Nursing and midwifery e-rostering: a good practice guide

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NHS England and NHS Improvement

Contents

Introduction

This document describes how e-rostering can help manage staff levels ward by ward, while giving trust boards assurance that quality outcomes are being achieved and resources used efficiently. It is a practical guide to assist managers and frontline clinicians in e-rostering practices rather than a policy document.

It updates the version published by NHS Improvement in 2018, reflecting the increased implementation of e-rostering since then in all sectors (acute, acute specialist, mental health and community trusts). The guide recognises the importance of e-rostering as a tool to improve workforce productivity.

Both of Lord Carter's reports[1,2] on operational productivity in the NHS recommend all trusts use an e-rostering system because of the ease with which they can analyse the resultant data. His reviews found that trusts have not always used the full potential of e-rostering systems to maximise the productivity of their workforce and reduce administrative time spent developing staff rosters.

This guidance will enable trusts to achieve the Carter recommendations by easily identifying areas of improvement in e-rostering practices. The benefit this brings is that the right staff will be in the right place at the right time, so that patients receive the care they need, and trusts can better manage their workforce and their financial efficiency. Open and transparent e-rostering processes improve employee engagement and satisfaction, and they are a key influence on retention.

The NHS Long Term Plan [3] contains the commitment that "by 2021, NHS Improvement will support NHS trusts and foundation trusts to deploy electronic rosters or e-job plans". This document supports NHS providers in implementing and using e-rostering software to its fullest potential.

This guidance also introduces the concept of 'levels of attainment' [4] providing an objective tool for measuring the maturity of an organisation's e-rostering processes against the operational capabilities these tools offer when used to their full extent.

These enable a trust to benchmark its progress as it adopts e-rostering software. Each level of attainment is underpinned by 'meaningful use standards. These describe the processes and systems trusts need to meet each level of attainment.

The principles in this document can be applied to an electronic or manual rostering system for any staff group.

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/499229/Operational_productivity_A.pdf

2 https://improvement.nhs.uk/documents/2818/20180524_NHS_operational_productivity_-

3 https://www.longtermplan.nhs.uk/

4 https://improvement.nhs.uk/resources/levels-attainment-and-meaningful-use-standards-e-rostering-and-e-job-planning/

Why e-rostering is important

Staff are our biggest asset, and trusts have an obligation to strike the right balance between patient safety, cost and efficiency. Used the right way, e-rostering can influence culture change and give staff the evidence they need to make change happen at the front line. It gives an overview across the organisation, not only month by month but day to day, highlighting hotspots requiring intervention to ensure safe staffing levels and efficient deployment of staff.

Having an effective e-roster empowers e-roster creators and senior staff to make informed decisions. It enables them to review and change future e-rosters by providing:

- details on staffing levels in real time, which aids intelligent planning for demand, allowing them to take account of sickness, leave, skills and competencies, staff changes, patient acuity and dependency
- less overstaffing and understaffing, ensuring safety and efficiency and reducing reliance on temporary and agency staff
- flexibility as the situation changes daily and hourly, promoting the effective redeployment of staff across the organisation to maintain safe staffing levels.

How this guide can help

This document outlines the techniques that will e-roster staff efficiently to ensure high quality care for patients while minimising operational and clinical risk.

Trust boards are responsible for:

- enabling the alignment of staffing levels with patient needs and available resource in each department
- driving effective management of staffing establishments, so increasing efficiencies in the workforce trust-wide
- ensuring the right staff are in the right place at the right time[3] while improving the management of planned and unplanned non-working time

- incorporating detailed information about staff, including skill mix, sickness, leave, study leave, non-clinical working day, supernumerary, etc
- reducing the need for temporary and agency staff, so improving efficiency of resources
- improving use of staff through clear visibility of contracted hours and staffing levels/skill mix
- facilitating the payment of paperless staff timesheets, including unsocial hours and bank payments, by data being entered at source on e-rosters and signed off for payment
- ensuring that e-rosters provide fair and transparent platforms across services and activity.

Effective e-rostering should consider factors such as patient needs, staff needs, organisational needs, the workforce and skills required to deliver services, and workforce availability.

E-rostering is therefore a pivotal function in healthcare delivery because it ensures staffing resources are appropriately allocated to provide a high quality and efficient health service.

