



Recovering Urgent & Emergency Care

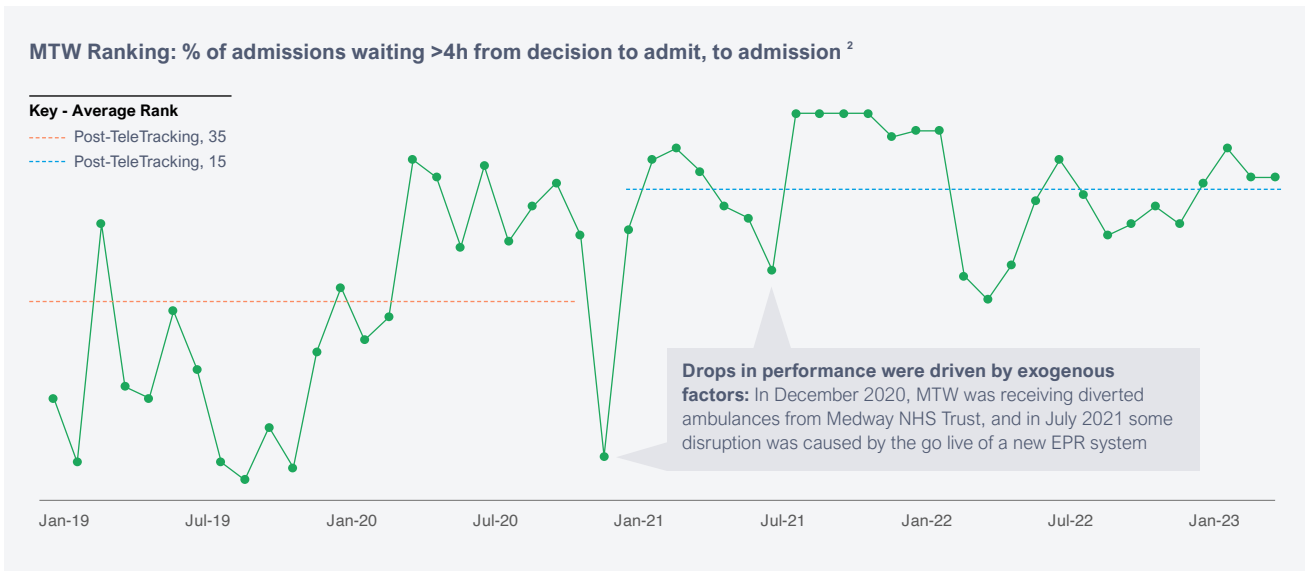
The pressing case for
Electronic Bed Management

June 2023

Introduction

Three years ago, Maidstone and Tunbridge Wells NHS Trust (MTW) was managing bed capacity by using pen and paper, while nurses ran up and down several flights of stairs to check bed availability.

MTW is now repeatedly amongst the top-performing A&E departments in England, and has reduced its list of patients waiting more than 52-weeks for treatment from over 1,000 to 0 patients within 15 months.¹



Amongst many actions to manage capacity and staffing workflow pressures, MTW credits this significant improvement largely to the introduction of an Electronic Bed Management solution and Care Co-ordination Centre. Electronic Bed Management solutions are specialised operational systems which automate workflows and centralise data on patient location and flow, supporting improved bed allocation and capacity management. Simply put, combining this technology with the right processes and existing operational teams ensures patients are discharged quickly, safely and effectively.

Electronic Bed Management solutions free up bed capacity, create shared visibility for staff, and ensure beds are available in the most efficient and effective manner for patients.

Nurses now have the right information to make decisions on Trust capacity - providing clinical teams with more time to spend on patient care.

This has a positive impact on Trust capacity and productivity, as well as the experience of patients attending hospital.

