NHS

E-rostering the clinical workforce

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Introduction

The NHS Long Term Plan[1] (LTP) committed that "by 2021; NHS Improvement will support NHS trusts and foundation trusts to deploy electronic rosters or e-job plans". NHS Improvement subsequently published the national *Levels of attainment and meaningful use standards* for use of e-rostering software, outlining best practice when adopting this software.[1] This document provides more detailed guidance for NHS provider organisations on implementing these systems and their governance, so that they can meet the highest level of attainment in e-rostering.

Lord Carter's 2016 and 2018 reports on operational productivity in the NHS recommend all NHS provider organisations use an e-rostering system for all clinical staff groups. His reviews found that organisations have not always used the full potential of e-rostering systems to maximise the productivity of their workforce and reduce administrative time spent planning rosters.

NHS provider organisations also need to be increasingly versatile as they manage challenges such as changing demography, new technologies and changing patient needs and expectations. E-rostering enables organisations to respond dynamically to these challenges.

This guidance will enable organisations to achieve the Carter recommendations by identifying areas of improvement in e-rostering practices. It reflects the increased implementation of e-rostering in all provider sectors (acute, acute specialist, mental health and community trusts) and across all in-scope clinical workforce groups. It also recognises the importance of e-rostering as a tool to improve workforce productivity not only within a single organisation, but also at integrated care system-level as these systems continue to develop.

[1] https://www.england.nhs.uk/workforce-deployment-systems/

Scope of the guidance

In line with the LTP commitment, we expect all clinical workforce groups to use e-rostering systems to schedule activity by 2021.

This guidance covers the principles that apply to all clinical workforce groups. It should be used alongside existing and workforce-specific guidance [2] [3] [4] [5] to ensure that individual workforce nuances are accounted for.

It is relevant to all provider sectors – acute, mental health, community and specialist NHS provider organisations.

This document outlines the necessary techniques to e-roster staff efficiently to deliver high-quality patient care, while minimising operational and clinical risk. It also introduces the concept of 'levels of attainment' (**Appendix 1**), providing an objective tool for measuring the maturity of an organisation's e-rostering processes against the potential operational capabilities.

Open and transparent e-rostering processes improve employee engagement, autonomy and satisfaction, and can have a positive effect on retention. When used alongside e-job planning, they mean the right staff will be in the right place at the right time, so that patients receive the care they need, and organisations can better manage their workforce and financial efficiency.

The NHS clinical workforce has the necessary skill, capability and compassion to deliver world-class patient care. As recommended by the NHS Long Term Plan and Lord Carter, the meaningful use of workforce deployment software can ensure these qualities are deployed to best effect, across all clinical professions, in all healthcare settings.

[2] www.nhsemployers.org/case-studies-and-resources/2011/07/a-guide-to-consultant-job-planning
[3] www.nhsemployers.org/jobtoolkit
[4] https://improvement.nhs.uk/documents/919/Final_AHP_job_planning_FINAL_3a.pdf
5 https://www.england.nhs.uk/workforce-deployment-systems/

Benefits of e-rostering

Staff are our biggest asset, and NHS provider organisations 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 changes at the front line. It gives an overview across the organisation, not only monthly but daily, highlighting hotspots requiring intervention to ensure appropriate staffing levels and efficient deployment of staff.

Having an effective e-roster empowers roster creators and senior clinical staff to make informed decisions. The benefits of e-rostering include:

- details of staffing levels, which aids intelligent planning and deployment of available resources to meet patient needs within each clinical area
- effective management of budgeted establishments to drive efficiencies in the workforce organisation-wide to reduce under and over staffing and the reliance on temporary and agency staff

Leicestershire Partnership NHS Trust

Leicestershire developed a training programme to help managers get to grips with the rostering system and make measurable improvements in staffing levels.

What were the benefits?

- reduction in unused hours leading to a better use of substantive staff time
- effective rostering supporting consistent staffing levels with the correct skill mix resulting in a reduction of risk and improved patient experience
- shared learning and constructive challenge between managers across different services
- a significant step towards compliance with Lord Carter's recommendation to approve rosters six weeks in advance, moving from

approving rosters an average of 3.4 weeks in advance to 5.37 weeks, despite adding 25 rosters to the system in that period.