Our work with trusts shows that many organisations are not fully using the functionality of e-rostering tools to maximise workforce productivity. We therefore developed ‘levels of attainment’ to help trusts boards objectively assess their use of e-roster tools. Trusts should plan to achieve Level 4 to fully exploit the potential of e-rostering tools to deploy their workforce to best effect (right staff, right place, right time)

3 See the National Quality Board’s guidance https://www.england.nhs.uk/ourwork/part-rel/nqb/

Governance

E-rostering affects all staffing groups including nurses, midwives, doctors, allied health professionals (AHPs), pharmacy, human resources (HR) and finance. Erostering needs to be clearly sponsored at executive board level. In trusts that use e-rostering systems for nursing and midwifery most successfully, the chief nurse, finance director and HR director all own aspects of e-rostering for it to be triangulated to improve patient care within established resources.

The purpose of e-rostering should be defined and agreed with each of these stakeholders, and each should own some aspect of its success. This includes agreeing definitions of vital information such as headroom and using the key performance indicators (KPIs) monthly to monitor achievement.

E-rostering takes account of a trust's own rules and policies as well as national legislative rules such as the European working-time directive (EWTD).

Trusts should invest in the resources and skills to administer the e-rostering system – and the staff who can combine technical understanding with the ability to manage change and engage the organisation.

Trusts should enable the use of mobile technology for staff to view their e-roster, request leave or book available bank duties in a timely manner (at least six weeks in advance).

Trusts should develop an e-rostering policy (see Appendix 2 for a checklist to help trusts review their policy) to reflect rules and include escalation procedures. Pay attention to the following:

- Long working days and night-working should be set trust-wide and include reference to work-life balance and flexible working, to ensure safe patient care.

- E-rosters should be approved and published at least six weeks before the e-roster is due to be worked; this approval process and the lead time should be monitored and reported to the trust board as a KPI.

Approval is a two-level process with initial approval by the e-roster creator and final approval by an identified senior member of staff. Approving and publishing the e-roster should follow analysis to ensure it is in budget, fair, safe and efficient, and within the trust's limits for percentage headroom allowance for annual leave, study leave, training and other leave.

- Be aware of temporary staffing and the safe staffing risk assessment used when additional staffing is requested, as well as who has responsibility for approval and booking. Ensure additional shifts are formally recorded in real time. Have a clear definition of what generates an additional shift and the escalation process to follow.

- Real-time e-rostering recording, and the roles and responsibilities of staff accountable for rostering, are important. Pay explicit attention to out of hours redeployment and support.

- It is good practice to have a trust-wide calendar for approval processes and a clear, defined process to escalate the issue if an e-roster is not in line with trust policy.

E-rostering must have clinical, HR and finance support, responsibility and accountability.

To monitor and review adherence to a rostering policy, KPIs should be reported monthly. Both Carter reviews identified many good examples of how trusts used dashboards to monitor performance so that clinical and operational staff and the trust board could review current efficiency and quality levels. These KPIs include:

- headroom allowance and usage of annual leave, study leave, sickness, parenting and other leave, including comparisons between agreed headroom and headroom used

- skill mix – registered staff to healthcare support workers

- minimum six-week e-roster final approval rates

- contracted hours not used per month (cumulative net hours)

- additional shifts/duties

- percentage of system-generated rosters
- total number of bank requests compared to the total bank hours worked and number of weekend and night requests
- total number of agency requests to the total agency hours worked and number of weekend and night requests
- number of working restrictions.

E-rostering KPIs and metrics need to be owned at all levels, from frontline staff to trust board. They should be integrated into operational management processes that are regularly reviewed monthly and at board level.

Set up regular review-and-challenge meetings to improve e-rostering. These should consist of senior clinical and operational staff who are responsible and accountable for approving e-rosters.

Roles and Responsibilities

Chief executive and trust board

The chief executive and trust board have overall responsibility for ensuring adequate, effective and efficient rostering throughout the trust. They are also responsible for ensuring that all trust policies such as annual leave, flexible working and sickness/absence align with the trust rostering policy. In addition, they should understand how their trust performs against the e-roster levels of attainment, and establish improvement plans to reach Level 4.

Executive director for nursing and midwifery

Accountable to the trust board for ensuring trust-wide compliance with the e-rostering policy and responsible for the e-rostering system.

General managers and operational service managers

Responsible for implementing the e-rostering policy in their areas and ensuring compliance with it.

Lead nurses, matrons and ward and department managers

Responsible for implementing the policy locally and ensuring compliance with the rostering policy when approving e-rosters. This also includes responsibility for approval within a six-week lead time and regular review of staffing restrictions.

Ward managers, department managers or deputies

Responsible for ensuring e-rosters are produced in line with the trust e-rostering policy. Specifically, publishing the e-roster a minimum of six weeks – but ideally 12 weeks – in advance is critical.