Despite the number of daily A&E attendances almost doubling, during the first six months of going live, MTW has:



Released **2.3k hours of nurse and ward staff time** back to care per month, equivalent to an estimate of £310k cost avoidance in the first 6 months³



Released **15 beds per day of capacity⁴**, resulting in £928k of cost avoidance over the first 6 months⁵

¹ NHS Digital, Consultant-led Referral to Treatment Waiting Times, March 2022

² % of admissions waiting over 4 hours from decision to admit to admission, April 2023

³ The average number of cleaning hours spent in MTW NHS Trust per month, data extracted from TeleTracking system

⁴ Staff at MTW used stopwatches to manually measure lost bed-time pre-implementation, and compared these figures with the post-implementation results extracted from TeleTracking's systems

⁵ Calculated using MTW data

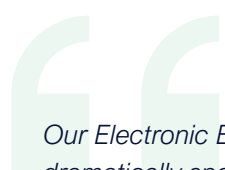
The National Health Service (NHS) in England is facing unprecedented levels of demand and capacity constraints. Waiting lists have grown to 7.3 million people, a 15% increase from 2022, with 360k people waiting for more than a year.⁶ At the same time, staff vacancies have grown by 10%, to 125k, of which 35% are for nurses, and the funding landscape remains challenging.⁷

Many initiatives are being deployed to address current NHS pressures, such as expanding staff training and recruitment and the development of new hospitals and infrastructures to meet the growing demand. Whilst these initiatives are essential, they are long term in benefits realisation and implementation.

This is why in January 2023, NHS England published its Delivery Plan for Recovering Urgent and Emergency Care Services which requested all Trusts introduce Electronic Bed Management solutions by the end of 2023.

Current manual processes limit the ability to serve demand and to understand, via available data, where bottlenecks exist and how they can be alleviated. With Electronic Bed Management software, staff no longer need to walk between wards with a clipboard to understand bed capacity, and there is no need to radio porters for every job.

Electronic Bed Management systems, accompanied by supportive people and processes, ensure that the NHS is making the best possible use of its scarce resources – allowing it to treat more patients within the same financial envelope. If implemented across the NHS, these solutions have the potential to drive significant benefits within the first 6 months.⁸



Our Electronic Bed Management system has dramatically sped up discharges, which means we have more beds available. We can get patients out of A&E much quicker so the hospital doesn't get clogged up and ambulances don't have to queue up outside.

**Former Director of Operations,
Maidstone and Tunbridge Wells NHS Trust**

Potential Impact of Electronic Bed Management Systems Across all NHS Trusts

6,911	beds unlocked per day
1,750	additional elective patients treated per day
11,560	fewer hours spent by patients in A&E per day
10,000	nurses and ward staff hours freed up per day to focus on care delivery
£2.1m	wasted cost avoided per day by reducing lost bed time ⁹

Electronic Bed Management represents a tactical investment in hospital operations, which can be delivered alongside existing transformation strategies to address urgent challenges across NHS Trusts. Implementation takes only 5 months, involving minimal system integrations, and benefits realisation begins within the first 6 months after go live.

Evolving Trusts' digital roadmaps – many of which were developed prior to the current emergency – to incorporate Electronic Bed Management is an essential and urgent response to growing waiting lists, A&E attendances and admissions.

In the current operating environment, Electronic Bed Management is an opportunity that the NHS cannot afford to overlook or delay.



Electronic Bed Management systems are critical to the way in which we can deliver care today. Not only does this new way of working help to reduce waiting times, but it also means clinical staff have more time to care and spend with patients.

**Chief Operating Officer,
Medway NHS Foundation Trust**

⁶ NHS Digital, Consultant-led Referral to Treatment Waiting Times, Mar-23

⁷ NHS Digital, Vacancy statistics, Mar-23

⁸ Estimates calculated using time saving data, from current sites with TeleTracking's EBM solution, and applied to all Trusts and Foundation Trusts in England

⁹ Avoided cost 'wastage' by reducing the time that beds are left unoccupied

What is Electronic Bed Management?

Bed management is a complex logistical process which requires a sophisticated approach, and is an area historically under-supported by technology. Electronic Bed Management uses tracking technologies to automate traditionally manual processes, whilst also supporting clinical and operational teams with real-time visibility that enables them to progress and coordinate the patient journey.

