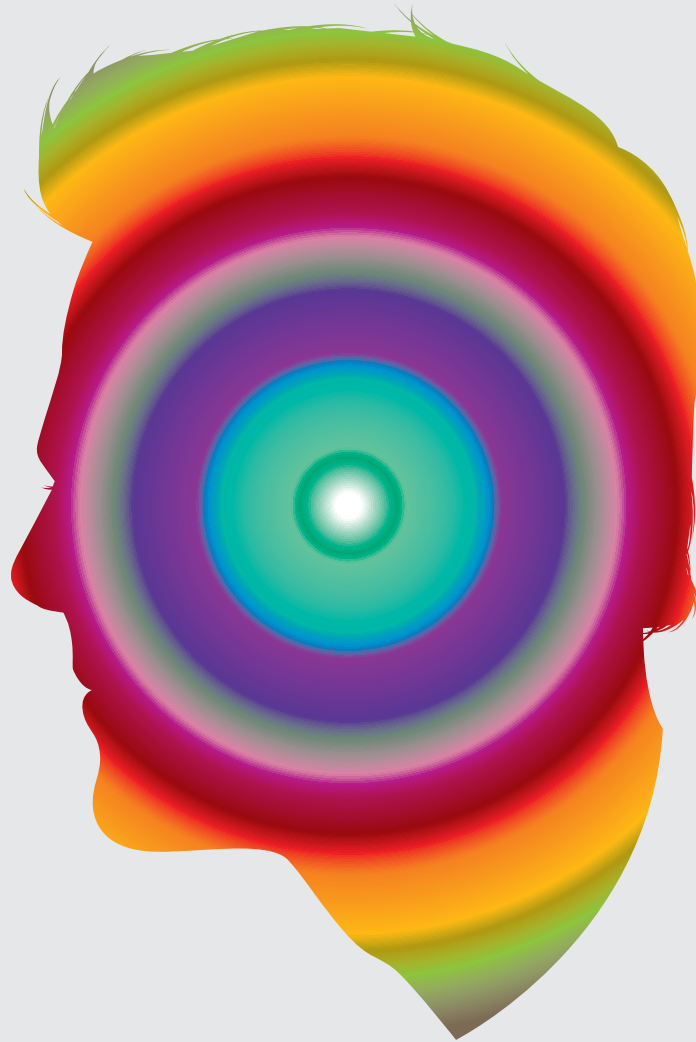


# Delivering Healthy Ambitions Better for Less



## Overview.

E-rostering can dramatically reduce the cost of producing and managing staff rosters. It can improve deployment of staff, cut the use of agency staffing and provide a central database of staff working patterns that interfaces to ESR and payroll systems.

Potential savings through E-rostering are significant with an average saving of £3.4 million per NHS provider in Yorkshire and the Humber.

# Why E-rostering?

Ensuring the right staff are available to meet the demands of a 24/7 service, both in terms of numbers and skill mix, can be time consuming and expensive. Getting it wrong has consequences for patients and standards of care. Clinical governance is a priority and controlling workforce costs, particularly temporary staff costs, is fundamental in containing overall costs and maximising value for money.

Technology and support is now available to managers in drawing up effective and cost efficient rosters. Increasingly, NHS providers are using E-rostering software, improving the quality of rosters, reducing reliance on expensive temporary staff and freeing up management time.

## What is the challenge?

Trusts use a mixture of legacy systems to produce and manage staff rosters including Nurse Manager System (NMS), paper rosters, paper time sheets and excel spreadsheets. Data across the legacy systems is not easily accessible to enable effective reporting and management control of staff and payroll.

Many systems are outdated and aren't effective in meeting provider needs for current and future E-rostering. Changes to workforce, for example as a result of Transforming Community Services, will exacerbate the pressure on outdated unresponsive systems.

In its report on temporary staffing in the NHS in 2006, the NAO found that whilst the NHS had reduced temporary staff expenditure overall this masked a wide range between trusts. It urged trusts to improve these figures by moving to electronic rostering.

