

Salford Royal



NHS Foundation Trust



Case Study

# Implementing Technology to Prevent Hospital Overcrowding and Hallway Medicine

MCAP Has Helped To Improve Patient Flow By Providing Objective Clinical Decision Support Data

## Executive Summary

Salford Royal Hospital is a 730-bed tertiary care facility in greater Manchester, UK. It was an early adopter of the MCAP Care and Utilization Management concurrent use system under the CQUIN program. This program is a government funded program to use innovative new techniques to improve the quality and efficiency of patient care. The hospital wanted to participate in the program because of the unmitigated demand for its services. The MCAP System was chosen because of the depth and breadth of its criteria as well as ease of use. After an initial roll-out to ensure buy-in of the system, MCAP was utilized in all wards and all nurses received training in its use. Multiple diagnostic and therapeutic departments also used the program to re-prioritize patients based on preventing delays in discharge because of the needs for their services. Overall results have shown a decrease in days patients did not need to be in the hospital from 55% to 29%, with improvement continuing. Results from the gastroenterology and neurosurgical wards exceed those above. The institution will continue to use the MCAP System to maintain gains already achieved and further improve patient flow; to obtain data to influence healthcare policy locally and nationally; and to work with their nascent control center to help understand and control peaks and valleys in patient flow.

## Background

Salford Royal Hospital is a 730-bed acute hospital in the greater Manchester area of the UK. It serves not only as a local hospital, but also as a trauma and stroke centre, and as a regional centre for treatment of neurological, gastrointestinal cancer, dermatology, and renal diseases. It is a national centre for treatment of intestinal failure and metabolic diseases. It was an early adopter of the MCAP System for concurrent care and utilization management to help deal with an unmitigated demand for services resulting in overcrowding and long wait times. Salford Royal embedded the concurrent use of MCAP into its culture because it enables quantification of blockages to flow on a day-to-day and aggregate basis which prompts thought with decision-makers.

## Concepts and Terminology

The MCAP System answers three questions:

- Is the patient at the right level of care to meet their treatment needs?
- If not, what is the right level of care?
- And, if not, what are the blockages preventing treatment at the most appropriate level of care

If a patient is at the correct level of care, the day of treatment is said to be qualified (Q).

If the patient could be treated at a different and usually lower level of care, including home, the day of treatment is said to be non-qualified (NQ) and an appropriate level of care to meet patient needs and a reason why the patient is not there is selected. The use of the data on a day-to-day basis can immediately improve patient flow, and on an aggregate basis, can point to system actions necessary to improve patient flow.

## Implementation & Use

Salford Royal Hospital decided to use the MCAP System because of its ease of use while having the breadth and depth to meet a variety of present and anticipated needs as the hospital moved from being an acute facility only to being part of an integrated care system with multiple facilities and multiple levels of care including home-based care. It was an early adopter of the MCAP Care and Utilization Management concurrent use system under the CQUIN program. This program is a government funded program to use innovative new techniques to improve the quality and efficiency of patient care. The hospital wanted to participate in the program because of the unmitigated demand for its services.

To achieve its goals, Salford Royal Hospital appointed an administrative and clinical lead, both of whom had experience in trying to improve patient flow. This combination provided the impetus to get the program moving, first on two wards to demonstrate need and preliminary results. These results were used for continued buy-in as the hospital rolled out the program to all wards and trained all nurses in the use of the MCAP System over a six-month period. This phased roll-out helped embed the MCAP System in the culture of the organization, and assured data dissemination and use. While data input into MCAP System was primarily by the nurses directly involved in patient care, it was also used by head nurses and discharge planners. Critical in the wide use was the automatic input of patient demographics for the hospital administrative system, the availability of easy access to patients to be reviewed using the task list, and the fact that an admission review would take three minutes or less and a subsequent day of stay review one minute or less.

During the first six months also, data and ways to improve patient flow were discussed among all participants and a plan was developed for full use of the data not only by the various wards and those involved in patient discharge, but also by the support services such as diagnostic imaging, diagnostic tests, and various therapies. This group of support services used the patient information proactively to reprioritize tests and therapies based on patient need and potential to enhance the discharge process. Use by support services not only helped improve patient flow, but also markedly reduced calls from the various wards to the support services, reducing workloads of both.