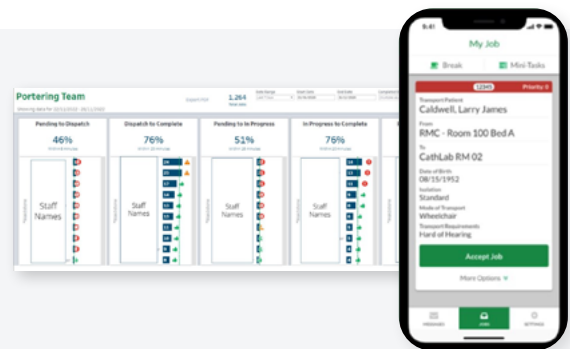
Most hospitals manage bed allocations and the associated workflows through pen, paper and phone calls. Multiple conversations and physical steps are needed to co-ordinate patient placements. Data is frequently inaccurate, and never real-time. This can lead to miscommunication and delays, long wait times, poor patient experience and limited data and insight to support improvement initiatives.



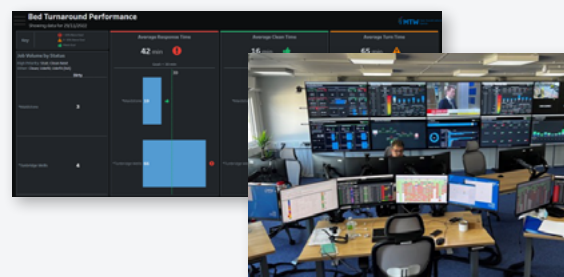
Automatically notify cleaners and porters of jobs when a bed is vacated or a patient is allocated to a 'ready' bed, including details of equipment required such as wheelchairs, trolleys or specific cleaning apparatus



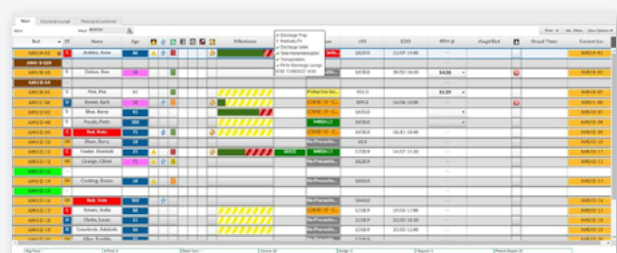
Enable nurses and care workers to focus on delivering care by removing the need for them to call for porters and cleaners, and providing them with greater visibility over pending discharges, provisional allocations, and incoming patients