All employees

All employees must be familiar with the trust's e-rostering policy, understanding both the expectations and implications. This should be reinforced during trust inductions. Wherever possible, all staff should use the mobile app function or a web portal to make e-rostering requests to the e-rostering team.

E-Rostering process

Clear understanding of the service's needs is a prerequisite of effective e-rostering. Without clarity about the demand for staff, a trust can never e-roster effectively. The electronic staff record (ESR) must also be up to date to meet effective e-rostering.

For nursing (acute, acute specialised, mental health and community) and midwifery, the budgeted establishment and required ward/department roster template must be aligned. They must be determined by factoring in headroom and outputs from the recommended six-monthly safe staffing establishment reviews. These reviews should use the National Quality Board's evidence-based guidance, which recommends acuity and dependency modelling, such as the Safer Nursing Care Tool.4

The mental health and community review recommended launching national acuity and dependency tools for mental health and learning disability inpatient wards by autumn 2018 and for community inpatient wards by spring 2019.

Once the e-roster has been created and before final approval, it is good practice to complete a checklist. See Appendix 3 for an example of a checklist.

Safe, sustainable and productive staffing guidance can be found on NHS Improvement's website covering:

- maternity services **5**
- adult inpatient wards in acute settings **6**
- mental health settings **7**
- neonatal care and children and young people's services **8**
- urgent and emergency care **9**
- district nursing services **10**
- learning disability services **11**

- case studies **12**
- an update on safe staffing improvement resources for specific care settings **13**

NQB's guidance, *Supporting NHS providers to deliver the right staff, with the right skills, in the right place at the right time: Safe, sustainable and productive staffing,* can be found on NHS England's website**. 14**

Once the establishment is agreed with senior clinicians, managers and finance colleagues, it can be translated into care hours per patient day (CHPPD) and compared with nationally reported CHPPD. Further guidance can be found on NHS Improvement's website

5 https://improvement.nhs.uk/resources/safe-sustainable-productive-staffing-maternity-services/

6 https://improvement.nhs.uk/resources/safe-staffing-improvement-resources-adult-inpatient-acutecare/

7 https://improvement.nhs.uk/resources/safe-staffing-mental-health-services/

8 https://improvement.nhs.uk/resources/safe-staffing-neonatal-care-and-children-and-youngpeoples-services/

9 https://improvement.nhs.uk/resources/safe-staffing-urgent-emergency-care/

10 https://improvement.nhs.uk/resources/safe-staffing-district-nursing-services/

11 https://improvement.nhs.uk/resources/safe-staffing-improvement-resources-learning-disabilityservices/

12 https://improvement.nhs.uk/resources/safe-sustainable-and-productive-staffing-case-studies/

13 https://improvement.nhs.uk/resources/safe-staffing-improvement-resources-specific-care-settings/

14 https://www.england.nhs.uk/ourwork/part-rel/nqb/

Staff Availability

Required e-roster templates

- Required e-roster template staffing levels should be determined with the finance department. It is essential the required template aligns with each ward's budget.
- Budgets are often not well aligned with the required e-roster templates because they are represented in a different 'currency'. The budgeted establishment is the amount of staff that the ward is budgeted for and is represented in whole-time equivalents (WTEs).

Headroom

- Headroom is a budgeted allowance to cover annual leave, sickness, study leave, non-clinical working days and parenting. This needs to be realistic to ensure non-working time is aligned to headroom percentages.
- Other discretionary leave will result in non-working time and affect a ward's ability to meet service needs if it is not allowed for.

Staff non-working time

Working restrictions

- All working restrictions (also known as flexible working) should be formally agreed between ward, HR and the employee, so all parties agree with the working pattern to be undertaken. This should be regularly reviewed – at least annually – in line with trust policy in case circumstances change.

- The policy for working restrictions should align with the trust e-rostering policy, and each should contain a link to the other so staff are clear about the trust's expectations.

- Lifting working restrictions for some employees as their needs change, makes it more likely you will be able to accommodate new restrictions for other employees whose circumstances may have also changed.

Annual leave management

- It is essential that annual leave is evenly distributed throughout the year to maintain sufficient staffing levels. This will ensure that staff take regular rest periods and avoid excess leave accumulating at the end of the leave year.

- Managing annual leave effectively throughout the year will mitigate the need for excessive additional temporary staffing. If a ward has too few staff taking annual leave every month, it will have a problem when staff request leave at the same time, leaving duties inadequately covered. Poorly managed leave makes an overspend highly likely – and it will be increased if cover comes from agency staff.

- The e-roster system allows you to build into the roster a maximum or minimum amount of staff who can be on leave. It will flag when too many or too few staff have been allocated to take leave.