In 2008/9 in acute trusts, 2.6% of total workforce spend was on agency staff (Aston Business School 2009), the corresponding value for mental health trusts was 4.1%. In acute trusts in Y&H, agency spend represented 3.8% of workforce spend (2009/10). Proportions range from 1.6% in Sheffield Teaching Hospital to 8.5% in Scarborough & North East Yorkshire. The corresponding value for mental health trusts is 5.4%.

**Table 1a. Agency spend by NHS trust (acute)**

Organisation	Agency Spend (£000s)	Agency spend as % of total workforce
Scarborough and North East Yorkshire Health Care NHS Trust	6,440	8.5%
Mid-Yorkshire Hospitals NHS Trust	21,673	8.3%
Bradford Teaching Hospitals NHS Foundation Trust	8,791	4.5%
Doncaster and Bassetlaw Hospitals NHS Foundation Trust	9,600	4.5%
Hull and East Yorkshire Hospitals NHS Trust	12,618	4.4%
Airedale NHS Trust	3,549	3.8%
Barnsley Hospital NHS Foundation Trust	3,624	3.8%
Leeds Teaching Hospitals NHS Trust	19,635	3.8%
Calderdale and Huddersfield NHS Foundation Trust	6,834	3.5%
York Hospitals NHS Foundation Trust	5,228	3.5%
The Rotherham NHS Foundation Trust	3,301	2.8%
Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	5,118	2.6%
Sheffield Children's NHS Foundation Trust	1,670	2.1%
Harrogate and District NHS Foundation Trust	1,378	1.7%
Sheffield Teaching Hospitals NHS Foundation Trust	7,646	1.6%

**Table 1b. Agency spend by NHS trust (mental health)**

Organisation	Agency Spend (£000s)	Agency spend as % of total workforce
Bradford District Care Trust	10,020	11.99%
Leeds Partnerships NHS Foundation Trust	5,576	6.27%
Humber NHS Foundation Trust	2,386	4.44%
Sheffield Care Trust	2,049	2.20%
South West Yorkshire Partnership NHS Foundation Trust	1,857	2.25%
Rotherham, Doncaster & South Humber Mental Health NHS Foundation Trust	No Data	No Data

Universally available data for agency staff costs are reported in trust financial accounts against “agency/contract staff”. In some cases, the values reported here may capture the costs of other staff in addition to those employed through agencies. As such, the savings identified are indicative; in some cases values may be overstated due to the data available. Organisations should use local intelligence to understand potential savings from E-rostering more accurately.

## How could we provide better care for less?

E-rostering offers a quicker and more equitable alternative that should reduce temporary staff costs by making better use of permanent staff. There are several systems on the market, but typically they allow wards or departments to set rules on nurse numbers, skill mix and temporary staff protocols. Using computers in the ward, or sometimes over the internet from home, nurses can then request particular shifts, which can be accepted or rejected by the ward manager.

Once all the requests have been made, the manager can complete the roster, if necessary by moving nurses to different shifts and see where temporary staff are needed. The time spent completing the roster is dramatically reduced.

An E-rostering system can be implemented across a Trust in all wards and departments to enable the following:

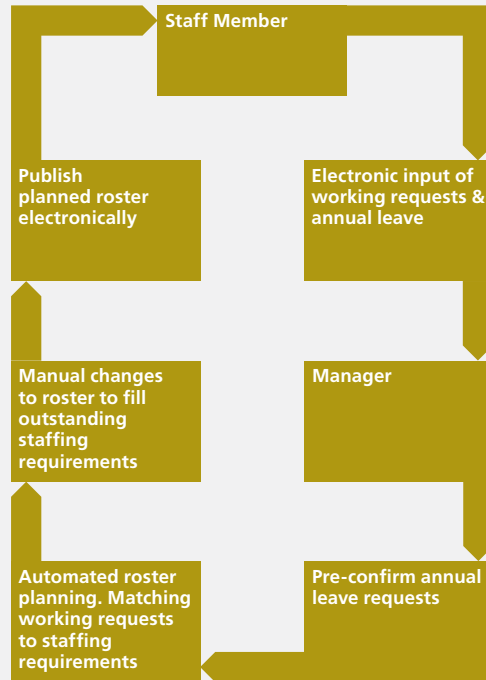
- Central storage of all rostering data
- Access for staff to allow the requesting and management of annual leave
- Access for staff to allow the requesting and management of working shifts
- Equality and transparency of allocation of shifts and annual leave using a scoring system to allow identification of priority requests and fair allocation of requests
- Automated roster planning to cut time spent planning by managers
- Skill mix and staffing level requirements accurately planned
- Rostering Rules at both staff level and location level to match existing flexibly working agreements and to ensure rosters are planned fairly
- Visibility of the planned rosters for each staff member
- Electronic maintenance of rosters to reflect the changes to the roster
- Management of sickness episodes and their effect on planned rosters
- Immediate access to up-to-date roster information
- Visibility of staff shortfalls and over staffing and the redeployment of staff between departments to cut down on agency staff costs
- Interfaces with the Electronic Staff Record System (ESR) for both payroll and regular updated of new staff and staff change details.

## The E-roster Planning Cycle

Staff can make roster requests into the E-roster system using a web based application 365 days in advance and managers can authorise those requests at anytime.

Roster planning is automated taking into account the rules for each member of staff, contract hours and the skill mix required. Manual changes are made to assign any outstanding staffing requirements and the planned roster is then available electronically. Rosters can be printed for staff unable to access electronic rosters.

Figure 1. E-rostering working request and Annual Leave planning cycle



## Links to ESR

E-rostering systems also interface with the NHS human resources and payroll system, the Electronic Staff Record (ESR), helping ensure payslips are accurate. E-rostering ensures providers know when staff have worked and this information is seamlessly linked to payroll to ensure efficiency and accuracy.

The Department of Health’s ESR team says that as all NHS organisations have now gone live on ESR; E-rostering is a natural next step and a move it strongly encourages. It recognises that it was important to ensure third party E-rostering systems could communicate with ESR.

The linking of E-rostering and ESR contributes significantly to reducing duplication of data entry and helps improve the accuracy and quality of data being used by providers and their payroll departments.

## Patient benefits

Patients benefit from appropriate staffing cover with the right skill mix on-wards and across departments with less reliance on agency staff. Patients also benefit when savings made on reducing agency spend can be reinvested in patient care.

## Quality benefits

E-rostering can help ensure appropriate and safe staffing levels are maintained on wards at all times. The main reason to adopt E-rostering is to manage more effectively the peaks and troughs of staffing demand. It doesn’t eliminate problems of people not being available at short notice but it is effective as a long-term planning tool. E-rostering supports flexible working arrangements for staff which can help reduce absence and improve morale.

Managers and Matrons can view all areas under their responsibility and quickly identify staffing issues. They can then drill down through their areas to identify which departments or wards have understaffing or overstaffing issues for any given shift and redeploy staff between rosters with a few clicks of the mouse. Roster shift fill rates can be significantly improved through E-rostering.

## Efficiency benefits

- Roster planning is far less time consuming for managers
- Rosters are planned using staff requests therefore rosters more closely match the flexible working requirements of the staff whilst providing the correct skill mix and staffing levels to meet the needs of employer and patients
- Rostering data can be stored in a central database to allow easy analysis. Reporting systems can include standard data analysis reports such as Sickness Analysis
- Trusts can report on real time data
- Information regarding shifts worked, sickness episodes, enhancements, additional or overtime shifts can be electronically loaded into the payroll system at the end of each month. The electronic transfer of information removes the need to manually input timesheet information for every member of staff.

## Financial benefits

Savings are driven by the accuracy of planned rosters, efficient use of staff reducing the need for agency staff and the implementation of the payroll interface.