- improved use of staff through clear visibility of contracted hours and staffing levels to provide fair and transparent platforms across all services and activity
- flexibility as the situation changes daily and hourly, promoting the effective redeployment of staff across the organisation to maintain appropriate staffing levels
- improved recording, transparency and management of planned and unplanned non-working time, eg annual and study leave

Bedford Hospital NHS Trust

Bedford introduced electronic rostering for their entire pharmacy workforce. This gave these staff more notice of their duties, enabling them to better plan their lives outside work "leading to a reduction in sickness and unauthorised absence". The e-rostering system employed also gives the trust "key information on missing cover and missing skills enabling strategic decision on priority redeployment and recruitment".

- detailed information about clinical staff, such as: skill mix and leave and absence records
- payment of paperless staff timesheets, including unsocial hours, bank, on-call, call out and locum payments, through data being entered at source on e-rosters and signed off for payment
- increased autonomy for staff as they are able to choose their duty and off duty and request leave via mobile devices.

Despite these potential benefits, our work with trusts shows that many organisations are not using the full functionality of e-rostering tools to maximise workforce productivity. We therefore developed the levels of attainment in Appendix 1 to help trust boards objectively assess their use of e-roster tools. These levels can be achieved by following the meaningful use standard guides and NHS provider organisations should plan to achieve level 4 to fully exploit the potential of e-rostering tools.

Interdependency with e-job planning

For most workforce groups effective e-job planning is a key part of achieving the full potential of e-rostering. E-job planning enables accurate definition of the workforce availability and capacity in line with service objectives. This information can then be used to create an e-roster. This guidance document should therefore be used in conjunction with its e-job planning counterparts.

For some workforce groups, notably staff who work exclusively in one clinical area (eg purely ward-based staff) and doctors in training, e-rostering alone is sufficient because the service requirements for clinical capacity have been defined.

Sussex Community NHS Foundation Trust

Sussex Community procured and implemented an e-rostering system for its inpatient and community teams. Implementation included training staff to transfer the existing roster and reviewing any under-utilisation.

What were the benefits?

- rosters could be published to staff six weeks in advance
- increased quality of roster information available to staff and managers
- extended lead times available to temporary staffing office improving shift fill and increasing patient safety and staff satisfaction
- reduced potential for roster errors, saving managers' time and decreasing payroll errors
- enabled analyses of agency use, facilitating changes to reduce spend
- identified areas for development of e-job planning capability for community nursing, therapy and medics to support workforce transformation projects.

Governance

Governance structure

Implementing e-rostering software represents a significant change in culture for staff; therefore, board level leadership and engagement are vital for successful implementation. It is vital that the Caldicot Guardian and Chief Information Officer endorse the implementation plan and its compliance with the Data Protection Act and local information governance policy. Our detailed e-rostering projects demonstrated that NHS provider organisations with high levels of board engagement, alongside a regular focus on implementation, were more successful at implementing e-rostering and realising its benefits.

We therefore advocate that organisations implementing e-rostering software create an e-rostering workforce group led by a single accountable officer and, meeting regularly. Once in place, this governance structure should be maintained to ensure that effective 'business as usual' (BAU) use of the software is sustained at a high standard. Over time, data from e-rostering systems will become a core element of regular workforce management information packs for the board.

A full list of the roles and responsibilities associated with e-rostering can be found in Appendix 3.

Single accountable officer

Board-level engagement can be facilitated by a clear line of accountability reporting to the board. This can be provided by a single accountable officer who is a member of the board or at a senior level reporting directly to the board. The single accountable officer would be expected to chair the e-rostering workforce group and may also be responsible for e-job planning.

The e-rostering workforce group

The e-rostering workforce group is responsible for both implementing e-rostering process and managing BAU use of the software.

Every NHS provider organisation will be structured differently, so it may be appropriate for the e-rostering workforce group to be merged with its e-job planning equivalent. It may also be appropriate for it to form part of a wider workforce programme including groups around workforce recruitment and retention, training and development, and workforce planning. Whichever organisational structure an organisation decides to adopt, we strongly recommend that the chair of the e-rostering workforce group reports directly to the board.

Some NHS provider organisations may decide to set up profession-specific operational groups for e-rostering to delegate responsibility for implementing, monitoring and auditing the e-rostering process within a specific professional group. If this decision is taken, then we recommend these committees report directly to the organisations e-rostering workforce group.

E-rostering takes account of an organisation's own rules and policies as well as national legislative rules such as the European Working Time Directive (EWTD) and workforce contractual terms and conditions. NHS provider organisations should ensure they understand and reflect local variations, referring to our Workforce Safeguards guide.