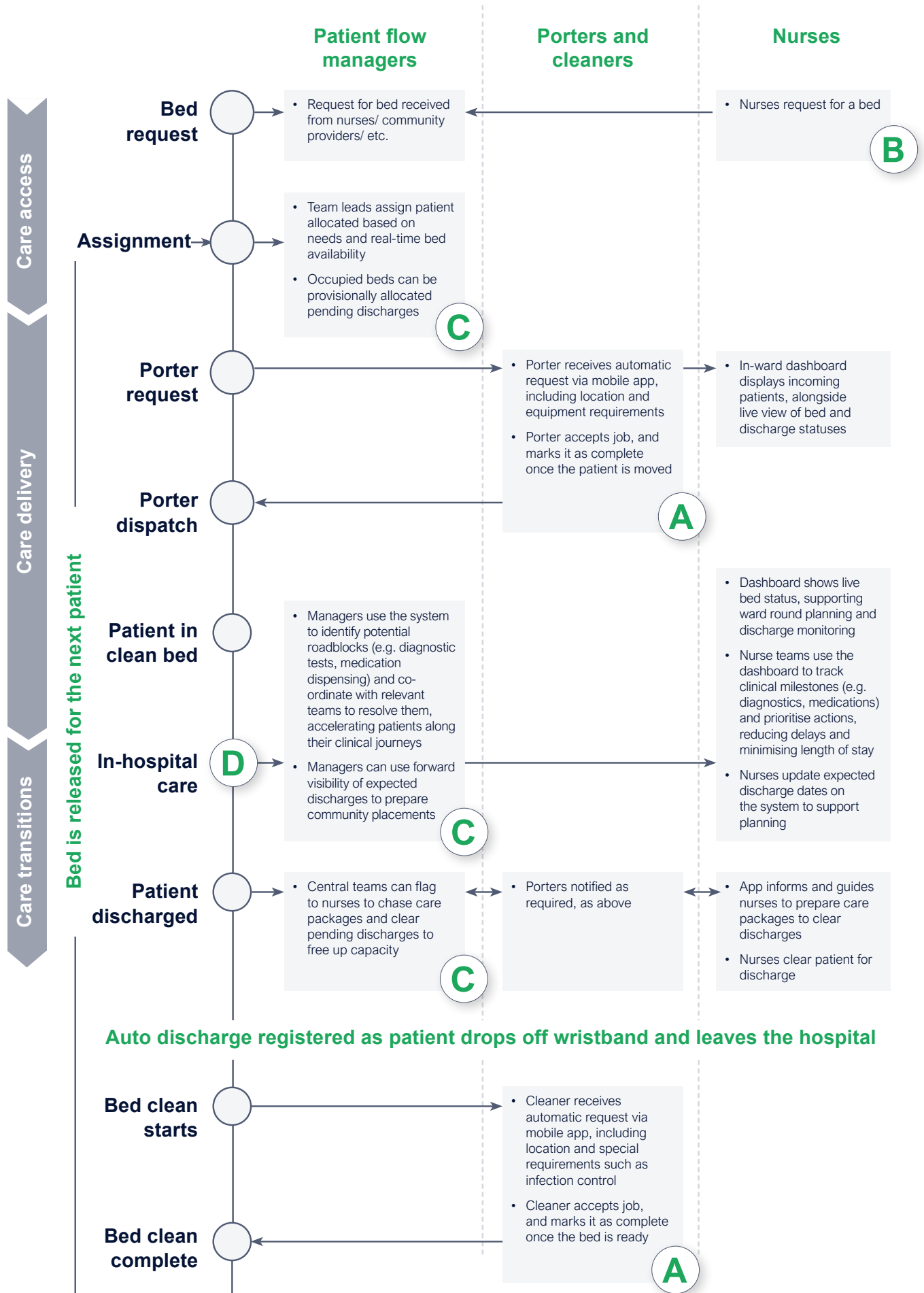


Centralise patient flow data to provide a real-time, comprehensive view of bed status and unmet demand across the Trust, facilitating more informed, less siloed bed allocations and community placements, and the ability to prioritise urgent patients



Accelerate patient progress through their pathway, by providing real-time visibility of next steps and delays, such as diagnostic tests and medication dispensing, empowering nurses and operational teams to take informed actions and remove roadblocks





Electronic Bed Management solutions, in contrast to Electronic Patient Records (EPRs), do not contain clinical information, but instead focus on providing operational insights. This includes functionality such as real-time operational analytics, predictive capacity tools and porter- and cleaner-facing capabilities which are not available in EPRs. Electronic Bed Management solutions are dynamic systems which capture more granular patient flow data than EPRs, and create consolidated, actionable data.

Relatively few examples of true Electronic Bed Management solutions today are found in Hospital Trusts. As Integrated Care Systems take shape, multi-site adoption presents even greater opportunities to ensure resources are being used to deliver the greatest quality of care to the greatest number of patients.

This would enable Trusts within an Integrated Care System to co-ordinate patient placements in advance, manage capacity and automate workflows across all acute, mental health and community settings including virtual wards.

This approach is already in place in Kent, where bed availability is visible across acute and community hospitals, as well as two hospices, enhancing the team's ability to plan discharges and transfer patients in a timely manner. In this way, Electronic Bed Management systems support the digitisation of system co-ordination centres, in-line with national guidance.