Daily review was done by the ward staff of patients who were non-qualified and could be treated elsewhere including home. This helped anticipate discharge needs and improved patient flow. In addition, intensive review was done originally on all patients who had been in the hospital for more than 21 days to look at both internal and external blockages to discharge.

## Results

The results achieved were impressive, and continued improvement in patient flow is anticipated.

In aggregate, since the onset of the use of the MCAP System, non-qualified days of stay have been reduced from 55% to 26% (see graph A) and the improvement and the maintaining of gains continues. Through the use of the MCAP System, over 200 beds have been “created” (freed up for use) in this 730-bed facility resulting in improved access to services especially for elective procedures, trauma, and elderly care.

Two additional and individual service/ward examples are especially noteworthy.

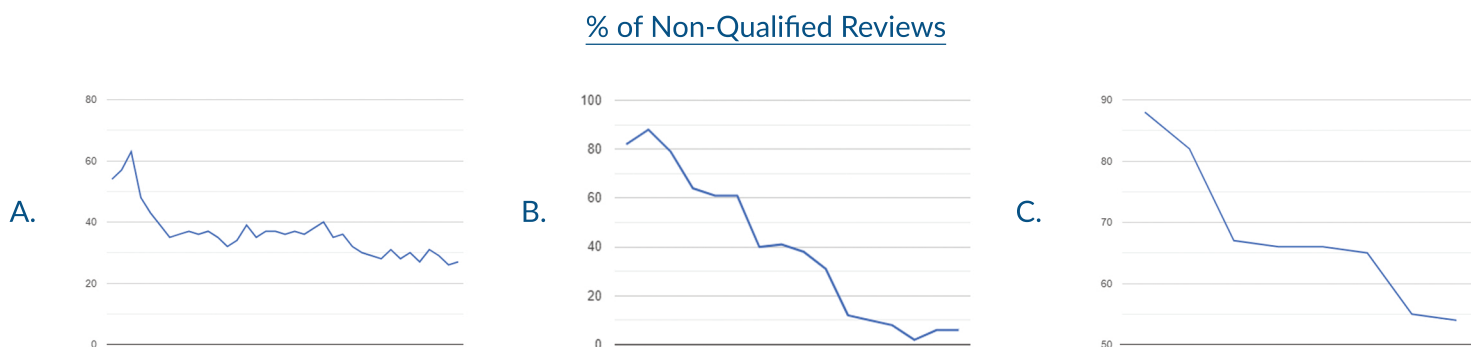
On the gastroenterology ward, GI the ongoing individual patient data allowed for an immediate and continued decrease in the NQ rate. The aggregate data showed that hand-offs among gastroenterologists were preventing prompt discharges, and that by changing the rotation from weekly to monthly, there would be a decrease need for handoffs in care and an increase in prompt discharges. These changes resulted in a decrease in NQ rate from a peak NQ rate of 88% to 9% (see graph B).

In the elderly care ward, the individual and aggregate data demonstrated the need to expedite patient care planning meetings and to streamline referral to alternative levels of care, including home care. This resulted in a sustained reduction in NQ rate from a peak NQ rate of 84% to 54% (see graph C) and a reduction in LOS. In addition, discharges were increased by 50% per week, and there was an increase in direct contact therapy time by 12 hours per week. Improvement continues to take place.

## Next Steps & Control Center

The use of the MCAP System data allows the hospital to continue to separate internal vs external causes of delays, and deal with both. The internal causes of delays in patient flow, that is those that are within the purview of the hospital are used as part of CQI process to improve flow and maintain gains. The external causes of delays in patient flow create a data trail to work with CCGs (the local overseers of costs and delivery network organizations) and governmental agencies to influence health policy.

In addition, the use of data to allows for quicker local repatriation from hospital provided tertiary care and trauma center services, increasing capacity to handle both. The data is also used to understand the need for various types of hospital-provided services, including tertiary care services.



### About VitalHub

VitalHub develops mission-critical technology for Health and Human Services providers in the Mental Health (Child through Adult), Long Term Care, Community Health Service, Home Health, Social Service and Acute Care sectors. VitalHub technologies include Blockchain, Mobile, Patient Flow, Web-Based Assessment, and Electronic Health Record solutions.

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