E-rostering policy

We recommend NHS provider organisations have an organisation-wide e-rostering policy, agreed, reviewed and updated by the e-rostering workforce group. Ultimately the director of human resources (or equivalent) will be accountable for ensuring all workforce policies, including the e-rostering policy, are up-to-date (Appendix 6, a checklist to help organisations review their policy). They should pay attention to the following:

- Where it benefits safe and effective handovers, certain shifts can be standardised across staff groups; this should include reference to work–life balance and flexible working, to ensure safe patient care.
- E-rosters should be approved and published at defined periods; these periods can vary depending on clinical workforce. The approval and publishing process should be monitored and reported to the trust board as a key performance indicator (KPI). Approval is a two-level process with initial approval by the e-

roster creator and final approval by an identified senior member of clinical staff. This procedure will help with identifying gaps in service in advance and planning the appropriate staff for the service, helping to reduce temporary staffing. Approving and publishing the e-roster should follow analysis to ensure it is within budget, fair, safe and efficient, and within the specified headroom and booked leave tolerances.

County Durham and Darlington NHS Foundation Trust

County Durham and Darlington has worked hard to increase how far in advance rosters are approved and fully use systems capabilities for monitoring.

What benefits have been achieved?

- all off-duty rosters are now finalised at least six weeks ahead
- flexibility for staff ensuring they can look ahead 18 weeks to get home-work balance right
- the trust board is now assured the right staff with the right skills are in the right place at the right time.

How were these benefits achieved?

- four-week block of rosters allow planning for long-term absence, securing the best possible fill rate
- buy-in and continued support from trust senior executive and care group management
- close working partnership with e-rostering matron and the rostering team
- effective rostering and bank policies developed
- rostering calendar used, with a copy of the calendar and user guidance provided for staff
- monitoring and KPI protocols in place to ensure full compliance with rostering timing
- shifts standardised to ensure cost-effective working
- weekly paid bank instigated to reward employees quickly has attracted more staff to join the bank

- constant reviews to identify further efficiencies.

- Temporary staffing and the safe staffing risk assessments should be used when additional staffing is requested. Additional shifts should be formally recorded in real time in accordance with a clear definition of what generates an additional shift and the associated escalation process.
- Real-time e-roster recording, and the roles and responsibilities of staff accountable for rostering, are important. Explicit attention should be paid to out-of-hours redeployment and support.
- It is good practice to have an organisation-wide calendar for approval processes and a clear, defined process to escalate the issue if an e-roster is not in line with organisational policy.

Reporting

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 reviewed monthly and at board level. For example, board level KPI reports please refer (Appendix 4).

It is good practice to set up regular 'check-and-challenge' meetings to improve e-rostering for all workforce groups. These should consist of senior clinical and operational staff who are responsible and accountable for approving e-rosters.

Implementation

Strategic case for change

Before procuring software a clear vision for the programme or project needs to be agreed. This would usually be outlined in a strategic business case. It will provide a preliminary justification for the work based on a strategic assessment of business needs and a high-level assessment of likely costs and potential for success. To be successful, it is important software procurement is linked to a robust implementation plan and a sufficiently resourced project team. A pre-implementation checklist of early considerations is included (Appendix 5).

Providers are encouraged to consider systems that support a multi-professional or competency-based approach to workforce planning and deployment, where there are a variety of benefits associated with workforce alignment and efficiency.

A workforce deployment system will support development of a productive and engaged workforce, but ultimately success will depend on a robust implementation plan and active benefits management.

Detailed project plan

Once the organisation has signed up to implementing new software or switching supplier(s) it can develop a detailed project plan. Careful consideration should be given to the phasing and life cycle of the project plan and transfer to the resulting BAU model.

Procurement

When purchasing software, providers should procure against our *Workforce deployment systems: Software requirements specification*, which stipulates core and value-added system requirements. Software should be procured from a workforce deployment systems framework and use the contract toolkit to set up the contract. This will ensure relevant issues, such as data ownership, standards of customer service and standard contract break clauses, are covered. This will also help with effective contract management once the contract is agreed. Following these steps will ensure the software procured is fit for purpose and able to

interoperate with related software systems, such as other workforce deployment modules, the electronic staff record (ESR) and bank and agency systems.

Peer learning from other providers can provide insight into different software systems and standards of customer service. A variety of supplier packages are on offer, so we recommend providers investigate items such as training, pricing models, emergency support and data storage solutions to learn from other NHS providers.

