ProcessFlows
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Yorkshire Ambulance Service NHS Trust

Information gathered today will ultimately improve patient care tomorrow.

The Requirement:

A reliable and robust back-end system to handle the input and analysis of 20,000 clinical records a week.

The Customer:

Yorkshire Ambulance Service NHS Trust, headquartered in Wakefield, West Yorkshire, was formed in July 2006 as a result of the merger of Yorkshire's three former services.

Yorkshire Ambulance Service covers an area of almost 6,000 square miles, serving rural, coastal and inner city communities - a total population of more than five million. The 24-hour emergency ambulance service and provider of patient transport is supported by 4,235 staff plus an additional 2,600 volunteers.

The Challenges:

Yorkshire Ambulance Service aims to continually improve emergency patient care, run an efficient service and comply with clinical governance and national targets. As a NHS organisation it has operational targets to meet and budget restraints to adhere to so accurate and reliable record keeping is therefore fundamental.

Dealing with the increasing volume of patient report forms (PRFs) - A3-sized 'treat and transport logs' completed by the ambulance clinicians treating and caring for patients - was taking up vast amounts of staff time.

PRFs provide key information about a patient for the receiving hospital department and are also required for clinical audit purposes - the system through which NHS organisations are accountable for the quality of their services and safeguarding high standards of care.

They can also provide valuable information for patients themselves, relatives of patients, the Trust itself and, from time to time, the police and coroners.

For the first three years post-merger the five clinical business units (CBUs) located throughout the county continued to handle the forms in the same way they had previously done.

Of the five CBUs, only the South Yorkshire CBU had an electronic records management process in place. All the others were paper-based.

The Previous Processes:

The South Yorkshire CBU, formerly South Yorkshire Ambulance Service, dealt with 5,000 PRFs a week. Previously, a team of five full-time staff was responsible for the consistent scanning and verification of the inbound forms, a task which took a week to achieve. The scanned electronic versions of the forms were then stored in the Trust's SQL database line of business system, which is integrated with a locally installed OnBase records management solution to enable the search/retrieve function.

As the majority of PRFs are completed manually, errors can sometimes occur. A large part of the South Yorkshire process was verifying the scanned field information in the database against the original form to insure integrity of the information and this worked well. The team was able to meet requests for information and supply statistics for analysis because it was easy-to-find accurate information.

Within the other four CBUs, which dealt with a total of 15,000 forms between them, information was not input into any system; PRFs remained in paper format, were filed and then eventually passed for archive. A selected few were scanned in, on an 'as and when' basis, to support particular legal claims, police requests etc. but there were no structured or standardised processes in place. This often made future retrieval very difficult and time-consuming.

Patient Report Forms:

PRFs are the start of an information-gathering process which records critical data at the beginning of a patient's care pathway.

Each PRF is given an incident number and is manually completed by the ambulance clinician for every emergency call-out/patient to provide a unique record of that emergency.

PRFs contain over 700 fields of information, including date/time/location of incident, the unique ID number of the ambulance attending, the patient's details, medical/primary observations of the patient, a record of any treatment given at the scene of the emergency, if treatment was refused by the patient, and a record of any death at the scene. This information provides a complete clinical impression.

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This data is vital to providing appropriate care and saving lives. By making sure that any trends, such as an increase in patients presenting with cardiac arrests or strokes, are constantly monitored, it means that treatment plans, equipment and staff training can be updated so that crews are better prepared for these emergencies in the future.

As well as providing vital information for any hospital triage team assessing a patient and influencing decisions for ongoing medical treatment, the PRF is an important source of information for clinical audit purposes.

Change:

The decision was made to expand and replicate the successful processes used by the South Yorkshire CBU across all CBUs to increase efficiencies and promote a consistent approach. The Trust could upgrade the incumbent OnBase records management solution, thus maximising its existing investment. This would unify the much larger operation and increase efficiency.

Upgrading OnBase would meet the immediate criteria of improving PRF processing across all CBUs, whilst continuing to build a robust foundation for an enterprise-scale records management solution in the future. It made good business sense.

The Solution:

The scanning processes in place in the South Yorkshire CBU were expanded in February 2010 to include a second clinical audit team, and a regular collection/delivery schedule was implemented to deliver all forms from all CBUs to these two teams for scanning, processing and verifying.

The various teams across the organisation were then given networked access to the OnBase central server located in Wakefield to enable them to carry out timely retrievals of information.

An additional six members of staff were recruited, bringing the clinical audit teams up to 11 people in total. They are now responsible for scanning over 20,000 PRFs a week.

The Process:

At the end of each shift, newly completed PRFs are filed in a secure box located at each ambulance station. These are collected on a weekly basis from over 60 locations throughout the county and delivered to one of the clinical audit teams for processing.

'Rules' have been applied to capture the nine key data fields which will provide the most important information needed for analysis and 'what-if' scenario planning. These fields are matched to nine key words/terms that will be used to search within OnBase.

OnBase has been configured to automatically index all document images based on the incident number and date.

Scanned images then take two routes: An index file is output to the SQL database and the OnBase server. This means that any keyword search in OnBase will find the relevant information in the database at the click of a button.

The Benefits:

- Maximisation of staff resource.
- Regular performance analysis and measurement of outcomes.
- Improved day-to-day operations and consistent approach across the Trust.
- Controlled availability of information in line with governance constraints - only authorised users can access the information and they are able to do so quickly and easily.
- Real-time access for up-to-date reporting.
- Builds on the existing corporate document management foundation.
- OnBase supports the British Standards Institution (BSI) BIP 0008 Code of Practice on Legal Admissibility Electronically by not allowing the original document to be compromised in any way. An organisation needs to be able to prove (to a court of law or some other statutory body) that the contents of a particular document or data file created or existing within an Electronic Document Management System have not changed since the time of storage.
- Ensures the safe archiving and integrity of PRFs - The original form stays intact, it cannot be deleted, edited or moved. Only authorised users can view, copy or print the document.
- From the second year onwards, projected annual savings of £15,000 - £20,000 on the physical storage space required for paper forms.

The End Result:

With an increase of just six people, Yorkshire Ambulance Service can now scan and verify over 20,000 forms consistently and accurately every week. Standardising processes, plus the ability to search and retrieve forms, has had a positive effect across the whole organisation by allowing the Trust to work more efficiently and have much stricter control of its data.

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