CASE STUDY

How ESNEFT Tracked Avoidable Inpatient Days to Eliminate Bottlenecks

A guide to the Red2Green approach

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Advisory Board

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Overview

The challenge

Organizations typically use length of stay (LOS) to identify patient flow bottlenecks. But because LOS is impacted by factors other than avoidable care delays, it's difficult to correctly identify bottlenecks with the greatest impact on system-wide flow.

The organization

East Suffolk and North Essex NHS Foundation Trust (ESNEFT) is a public health system based in Colchester, England. It operates two large acute care facilities, several community hospitals, and primary care services.

The approach

ESNEFT's red and green day initiative has increased efficient patient throughput, resulting in major cost savings for the system.

The results

ESNEFT used their red and green day data to develop several initiatives that addressed their most impactful bottlenecks. Most significantly, these initiatives reduced delayed transfers of care by 41% after one year of implementation.

Approach

How ESNEFT tracked avoidable inpatient days to eliminate bottlenecks

ESNEFT pioneered the "Red2Green" process for identifying and addressing avoidable acute care delays. This process has since been adopted by organizations around the world. This publication details the components of the Red2Green process.

The three components

There are three components to implementing the Red2Green process:

01 Define patient days as red or green

02 Tag each red day with the reason care was delayed

03 Use red day metrics to drive system-wide patient flow strategy

01 Define patient days as red or green

The red day and green day metrics track instances when acute care was delayed. ESNEFT based these metrics on the estimated date of discharge assigned to each patient at admission. If a patient did not receive all the care required to progress toward their estimated date of discharge, that patient day is red. If they did, the day is green.

There are two common scenarios that lead to a red day:

1. A patient was supposed to receive an acute procedure or assessment, but it wasn't delivered on time. For example, a patient who waits more than 14 hours from initial referral to specialty review or waits on external placement or equipment.

2. A patient only received care that didn't need an acute bed—likely because they weren't able to access care at a subacute site.

Definitions of red and green days

Red day:
A day in which the patient does not receive the interventions necessary to progress toward their estimated date of discharge (EDD)

Green day:
A day in which the patient has received the interventions in accordance with their care plan to meet the identified EDD

DEFINE PATIENT DAYS AS RED OR GREEN

All beds throughout the hospital default to “red” status at midnight. It’s up to the unit’s clinicians and discharge coordinator to convert them to “green” status every day.

This process begins every morning when the interdisciplinary team rounds. The team reviews each patient’s estimated date of discharge and adjusts it as needed. Then, they design a care plan for that day to keep the patient on track to meet their date of discharge.

If clinicians identify a barrier to completing the care plan on time, they will escalate the issue to ESNEFT’s centralized patient flow team. This team underpins all of ESNEFT’s many patient flow-related initiatives, including Red2Green.

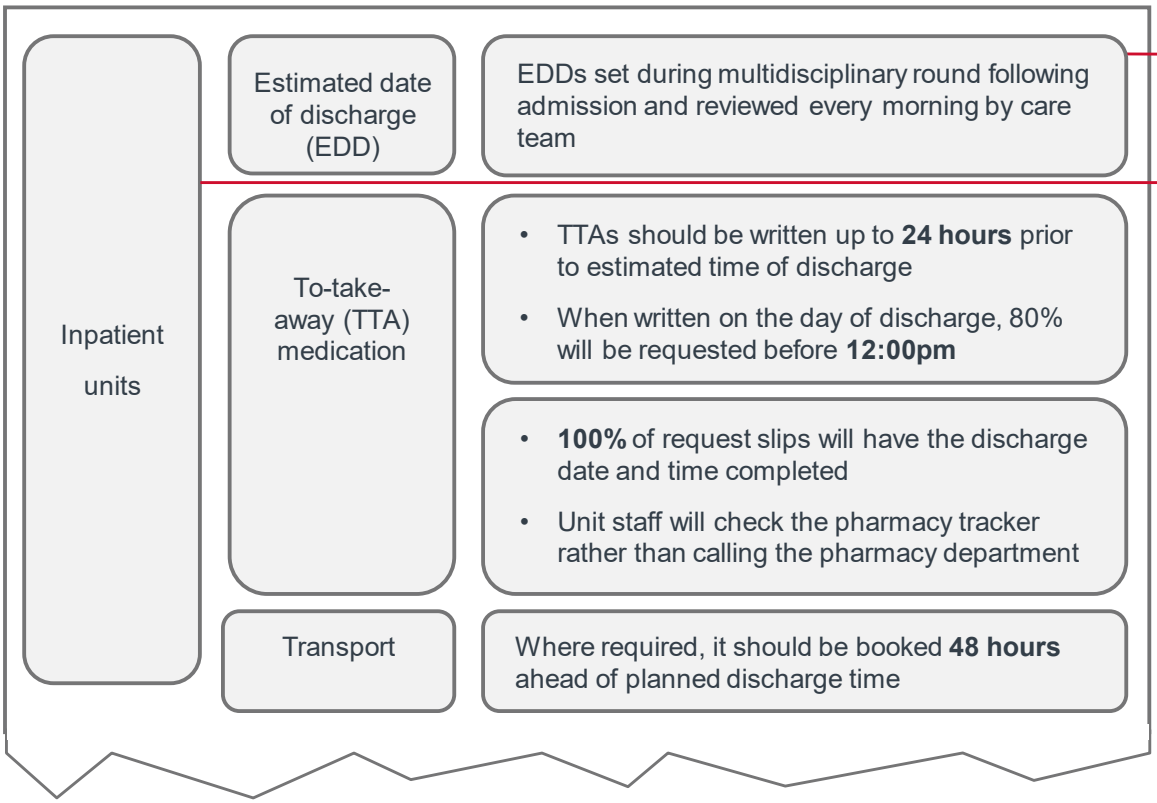
In the afternoon, the unit discharge coordinator rounds on beds to determine if the daily care plans are complete. If they are, those beds are changed to green status.