- Trusts that have good processes for annual leave management have clear rules for taking leave. They often have a set percentage of leave that needs to be taken at certain points of the year: for example, 50% by six months into the year. This process improves staff wellbeing and ensures leave is allocated evenly and fairly across the year.

Sickness leave management

- Sickness rules can help highlight when sickness has gone above specific headroom percentages. They should be managed in line with local trust policies specific to managing staff sickness. It is important to record sickness correctly so that flagged events can be case-managed appropriately as soon as possible.

- Trusts should have auditable, consistent and transparent return-to-work policies. They should be supported by clear, fair and consistently applied practices: for example, a minimum amount of sickness absence before withdrawing an employee's access to bank shifts. The e-roster system should flag if this is not observed while booking temporary staff.

Non-clinical days

- Non-clinical days are those when staff are on the ward but not providing direct patient care.

- The trust must agree a definition of a non-clinical day; the e-roster should provide the facility to customise the reasons.

- Non-clinical time should be part of the headroom, and clear guidance should be included in the trust roster policy.

- Reasons on the e-roster system for non-clinical days should be reviewed every six months. A review of the number of days should be part of the monthly KPI report.

Supernumerary

- Supernumerary refers to staff who are not counted in the clinical numbers. These are usually new starters on induction. The supernumerary option should appear as part of the working-day non-working time.

- The e-roster system should record staff as supernumerary only, and not record them as additional duties.

Real time e-rostering

Trusts should include daily staffing reviews to give frontline clinical and operational staff a real-time view of e-rostering data – staff, skills, and patient acuity and dependency – and to support evidence-based decisions on safe and effective staff redeployment.

Operational changes that may occur daily need real-time responses that redeploy staff. These must be reflected in the e-roster system at the earliest opportunity.

E-rosters need to be updated as a live system and should always reflect the availability and deployment of all staff at any given time.

In the Introduction, we outlined why ensuring the policies and rules are fit for purpose is vital. E-rostering should take account of each trust's rules and policies as well as national legislative rules such as the EWTD. A trust's e-rostering policy should be developed to reflect these rules.

Local rules should be implemented with reference to evidence, national guidance and legislation. Where local rules diverge from national guidance, evidence and auditable transparent governance arrangements should be in place.

Policies should state escalation procedures. Increasingly, trusts are developing formal, visible and audited escalation processes triggered by both exception data from rostering and benchmark data comparing wards, services and even organisations.

Trusts are ultimately responsible for the rules and policies and for how they respond if expectations are not met. Note that not all rules apply to all areas; for example, the policy on weekend working may differ for each department. Trusts should ensure they understand and reflect local variation. E-rostering managers should pay attention to:

• ensuring policies on long working days/night-working to ensure safe patient care are set trust-wide

- temporary staffing policy.

- sickness and absence policy.

All trusts should have clear processes for updating e-rosters and who does it. Changes, and why they were made, should be reviewed in monthly staffing meetings. E-rosters should be maintained as changes occur in real time, so that national staffing information returns are accurate. Staff should be trained to do this. The updates required include:

- recording sickness
- changes to the start and end time of shifts
- shifts that have been swapped or redeployed from/to other areas
- requests for temporary staffing
- requests for emergency leave.

Handover time is particularly important, and shifts can be created to allow for sufficient handover. This may vary depending on the type of unit. The handover between shifts for the nurse in charge should also include handover of the e-roster, highlighting any areas of concern, with a clear escalation process if a risk to staffing levels is identified.

E-roster policies should state who can create and approve extra shifts. Reasons for extra shifts should be clearly stated and regularly monitored or reviewed.

Process for monitoring and auditing

It is good practice for your trust e-rostering policy to clearly state the process for periodically reviewing each ward's e-rosters, to ensure the process complies with policy. Appendix 3 is an example of an audit tool.

When monitoring identifies areas of deficit:

- make an action plan
- ensure the appropriate committee/group monitors the plan's progress
- consider including the risks in the appropriate risk register.

Appendix 1: E-rostering policy checklist for trusts

This template is a checklist for trusts reviewing or developing their e-roster policy. It highlights good practice from all trusts in both Carter reviews. This checklist should be owned by the directorate lead for rostering in the trust

Number	Action	Yes / No
1.	Does the policy highlight: • the scope • executive summary • purpose?	
2.	Does the policy clearly describe responsibilities including those of: • chief executive and trust board • executive director for nursing • general managers and operational service managers • lead nurses, matrons and ward and department managers • ward managers, department managers or deputies • all employees?	
3.	Does the policy include rules for producing e-rosters including: • timetables for approval six weeks ahead • trust agreed headroom • trust agreed KPIs for annual leave, sickness, training	
4.	Does the policy include rules highlighting that high priority, hard to fill shifts should be filled first when producing the e-roster?	
5	Does the policy link to trust policies on: • working restriction/flexible working policy • sickness/absence policy • training and development policy • annual leave policy?	
6	Does the policy highlight the process for validation and approval, including the roles of: • ward manager/sister/team leader in the first validation • matron/head of service in the second validation?	

