Clinical Utilisation Review Helps South Tees Hospitals NHS Foundation Trust Relieve Patient Flow Bottlenecks and Breakdown Barriers to Discharge

Daily patient assessment and appropriate level of care data helps ward staff and clinical and hospital management identify and clear patient flow obstacles and accelerate patient discharge to more-appropriate levels of care.
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England’s South Tees Hospitals NHS Foundation Trust is the largest hospital trust in the Tees Valley, serving the people of Middlesbrough, Northallerton, Redcar and Cleveland, Hambleton and Richmondshire and beyond.

In addition to general hospital services for the local population, the Trust provides a range of specialist services to 1.5 million people in the Tees Valley and surrounding region, with particular expertise in heart disease, neurosciences, children’s services, renal medicine, cancer services and spinal injuries.

In FY 2013/14, the Trust spent £550 million providing care and comfort for roughly 126,000 Accident & Emergency patients, 86,000 emergency admissions, 180,000 inpatient and day-case patients, 68,000 urgent-care and walk-in centre patients and 486,000 outpatients.

As a result of numerous inspections throughout the year, England’s Care Quality Commission found all South Tees Hospitals Foundation Trust (FT) acute and community sites to be fully compliant and the Trust to be among the best in England for its maternity services.

**The South Tees Hospitals NHS Foundation Trust organisation is comprised of:**

Two acute-care hospitals (900 adult beds):
- The James Cook University Hospital, Middlesbrough
- The Friarage Hospital Northallerton

Seven community hospitals:
- Carters Bequest Primary Care hospital
- Guisborough Primary Care Hospital
- Redcar Primary Care Hospital
- East Cleveland Primary Care Hospital
- Lambert Memorial Community Hospital
- The Friary Community Hospital
- The Rutson Rehabilitation Unit

Two CCGs:
- South Tees CCG
- Hambleton, Richmond and Whitby CCG

Three Local Authorities:
- Middlesbrough
- Redcar & Cleveland
- North Yorkshire

Health and Wellbeing Boards

Specialist services: major trauma, cardiothoracic surgery, cancer centre, neurosurgery

£550m annual turnover
The Challenges

Like hospitals worldwide, including other acute-care trusts across the U.K., the South Tees Hospitals FT has continually faced financial constraints as well as patient flow challenges. An especially harsh winter in 2011/2012 exacerbated what was already a difficult situation, driving up bed-occupancy rates and increasing the number of delayed discharges, patient outliers and the number of operations needing to be cancelled.

To get a clear picture of bed utilisation and problems related to patient flow through the hospital and into the community, the Trust engaged ModelAdvice DC Consulting Ltd. to perform a Clinical Utilisation Review (CUR) audit. Such an audit would give the Trust better visibility into internal, physician- and hospital-related obstacles to timely patient discharge and opportunities to improve efficiency. External, community- and social services-related barriers to discharge, on the other hand, were already well understood and being reported regularly to NHS England in the Delayed Transfer of Care (DTOC) report. To conduct the CUR review, ModelAdvice chose to use the Medworxx Clinical Criteria Module tool, which it uses regularly when conducting similar assessments for other NHS Trusts.

The Medworxx tool is based on a short, daily assessment of each patient, using predefined ‘criteria sets’ corresponding to the patient’s level of care to identify the patient’s current status (e.g. receiving appropriate care, readiness for discharge, suitable for alternative levels of care) and to indicate the cause of service delays, barriers or interruptions in the progression of care.

“In spite of an earlier review by McKinsey & Company indicating that ours was an efficient operation, we often seemed to be in crisis mode and were constantly having to juggle many issues related to patient discharge,” says Gill Collinson, Associate Director of Transformation & Service Redesign, South Tees Hospitals NHS Foundation Trust & CCG, who was familiar with CUR from working in a previous organization and aware of its potential. “We wanted the audit to clearly identify the problems so we could see what could be done.”
CUR Reveals Big Opportunity for Improvement

The bed utilisation review conducted by ModelAdvice using Medworxx revealed significant opportunities for South Tees Hospitals FT to improve the way patients are managed.

At the Trust’s two acute-care hospitals, for example, which represent a total of roughly 1,000 beds, 32% of patients occupying beds did not meet the criteria for that level of care and were actually “Ready for Discharge/Transition” (RFD/T). Across the Trust’s seven community hospitals, an average of 49% of patients – a high of 90% in one case – were RFD/T.

“In total, that’s roughly 400 patients who were occupying beds unnecessarily,” exclaims Collinson, who goes on to say that the CUR also provided actionable information on the source of the delays and blockages in patient flow.