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The Electronic Bed Management system is integrated with our Cerner EPR [and] enables clinical teams to track activity and resolve issues in real-time, and view historical trends allowing us to celebrate success and identify areas of improvement. The dashboards the system provides are a great example of how high-quality data within the right system can start to change how operational and clinical teams work within a hospital.

**Chief Digital Officer,
Countess of Cheshire NHS Foundation Trust**



Electronic Bed Management systems provide rapid and tangible benefits to healthcare providers

Electronic Bed Management systems bring immediate productivity benefits:



Reduced lost bed time, by providing real-time, accurate data on ward capacity and expected discharges and automating notifications, so that the right teams know as soon as a bed is empty and can accelerate cleaning and allocating it



Reduced length of stay, by providing visibility of clinical progression and discharge milestones, to prompt and help coordinate interventions to accelerate patient flow and discharge



Reduced manual administrative tasks, such as counting empty beds on clip boards, making phone and radio calls to porters and cleaners, and calls to locate patients, by automating workflows and providing a single source of data visibility

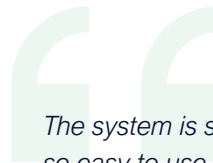


Increased utilisation of non-clinical staff, as porters and cleaners are able to receive real-time job requests and activity data is collected which enables enhanced rota and service planning

Reducing lost bed time and the length of stay increases a hospital's bed capacity. Combined with effective dashboarding and automated processes, this enables patients to be transferred out of A&E or theatre recovery and into available beds in a timelier manner. It also enables incremental elective activity to be scheduled, and reduces cancellations due to bed shortages by up to 78%¹⁰, as capacity is released across the Trust.

Providing front-line staff with visibility and automated workflows reduces the administrative burden on staff and minimises errors. Nurses are empowered with real-time information to anticipate, plan and respond to changing patient circumstances, creating an environment in which they can focus on delivering care.

This drives improved patient outcomes, as well as enhanced staff wellbeing and job satisfaction. In the medium term, this is likely to improve staff recruitment and retention.