Define standards for "timely" care

To identify instances when care was delayed, ESNEFT leaders knew they would have to create universal standards for how long it should take to deliver care.

Before rolling out the Red2Green process, a small group of clinical leaders identified the most common types of care delivered by each department—including all inpatient units and ancillary services. For each type of care, the group assigned an expected time frame for clinicians to complete it. The baseline assumption was that a patient shouldn't wait longer than 14 hours for anything. An excerpt of ESNEFT's clinical standards for inpatient units is below.

Examples of clinical standards



Access ESNEFT's full clinical standards at advisory.com

DEFINE PATIENT DAYS AS RED OR GREEN

ESNEFT recommends that organizations involve only a small number of clinicians to create the standards. Otherwise, coming to consensus on the right time frame may take too long.

It's not critical that the standards are perfectly accurate from the beginning. Their value is giving the organization a baseline time frame to work with, which can be adjusted as needed during Red2Green rollout.

What's more important is how these standards are communicated to staff. One of ESNEFT's senior nurse leaders championed the standards among frontline staff. She emphasized that the standards weren't designed to punish clinicians who didn't meet them. Instead, they are a tool to identify areas within the organization where clinicians need more support to deliver timely care.

To identify instances when care was delayed, ESNEFT leaders knew they would have to create universal standards for how long it should take to deliver care.

02 Tag each red day with the reason care was delayed

The nurse managers round on their unit's remaining red beds at the end of each day to identify why the care plan was not delivered as planned.

Each red bed is tagged to the most impactful reason why care was delayed. The number of red beds, and the type of care delays, are communicated to the patient flow team via a basic online survey tool. Other organizations that implemented the Red2Green process have used their EHR or e-white board to communicate this information.

Nurse managers select one reason from a list developed by ESNEFT leaders, to ensure the language is consistent across managers. Because all beds across the hospital are drawing from the same list, ESNEFT is able to quantify the impact of each type of care delay across the entire organization. An excerpt of this list is on the next page.

TAG EACH RED DAY WITH THE REASON CARE WAS DELAYED

Sample care delays

Category	Internal or external
Assessment	
Equipment, adaptations	Internal
Falls risk assessment	Internal
Physio	Internal
Waiting for external agency assessment	External
Continuing health care	
Continuing health care package	External
Continuing health care panel decision	External
Diagnostics	
Blood result	Internal
Colonoscopy	Internal
Echo	Internal
EEG	Internal
Endoscopy	Internal
Gastroscopy	Internal

03 Use red day metrics to drive system-wide patient flow strategy

Metrics for red and green days are used to drive patient flow strategy throughput across the system. To do so, ESNEFT built in regular opportunities for leaders to review the data and discuss interventions for emerging bottlenecks. Two of these opportunities are listed below.

Weekly leadership huddles

ESNEFT's centralized patient flow team holds weekly huddles with all nurse managers to discuss the most common reasons for red days that week. The group uses this time to brainstorm solutions to the most common delays across the organization.

Red2Green weeks

ESNEFT also designates "Red2Green weeks" before periods with seasonal surge. All leaders—including executives—cancel all nonessential meetings to help units address red days.

The goal of Red2Green weeks is to close one of the hospital's overflow units by the end of the week. Following their time on the units, executives meet to collectively identify the 2 to 3 most common delays. Leaders incorporate these delays into ESNEFT's system-wide patient flow strategy. This allows the organization to periodically recalibrate their strategy to address the organization's most impactful bottlenecks.

Though red days are tracked only on inpatient units, the interventions to address them can span across ESNEFT's entire enterprise.

For example, the Red2Green process identified weekend cardiology coverage as a bottleneck impacting timely care delivery. ESNEFT then improved weekend staffing so patients didn't have to wait until Monday to be discharged.

But sometimes investments were made outside the hospital. In one instance, ESNEFT developed a home-based IV antibiotic administration program because patients were unnecessarily occupying an acute bed for this purpose.

Sample interventions identified through Red2Green

- **Delay**: Too many patients were waiting for angiograms, PCIs[1], and pacemakers
- **Solution**: Hospital decided to increase capacity and extend cardiology coverage over the weekend to reduce backlog

- **Delay**: Patients in acute care beds for subacute IV antibiotic administration
- **Solution**: Hospital created program to administer IV antibiotics at patient homes when medically appropriate

1. Percutaneous coronary intervention.

Results

Centralized approach decreases inefficiencies, costs

ESNEFT achieved significant improvements to operational efficiency, including delayed transfers and stranded patients (the UK term for patients who remain in the hospital for seven or more days after they were deemed medically ready for discharge). These improvements translated into major cost savings for the system.

41%	Reduction in delayed transfers of care one year after implementation
28%	Decrease in stranded patients one year after implementation
£2.45M	Savings in Cost Improvement Programmes

In 2016, ESNEFT's Red2Green process won the *2016 Health Service Journal*'s award for acute care innovation. It's since been adapted by many other hospitals within the UK and beyond.

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