For example, the review pointed to medical staff-related reasons as the main source of delay in patient flow at the James Cook University Hospital. According to Karen Dunwell, Director of ModelAdvice, this is somewhat to be expected at a teaching hospital such as this because junior doctors are often in control of the patient pathway and flow but need ongoing guidance from the consultants assigned to the patients, which results in delays.

“What we did find that seemed a little unusual at first, however, was that at the organisation’s smaller hospital, the Friargate Hospital Northallerton, there was no significant difference between the number of medical staff-, hospital- or community-related delay reasons,” states Dunwell. “The reason became clear when we walked the halls – this hospital was very team-oriented and everyone was pulling together to achieve patient goals.”
The CUR identified community-related reasons as the second largest contributor to discharge delays, including shortages in available beds in long-term care facilities – 20 patients occupied acute-care beds unnecessarily, awaiting community beds. The audit also highlighted inefficiencies and delays inherent in the step-down process, not the least of which is the time it can take for families to make decisions about appropriate alternate care for patients.

In addition, for patients able to be sent home but needing continuing care such as respiratory management or wound care, connecting the patient to a community nurse and making arrangements for those services adds to the discharge delay. And for patients earmarked for a bedded facility, such as long-term care, arranging the meeting for a funding decision and securing an available bed both add to discharge delays.
The Solution

Pilot Medworxx & Case Management to Accelerate Discharge

A small team from South Tees Hospitals FT that included senior leadership and members of the Discharge Team went to see the Medworxx Patient Flow platform in action and how things were done at the Royal Liverpool and Broadgreen University Hospitals (NHS Trust), another large, busy hospital trust in the northwest of England (750 beds).

“By looking at how Royal Liverpool was using Medworxx, we wanted to see how we could reduce delays and get better throughput within our own Trust, and we quite liked what we saw,” explains Jennifer Slater, Clinical Lead, Case Management, Operational Services, James Cook University Hospital.

Slater goes on to say that to strengthen their discharge process, they also decided to conduct a Case Management pilot alongside the implementation of the Medworxx system.

“The review found a group of patients that was not adequately covered by our existing discharge process, so they were staying in hospital longer than necessary,” she reports.
The Approach

The implementation of Medworxx and Case Management at South Tees Hospitals FT began as a one-year pilot on seven acute-care wards, including Medical & Surgical wards at James Cook University Hospital and two wards at the Friarage Hospital in Northallerton.

South Tees Hospitals FT opted to have the Medworxx Clinical Criteria software module implemented as a solution hosted by a leading U.K. managed services provider whose hosting service complies with the U.K.’s N3 national broadband network connecting all NHS locations. This approach facilitated rapid deployment since the browser-based system could be deployed with minimal impact on, or resource requirements from, the hospital’s own IT organization, apart from the need to add HL7 links to the hospital’s Patient Administration System.

The Case Managers, who were assigned by ward and included new hires as well as Discharge Coordinators made available by the amalgamation of existing discharge teams, were trained by Medworxx clinical consultants on the case management model and how to use Medworxx.

“We may have been the first hospital to implement Case Management using therapy staff, such as physio and occupational therapists, as Case Managers and not just nurses,” suggests Slater.

Although many of the Case Managers held positions there previously as Discharge Coordinators and were already well known, they would now be carrying new information, talking in new terms (Met/Not-Met, Ready for Discharge) and having to be more assertive in solving delays and clearing discharge obstacles.

After initial orientation, the new Case Managers received additional training from the Medworxx clinical team on how to use the Clinical Criteria and daily patient assessment software. Training was also provided to IT staff and hospital management on how to use the Medworxx reporting capabilities.

The Case Managers would use the Medworxx software to conduct daily assessments on each patient, enter the patient data into Medworxx and then carry that data into the hospitals’ daily bed management and multidisciplinary team meetings conducted on each ward. Once Case Managers had been using the Medworxx system for some time, statistical results information could be fed back to clinical leadership and hospital management to highlight successes and identify opportunities to further streamline patient flow and accelerate discharge.
The Results

Case Management Model Still Evolving

The South Tees Hospitals FT pilot project involving Medworxx and Case Management is still going on after two years. This is largely because the funding required for a broader, more permanent rollout had not yet been agreed to, and also because:

- Clinical leadership and hospital management have been unsure of how best to integrate and use the information they can get from the Medworxx system; and

- The Case Manager model, which, while effective with the complex discharges frequently found in the unplanned care environment, would potentially not be cost-effective across the whole organisation.

As part of the planned further rollout of Medworxx across the organisation, a pilot for another deployment model was launched on two wards, whereby ward nurses would conduct the daily patient assessments instead of Case Managers. The results would then be discussed with the medical staff, therapists, dieticians and anyone else involved in the patient’s care, and reasons for discharge delays would be agreed to. The Ward Manager or Coordinator would then enter the assessment data into Medworxx during the routine daily rounds, along with reasons for discharge delay.