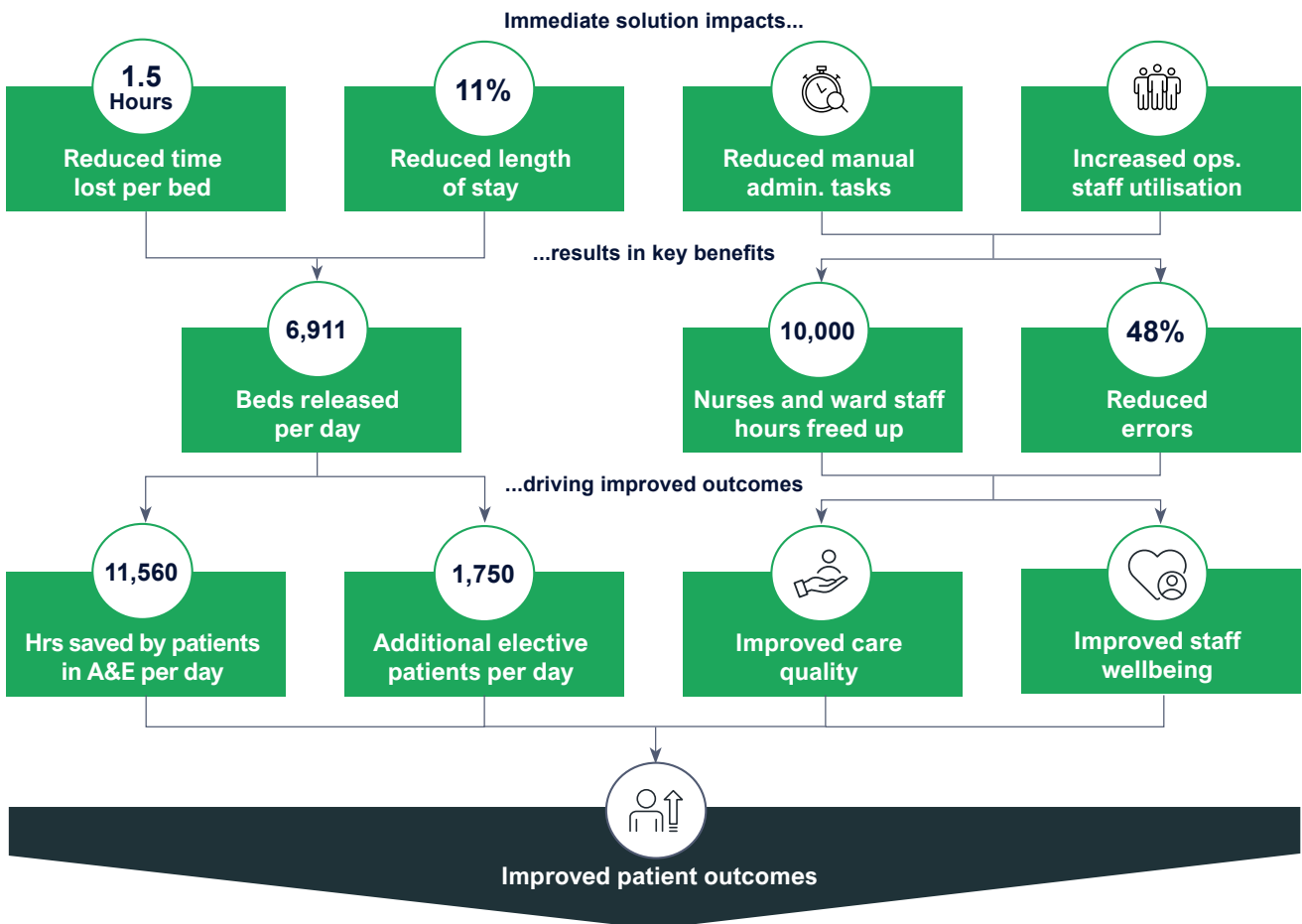
The system is saving our nurses' time because it's so easy to use. Our flow coordinators on the ward can now update our system in real-time, providing us with transparency throughout the day over pending patients and discharges...our nurses can now devote more time to patient care.

**Head of Nursing for Central Operations,
Maidstone and Tunbridge Wells NHS Trust**

All this has a significant positive impact on the patient experience. Across their care journey, patients will experience fewer delays and cancellations, and, due to the increase in elective activity, shorter wait times. During the hospital stay, patients are also less likely to be misallocated to a bed in an inappropriate ward, to be transferred between multiple beds during their stay, and are likely to experience a shorter length of stay, during which they receive higher quality care due to increased nurse capacity.

¹⁰ Data from existing TeleTracking deployments

Electronic Bed Management could have a significant impact on the NHS¹¹



Combined, these benefits optimise resource allocation, unlocking the ability to treat more patients with the same resources.

At a hospital with 500 beds, Electronic Bed Management has the potential for¹²:

£3m wastage avoided per year due to significantly reduce lost bed time

£490k nursing costs optimised by releasing time back to care by taking away manual operational responsibilities

£150k savings per year due to increase in productivity of operational staff

Electronic Bed Management systems also unlock adjacent benefits by creating the capability to accurately and automatically track performance on a variety of otherwise unavailable metrics such as allocation time, porter response time, and lost bed time.

Leveraging this insight, providers can identify inefficiencies, make strategic operational plans, and measure progress towards targets.

For example, at MTW, data from the Electronic Bed Management solution identified a bottleneck in theatres, where a shortage of available beds in recovery was forcing theatres to close.

Rearranging how porters were allocated to the department enabled the Trust to overcome this, by ensuring that patients were transferred to wards as soon as they were fit. This reduced the number of cancellations and delays for procedures, reducing the stress for patients and helping to address the backlog.

This combination of technology, people and processes can radically transform services within a short period of time, all the while providing limited implementation risk.