Based on data collected in 2007, the average cost of E-rostering products on the market was £52,000 per 1,000 employees, assuming 2% annual inflation, the cost would be £53,500 in 2010. Whilst the upfront cost of implementing an E-rostering system is up to £725,000 for the largest trusts, the benefits of reduced reliance on agency costs will accrue annually and well beyond the payback period.

For three (acute) trusts in the region (and two mental health trusts), agency spend as a proportion of total workforce spend is already below the national average. Assuming that the use of E-rostering systems can reduce agency costs to the level of the national average for the remaining trusts, savings of £48.5 million could be made across the region (£40.2 million from acute trusts, £8.3 million from mental health trusts).

Table 2a. Net savings by trust (acute)

Organisation	Net saving (£000s)	Net saving per 1,000 employees (£000s)
Scarborough and North East Yorkshire Health Care NHS Trust	4,353	2,338
Mid-Yorkshire Hospitals NHS Trust	14,514	2,321
Bradford Teaching Hospitals NHS Foundation Trust	3,468	753
Doncaster and Bassetlaw Hospitals NHS Foundation Trust	3,691	710
Hull and East Yorkshire Hospitals NHS Trust	4,805	679
Airedale NHS Trust	1,188	540
Barnsley Hospital NHS Foundation Trust	988	415
Leeds Teaching Hospitals NHS Trust	4,594	339
Calderdale and Huddersfield NHS Foundation Trust	1,396	279
York Hospitals NHS Foundation Trust	1,064	273
The Rotherham NHS Foundation Trust	80	27
Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	-249	-50
Sheffield Children's NHS Foundation Trust		
Harrogate and District NHS Foundation Trust		
Sheffield Teaching Hospitals NHS Foundation Trust		

Table 2b. Net savings by trust (mental health)

Organisation	Net saving (£000s)	Net saving per 1,000 employees (£000s)
Bradford District Care Trust	6,452	2,969
Leeds Partnerships NHS Foundation Trust	1,786	816
Humber NHS Foundation Trust	81	50
Sheffield Care Trust		
South West Yorkshire Partnership NHS Foundation Trust		
Rotherham, Doncaster & South Humber Mental Health NHS Foundation Trust	No Data	No Data

## Implementation

Top tips for trusts considering E-rostering:

- Get the executive board fully engaged from the outset. Ideally, the directors of nursing and HR should be joint project champions
- Set priorities and needs before embarking on the project and make yourself aware of the range of products on offer
- Understand the many benefits available from each rostering software solution provider, identify the parts of the systems that you feel will generate the benefits your organisation requires
- Visit organisations that have successfully implemented rostering systems and learn from their experiences
- Appoint a dedicated project team and manager with input from finance, IT, payroll and recruitment. This should be costed into the business case
- Agree a set of standards before concentrating on the parameters for each ward
- The simpler the shift patterns, the easier the production and management of the system. Prior to implementation, HR needs to undertake a full review of contracts and working practices to maximise the opportunities for automatic shift population
- It may better suit your organisation to purchase only enough licences to pilot in a small area first, monitor progress and fix problems before expanding the project
- Involve counter-fraud and internal audit teams on the project group if you are linking the E-roster to the ESR
- Engage clinical managers and matrons so they support their clinical managers to use the system
- Maintain project documents, such as risk registers and action logs
- Engage staff – some will be nervous about using IT and will need one-to-one support to boost their confidence.

## Case study

### – Harrogate & District Foundation Trust

Prior to the implementation of E-rostering the planning of rosters was often carried out on paper or spreadsheets over a number of days and then, in the case of wards, input into the Nurse Manager System. Due to the fragmented nature of the roster planning using legacy systems, and the fact that some planning was carried out in managers own time, it is difficult to quantify the amount of time taken to plan rosters prior to the implementation of E-rostering, although it may be estimated, for complex wards or departments, that planning would have taken several hours.