7	Is there an escalation process when e-rosters are not approved on time?	
8	Does the policy cover the process for staff changing published e-rosters, including: • the importance of keeping e-rosters up to date • process for audit • the requirement to keep shift changes to a minimum	
9	Does the policy clearly state the maximum supernumerary period available to staff, with guidance on taking account of the ward's requirements and individual needs?	
10	Does the policy have a section on skill mix, including: • ensuring appropriate cover on each shift, including specific competencies such as 'taking charge of the shift', IV administration and 'control and restraint' trained staff on shift?	
11	Does the policy include a section on how staff make requests: • with maximum number of days off within e-roster period • requests considered in the light of service needs • working restrictions/flexible working needs • fairness in allocating shifts?	
12	Does the policy include a section on shift patterns and EWTDs, including: • shift patterns worked in the trust • time-owing process – for booking and taking it back, with guidelines on limits • highlighting rest periods between shifts such as 11 hours' rest period before next shift?	
13	Does the policy include rules on taking unpaid breaks?	
14	Does the policy highlight the process for effective use of temporary staff, including: • bank staff • escalation process for agency staff • process for recording and reporting the monitoring of temporary staff?	
15	Does the policy include the process for booking annual leave with guidelines on how much leave should be booked each quarter/half-year to avoid accumulating large amounts of leave towards the end of the leave period?	

16	Does the policy ensure all leave is authorised in line with the e-rostering timetable and must therefore be booked before the e-roster is approved?	
17	Does the policy set out annual leave requests for Christmas and new year and key areas of school holidays such as summer?	
18	Does the policy state any rules on working additional or bank hours after returning from short-term sickness?	
19	Does the policy state requirements for regular e - rostering policy audits (using a tool like the one in Appendix 3)?	
20	Does the policy have a clear review date?	

Appendix 2: Example of a pre-approval e-roster checklist

We developed this template after feedback from trusts as an example checklist for them to use before final approval of an e-roster. The trust e-rostering lead contact details can be added at the end to offer local support.

Number	Action	Yes / No
1	Check all shifts have been filled and the contracted hours are fully assigned.	
2	Check annual leave hours are accurate and no anomalies.	
3	Check sickness hours are accurate, and episodes of sickness have been recorded accurately.	
4	Check staff leavers have been removed and the net hours adjusted accordingly.	
5	Check staff starters have been added to the e-roster, supernumerary shifts have been entered and net hours adjusted accordingly	
6	Check the net hours column for all staff – it is good practice that the net hours should not exceed a long day shift (e.g. 10.5, 11, 11.5 or 12 hours shift times).	

Appendix 3: E-rostering audit tool

This audit tool should be used to monitor compliance with the e-rostering policy at least every six months. It should be used by the ward manager. An action plan should be agreed for areas requiring improvement, as recommended in the Carter reviews.

Ward/ department:			
Audit completed by:			
Date completed:			
	Yes/No	**Comment**	**Action**
Has the e-roster template been reviewed on a six-monthly basis to ensure it is current, aligned to the bi-annual staffing review, realistic and reflects the staffing required?			
Are all the staff aware of the e-roster policy?			
Do the shift and break times conform to European working - time directives?			
Is the approved minimum number of staff e-rostered for each shift?			

Is the skill mix maintained?			
Is annual leave allocated as per policy?			
Is study leave allocated per policy?			
Are there any working restriction/flexible-working practices for any person in the ward/department?			
Have these working restriction/ flexible-working practices been reviewed in line with trust policy or at least annually?			
Is the request system used in accordance with the policy?			
Are there six weeks of completed e-rosters available for staff to review?			
Are unused hours monitored monthly?			
Are break-time guidelines followed?			
Is there evidence of annual review of existing work patterns?			

Are at least three months' e-rosters available for requests?			
Does the matron/department head second-approve e-rosters?			
Do the trust policies for e-rostering, flexible working, annual leave and sickness/ absence reporting all align and reference each other?			
Are staff encouraged to use mobile technology to view their e-roster, to request leave and to book bank shifts?			