¹¹ Estimates calculated using data from current sites with TeleTracking's EBM solution, and applied to all NHS Trusts and Foundation Trusts in England while taking into consideration the number of beds, admissions and transfers

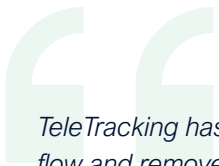
¹² Estimates calculated by scaling the outcomes from MTW NHS Trust down to a 500-bed hospital

Examples of Electronic Bed Management solutions in NHS Trusts

The Royal Wolverhampton NHS Trust

The Royal Wolverhampton NHS Trust (RWT) introduced Electronic Bed Management to address three major challenges: access to care, patient flow and infection prevention. To achieve this, the Trust tagged staff, patients and assets to provide central visibility over all locations and interactions, and automate workflows.

On top of the patient flow benefits of Electronic Bed Management systems, RWT leveraged this data to build out predictive models during the pandemic. These enabled it to not only predict PPE stock usage and procurement needs, but also monitor patient-staff interactions and predict the likelihood of infection transmission.



TeleTracking has enabled us to improve patient flow and remove the burden of administrative tasks from frontline staff. It also helped us to prevent infections in a more efficient and safe manner, which was particularly important at the peaks in the pandemic.

Group Chief Nurse and Lead Executive for Safeguarding, The Royal Wolverhampton NHS Trust

Since going-live, RWT has¹³:



Released **1,386 hours of time back to nurses and ward staff**, equating to 9 WTE



Reduced bed turnaround times to 42 minutes, and allocation times to 35 minutes



Enabled staff to **find tagged equipment in 25 seconds**



Sustained A&E performance, 8% higher than the national average, despite the national average decreasing



¹³ Outcomes represent RWTs performance

Examples of Electronic Bed Management solutions in NHS Trusts

Maidstone and Tunbridge Wells NHS Trust

MTW uses Electronic Bed Management to manage patient flow across 2 acute hospitals, an 80-bed community hospital, and 2 hospices. As a result, capacity, including community placements, is coordinated centrally. For example, MTW can re-direct incoming ambulances between hospitals to minimise handover delays and waiting times.

The logistics and allocations teams are based in one room, with clinical support on hand and a range of dashboards on large screens. This enables real-time, comprehensive data to be discussed live, supporting the prioritisation of activity and a joined-up approach.



We are now getting patients into community hospital beds almost a day earlier than we ever were. The referral process is much slicker and the ward teams find that a lot easier.

General Manger for Central Operations, Maidstone and Tunbridge Wells NHS Trust

The solution has helped MTW to¹⁴:



Reduce **A&E bed allocation** time by 86%



Reduce the **time between confirmed to discharge and actual discharge** by 64%



Free up an average of 15 additional beds per day since going live, resulting in **£2.1m of cost avoidance per year**



Release 2,300 hours of ward staff each month, **equating to an estimate of £620k of savings per year**



¹⁴ Outcomes represent MTW NHS Trust's performance, estimates are calculated based on time savings