Rosters are now planned electronically with all the required information readily available. The time taken to plan a complete Ward roster has been found to vary between 2 to 4 hours, dependent on the complexity of the ward. Departments using fixed patterns of shifts for their staff can further reduce the planning time to minutes rather than hours.

How did they do it?

- RosterPro Central by SMART Systems selected as the preferred E-rostering system (2008)
- Implementation began on all medical and surgical wards in December 2008 and continued to all other areas of the Trust until mid 2009
- A Workforce Systems Manager provided ongoing support and training for the E-rostering system
- Each ward or department underwent a consultation to gather the required information and the system was configured to the individual department's requirements to produce rosters that met their needs
- Details about staff including pay band, working hours, shift rules, nursing pins and any training were entered into the system along with the staffing levels and skill mix required to run the ward or department on a daily basis

- Training of managers and deputies (both formal and ad hoc retraining sessions) were provided to refresh managers skills
- In late 2009 the interface to the payroll system was implemented following extensive testing. The rollout of the interface is being carried out on a ward by ward and department by department basis
- Data is electronically taken from the rosters and fed directly into the payroll system for each employee's working assignment. Eliminating the manual input stage ensures that manual input errors cannot occur and managers are confident that the accurate data they enter into the rosters is used to pay staff
- Staff will be able to view the information sent to payroll. This will dramatically reduce queries received by managers and payroll staff.

It is envisaged that once the payroll interface is fully rolled out across the Trust there will be a time saving of 2 Whole Time Equivalents (WTE) due to the reduced requirement for data handling.

Roster shift fill rates have been examined for a medical ward at the Trust. A 90% fill rate in Feb '09 pre E-rostering compared with 96% in Feb '10 using E-rostering.

Initial evaluation has identified substantial decreases on ward overspend pre/post implementation of E-rostering. Year on year trust-wide comparison indicates a decrease in spend on bank staff. Further work is being undertaken to quantify this benefit.

## Case study - Leeds PFT

E-rostering has gone live in 28 wards and units covering 720 staff. The ESR payroll interface is live with direct transfer of authorised data from the roster to payroll for payment. A new upgrade will enable web based coordination of bank requirements from the roster to the temporary staffing department.

It is estimated that an average saving of between 0.1 and 1.5 WTEs can be realised for each ward or department roster. This does not include the potential for efficiency savings based on skill-mix, and timesheet and payroll/ESR processing.

The introduction of E-rostering will improve utilisation of the Trust's workforce leading in turn to improved quality of care and reduced clinical risk from having consistency and continuity of staff with a significant reduction in bank and agency nursing staff.

Phase 2 of the project will commence in January 2011 enabling Trust-wide accurate workforce utilisation and information to maximise the benefits of a trust wide all staff roll out of E-rostering.

# Key contacts

## Better for Less

Tim Barton  
Strategy Lead, NHS Yorkshire and Humber  
[Tim.barton@yorksandhumber.nhs.uk](mailto:Tim.barton@yorksandhumber.nhs.uk)

## Workforce strategy

Helen Smith  
Associate Director of Workforce Strategy  
NHS Yorkshire and Humber  
[Helen.smith@yorksandhumber.nhs.uk](mailto:Helen.smith@yorksandhumber.nhs.uk)

## Economic modelling

Helen Mercer  
Economist, NHS Yorkshire and Humber  
[Helen.mercer@yorksandhumber.nhs.uk](mailto:Helen.mercer@yorksandhumber.nhs.uk)

## Case study - Harrogate FT

Polly McMeekin  
Head of HR  
[Polly.McMeekin@hdfn.nhs.uk](mailto:Polly.McMeekin@hdfn.nhs.uk)

## Case study - Leeds Partnership FT

Carmel Collins  
E-rostering Project Manager  
[Carmel.Collins@leedspft.nhs.uk](mailto:Carmel.Collins@leedspft.nhs.uk)

## Better for Less Briefings

All NHS Yorkshire and the Humber Better for Less briefings are available from:

[www.healthyambitions.co.uk/betterforless](http://www.healthyambitions.co.uk/betterforless)