The vision

Phil Molyneux, the Chief Information Officer at the Yorkshire and the Humber Strategic Health Authority (SHA), and his senior management team, have always been great believers in breaking down the barriers between departments and different care settings, so that patient information can be shared effectively across local regions.

The team has been tirelessly sorting out the architecture between applications in preparation for the arrival of Connecting for Health’s (CfH) electronic patient record solutions. A key step in the process has been the adoption of a single, seamless platform for the integration and development of connected applications – InterSystems Ensemble®.

Ensemble was previously available to the SHA’s regional local service provider CSC, which had chosen to use it to connect the centrally hosted solutions to the Trust-based systems. However, Molyneux and his team realised that wider intra-Trust use of the integration platform could deliver far greater benefits.

“One of the major advances would be allowing care providers to start sharing information immediately in a way that supported actual patient pathways within and between the 37 Trusts that comprised our SHA region. This would lead to a better patient experience, and enable healthcare professionals in different settings to work with far more reliable patient information. This would mean that they could use their time more effectively by avoiding duplicate data entry and reduce unnecessary admission entries,” said Molyneux.

To fulfil this vision, the SHA created a budget that allowed each Trust to acquire an Ensemble developer licence along with training to ensure they could make best use of it.

The starting point

“As would be expected,” continued Molyneux, “Trusts within our SHA region have a multitude of different departmental IT systems, many of which could not exchange data between them. This meant that staff often had to enter patient information into more than one of their systems, which could result in a lack of consistent data from one system to the next. This was further compromised by
the fact that there was no update mechanism in place to alert the other systems when patient data had been updated."

With this in mind, Molyneux felt it was imperative to break down barriers between different departments by implementing the same integration platform that could connect up the processes and ensure a smooth flow of relevant patient information.

**Why InterSystems Ensemble?**

“Since Ensemble was already made available to Acute Trusts by CSC, the regional CfH Local Service Provider, it seemed a logical choice as our standard integration platform,” added Molyneux.

“Our next step was to convince as many Acute Trusts as possible to adopt it as their standard solution, as we saw the use of a single interface engine as being absolutely central to our strategic vision for a single, shared care record.

“We managed to streamline this process by organising collaborative funding to support integration, within which we could ring-fence funds for the purchase by Acute Trusts of the Ensemble Developer (E2) licence, and for training on its use. Once we explained our vision, the Primary Care Trusts were keen to support this initiative as they could immediately see the benefits delivered by shared patient and care information.”

In a further measure to support the Acute Trusts, the SHA appointed ReStart Consulting as a service delivery partner to help spread and standardise the use of Ensemble across the SHA.

**Spreading the word**

To ensure that knowledge and experience in the use of Ensemble is shared as widely as possible, the SHA facilitates regular local Yorkshire and the Humber SHA Trust Integration Forums (TIFs). These forums are hosted by different Trusts around the region every six to eight weeks. They provide an opportunity for the IT Directors of each of the Trusts to meet with Alan Baker, the Assistant Deputy Chief Information Officer, to discuss and support each other on the implementation of the integration strategy.

Reinforcing the importance of the TIFs, Baker said, “Each of the NHS Trusts in this region faces very different issues. Each has very different systems to deal with, so it is difficult to set standard target timelines for them to..."
deliver the integration capability. This is why it is so vital that we work collaboratively. That way we learn from the early adopter implementations, so that we can establish a blueprint for future Ensemble implementations in the region.”

Benefits
Acute Trusts in the Yorkshire and the Humber SHA region, including Doncaster & Bassetlaw and Rotherham, are already realising the benefits of their newly created interoperability. For example, sharing information across departmental systems has made it easier for their clinicians to make better-informed judgements at the point of care. Patients also benefit from one point of registration rather than having to repeat information at every department.

Furthermore, the interoperability has enabled a reduction in unnecessary hospital appointments for patients. Clinicians can now review notes remotely and only call in the patients they actually need to see face-to-face. There have also been measurable reductions in accident and emergency admission waiting times as staff have the information they need at their fingertips and can direct patients accordingly.

The way forward
Ensemble is now widely used as the SHA’s common integration platform, with just two of the 15 Acute Trusts choosing other options for their integration projects.

Conclusion
Molyneux concludes, “The proven benefits of our approach to creating a shared care record definitely represents a template that I think the nine other SHAs could follow in their quest for better use of current IT systems.”

InterSystems Ensemble is the cornerstone of Rotherham NHS Foundation Trust IT strategy
Rotherham NHS Foundation Trust has only been working with InterSystems Ensemble® for nine months but already the benefits are very clear.

Previously, the Trust had been using a managed service for application integration, based on a legacy integration messaging engine from Oracle, formerly known as eGate. This meant that every time the Trust needed to create a new interface it had to pay more. However, by using Ensemble as its application integration engine, interfaces are now far simpler, less expensive and much quicker to deliver and use.

Head of IT at the Trust David Brown explained, “One of the challenges we have at the Trust is that we need to replace our old Patient Administration System and legacy departmental clinical systems with a fully integrated Electronic Patient Record solution. We also wanted to choose the right integration platform that would work with the Connecting for Health solutions in the future.”

The Trust has many disparate departmental systems that need interfacing and some external third-party systems, such as the Care UK Picture Archiving Communication System (PACs). The PACs had previously sent X-rays and other images from an offsite location that was unconnected to the hospital’s infrastructure, and this made it hard to get the images to clinicians. Therefore, the Trust decided to move to an integration platform that supported HL7 and had further capability, including DICOM image management.

Utilising the latest version of Ensemble with DICOM image management the Trust’s in-house team, with some support from InterSystems, was able to create a DICOM interface – in just five days.

Assessing how Ensemble has affected the Trust’s strategic approach to integration and IT, Brown said, “Ensemble is the cornerstone of the Trust’s integration and interfacing strategy. The key thing is that we can now seamlessly migrate between new and old systems with minimal operational impact. It worked straight out of the box. Crucially, it allows us to interface with a system and then build more business value on top. Ensemble provides the increased flexibility and scalability that we need.”
Reviewing the products in the market, and after a successful proof-of-concept project, the Trust chose to use InterSystems Ensemble®, a seamless platform for integration and the development of connected applications. To accelerate the integration programme they decided to use consultancy, mentoring and training from InterSystems and ReStart Consulting, the regional Strategic Health Authority’s chosen integration partner.

The Trust was able to rapidly make use of Ensemble to create a message hub that connected three core departmental systems, with the HL7 message flows feeding the PAS. This included the Clinical Correspondence System, the Theatre System, and the Radiology Information System (RIS), which also integrates with the Renal System for radiology results. Based on this success, they are planning to integrate pathology, order communications, maternity and pharmacy.

Assessing what had been achieved Aldhous commented, “The benefits of implementing the Ensemble solution has meant that life is easier for the IT department as all interfacing can be controlled from one place – if there is a problem, the IT department knows before the user and can take immediate action so that usability is not affected.”

Through the lessons learned during the implementation and the addition of the advanced Ensemble training provided by ReStart Consulting, the Trust is aiming to achieve rapid development of interfaces to all other hospital systems in the next 24 months.