“We felt that if the ward took responsibility for inputting the Medworxx data and the medical staff had more input, they would be more likely to feel they ‘own’ the data and thus more likely to agree with and take action based on the reports coming out of the system,” explains Slater, quickly adding that Case Managers continue to play a vital role overseeing the quality and consistency of data and supporting Medworxx users and expediting patient discharge.
Medworxx Provides Proof for Change

Even though the Medworxx implementation continues in rollout mode, the system has been in use sufficiently long for the patient assessment and bed utilisation data to be comprehensive, accurate and reliable within the cohort of wards under regular assessment. This is enabling South Tees Hospitals FT to not only tackle patient flow barriers and bottlenecks at both the ward level and organization-wide but also to identify process efficiencies and potential savings for re-allocation and or re-investment.

“Perhaps more important, Medworxx is helping us deliver improved outcomes, including accelerated discharge and reduced bed usage where it is not clinically indicated, thus improving the experience for those using our services,” says Slater.

As an example, she cites the Trust’s number of RFD/T or avoidable bed days, which has been reduced to roughly 20% on most of the pilot wards (Figure 2). Patients are considered Ready for Discharge when they pass the Medworxx standardized, evidence-based RFD/T assessment, indicating they are clinically stable and ready for discharge or transition to a lower level of care.

![Figure 2: % RFD/T of Assessed Days = Avoidable Bed Days](image-url)
Figure 3 illustrates another example of how the Medworxx process and data have helped South Tees Hospitals FT address bed utilisation and discharge challenges. In this case, it is the discharge delays caused by delays in the nursing assessments required before a patient’s case can be reviewed for funding to support discharge to long-term or residential care (referred to as the “DST” process). Medworxx data provided proof of the need for additional nursing staff to reduce these assessment delays, which directly equate to avoidable bed days, and is being used to track subsequent reductions in those delays.

“Using the clinical criteria and patient assessment data we enter, the Medworxx tool has been able to pinpoint a number of delay sources because of the great granularity of the “Delay Reasons & Details” that the Medworxx people have configured for us in the system,” states Slater, referring to Figure 4 as an example of the community-based delay reasons.
Commenting further on discharge delays, Julie Poultney, Friarage Hospital Northallerton and Service Improvement Manager, South Tees Hospitals NHS Foundation Trust, contends that delays are often attributed to the community and to social work. However, the Medworxx data is showing that this is not necessarily true.

“This is a good example of how hospital management, with the help of Medworxx evidence, is finding that commonly held beliefs are not always accurate,” says Poultney, who goes on to describe the following additional example of opportunities for improvement brought to light through use of the Medworxx Patient Flow Platform.
Medworxx data is showing that a lot of patients end up staying in the hospital just for IV antibiotics therapy, thus occupying acute-care beds even though daily assessment shows they no longer meet the clinical criteria for this level of care.

“We’ve provided this data to hospital management and to the Clinical Commissioning Group responsible for local service provision, with the recommendation that rather than providing IV antibiotics therapy in the hospitals, the Trust should train existing home care nurses to deliver this service in the community.”

**Extending Medworxx Benefits to Sub-Acute Care**

“Even though things are definitely starting to work better in our two acute-care hospitals, we don’t want to neglect our seven community hospitals, where we also find many patients who don’t need to be there,” proclaims Slater. “We want to extend the acute-care momentum to the sub-acute-care facilities, and feel that if we use Medworxx there as well, significant improvement can be achieved.”

When specifically asked about working with the Medworxx people, Slater reports that they continue to provide regular training and speak with South Tees Hospitals FT staff almost weekly to help fine-tune their Medworxx reporting and Delay Reasons & Details configuration.

“The Medworxx team is very helpful, and even though some live a fair distance away, we are still able to reach them right away and they come regularly to sit with us and discuss things,” enthuses Slater. “I can’t say enough good about them, and they seem really passionate about their work and how their system can help us achieve our patient flow and discharge goals.”

Summing up the feelings of many on the South Tees team, Mandy Headland, the Trust’s Managing Director of Integrated Care, says, “If I didn’t have Medworxx, I would need to invent it.”
About Medworxx

Medworxx, an Aptean Company, delivers health information technology solutions to over 350 hospitals internationally, including Canada, United States, United Kingdom, France and Australia. Medworxx helps hospitals meet patient flow challenges and requirements for compliance and education. Medworxx Clinical Criteria — the flagship component of Medworxx Patient Flow, which also includes electronic bed management and independent assessment components— is currently used to manage 32% of the acute-care beds in Canada as well as acute-care beds in the United States and a rapidly increasing number of beds in Trusts and CCGs in the UK.

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