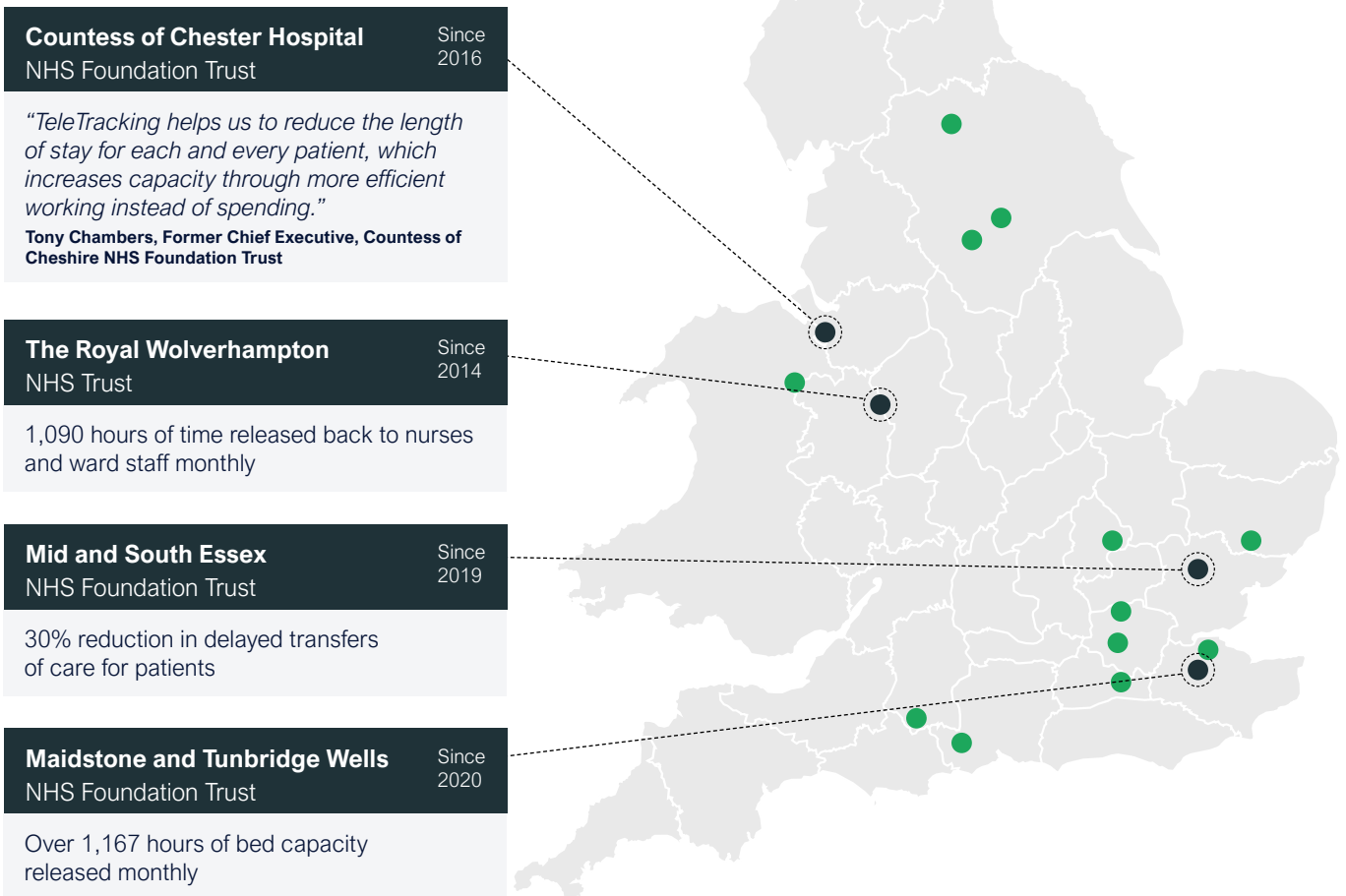
Introduction to TeleTracking

TeleTracking is the global leader in Electronic Bed Management solutions, offering operational software and real-time patient and asset tracking capabilities to help healthcare providers improve visibility, co-ordinate patient flow, automate operational workflows and manage capacity.

In England, TeleTracking has partnered with over 40 NHS Trusts and delivers solutions for four leading Care Co-ordination Centres: Maidstone and Tunbridge Wells NHS Trust, The Royal Wolverhampton NHS Trust, Mid and South Essex NHS Foundation Trust and the Countess of Chester Hospital NHS Foundation Trust. It also supported several NHS Trusts in England during COVID-19, using real-time systems to locate staff and patients and measure their interactions to minimise infections.

TeleTracking is a leading brand that has over 30 years of experience, supporting over 200 health systems including the top 3 largest health systems in the US. Globally, TeleTracking manages over 200k beds and works with over 100 Care Co-ordination Centres, more than all other competitors combined.

Current NHS presence



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Contact details:
+44 (0) 1722 241030
www.teletracking.uk