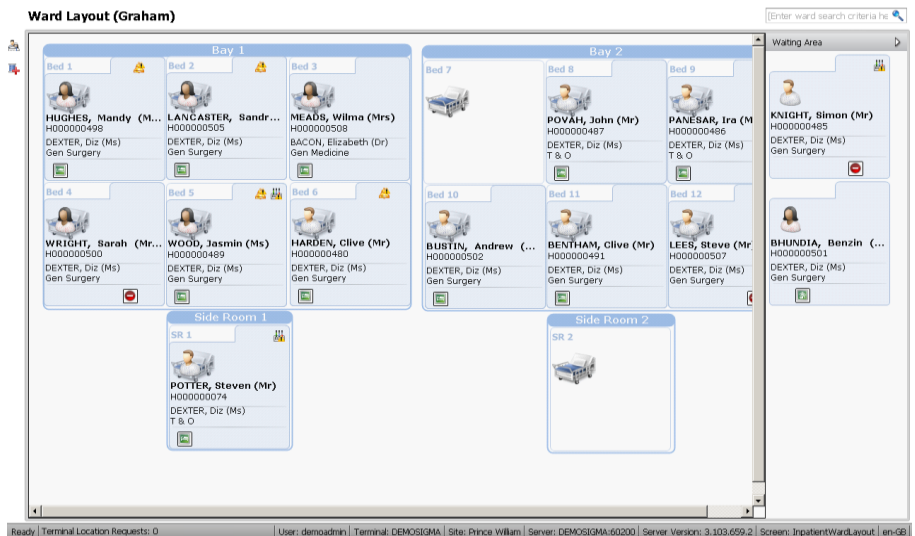
System C has a long established track-record of completing deployments to time, quality and budget. The company has helped install more products in the NHS – both our own and those from other companies – than any other organisation.

## Screen Shots of the Medway EPR Solution



The Medway 'Patient Homepage'

Allows clinical users to combine data about a patient from several sources for a single snapshot of patient activity; an example of the Unified Clinical Interface that is part of the Medway solution.



The Medway Ward View

Allows users an 'at-a-glance' view of patients in a ward, and of those waiting to be admitted. Also allowing users to 'drag-and-drop' patients into empty beds to maintain real time bed status.