Depending on workforce in scope, switching software suppliers is likely entail the parallel running of two or more systems during transition to allow for data migration and could require a phased roll out. It is advisable to allow time for testing of new systems before full implementation. Thought should also be given to storing data safely in compliance with the organisation's information governance policy and legal requirements.

Project team

Plan the new workforce deployment systems project according to project duration and the number of staff and types of professional groups in scope. Scope can vary greatly, so it is beneficial to learn from peers.

Once a project plan has been approved, create a communications plan to optimise staff awareness and engagement throughout the project lifecycle. This will clearly identify the clinical leadership, case for change and schedule for briefing and training sessions- which should be planned with clinical staff shift patterns in mind. Investing in appropriate staff training is key to the successful implementation of e-rostering, ensuring that staff have the skills and knowledge to e-roster effectively.

A stakeholder map will help to involve affected teams in project planning. Close liaison with clinical, finance, information management and technology (IM&T) and workforce teams will enable them to:

- undertake any preliminary work, such as ESR and staff establishment reviews
- agree key project milestones, benefits to track and success criteria
- plan business over critical periods and arrange backfill where required
- set expectations.

The project team will require both workforce and system expertise and a proven ability to manage change. Individual roles will be related to unique skillsets. The inclusion of frontline staff in the project team is key and will help bridge the gap between software experts and clinical staff.

The project team should be linked into the organisation's change governance structure. A phased roll-out will help resolve issues through a 'test and evaluate' approach. When planning a phased roll-out, consider the BAU requirements arising at different project phases, including ongoing monitoring, training and post-implementation support. As the project progresses, resource will need to be converted into the newly established BAU model.

Training

Following initial training, an ongoing programme of training will be required, tailored to individual roles and responsibilities (Appendix 3). This could range from basic system training or e-learning at induction for all system users to advanced configuration and reporting training for workforce personnel. System users, rota coordinators, clinical leads, professional leads, workforce information managers and board members will all have different training needs. The operational manager can play an important role in bringing financial, performance and contract considerations into the rostering process, especially as they will also be able to support multi-professional rostering across a service line.

It is a good idea for the education or organisational development department to consider how the skills relevant to workforce deployment systems will fit into their existing leadership training programme. This will encompass many general management skills, such as handling difficult conversations, but should also include finance, workforce and analytics training to ensure shared understanding and goals between workforce and leadership teams.

E-rostering process

Clear understanding of the service needs is a prerequisite of effective e-rostering. Without clarity about the demand for staff, an organisation can never e-roster effectively. The ESR must be regularly and accurately updated, to help in regular reconciliation with the e-rostering system and vice versa.

The budgeted establishment and required ward, department, clinical areas and service roster templates must be aligned. They must be determined by factoring in headroom and regular reviews of staffing establishment. For nursing and midwifery, these reviews should use the National Quality Board (NQB) evidence-based guidance, which recommends acuity and dependency modelling tools. For other staff groups, the relevant guidance on safe/appropriate staffing levels published by Royal Colleges, Societies and other professional advisory bodies should be taken into consideration, in combination with local knowledge, experience, professional judgement and individual job plans. Publishing rosters 6-12 weeks in advance allows employees to better plan their work life and annual leave. Publishing rosters early also helps managers to identify gaps in service and arrange suitable cover in line with organisation policy. Early publication of rosters helps in covering the gaps using bank temporary workforce rather than agency workers therefore reducing the agency expenditure. Once the e-roster has been created and before final approval, it is good practice to complete a checklist (Appendix 7) for an example of a checklist.

Safe, sustainable and productive staffing: 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.[5]

Service specific guidance material is listed below:

- maternity services[6]
- adult inpatient wards in acute settings[7]

[5] www.england.nhs.uk/ourwork/part-rel/nqb/
[6] https://improvement.nhs.uk/resources/safe-sustainable-productive-staffing-maternity-services/
[7] https://improvement.nhs.uk/resources/safe-staffing-improvement-resources-adult-inpatient-acute-care/

- mental health settings[8]
- neonatal care and children and young people's services[9]
- urgent and emergency care[10]
- district nursing services[11]
- learning disability services[12]
- case studies[13]
- an update on safe staffing improvement resources for specific care settings[14]

Once the establishment is agreed with senior clinicians, managers and finance colleagues, it can be measured as an output into Direct Clinical Care (DCC) and Care Hours Per Patient Day (CHPPD- https://improvement.nhs.uk/resources/care-hours-patient-day-guides/).

Staff availability

Required e-roster templates

- Required e-roster template staffing levels should be determined in conjunction with finance and clinical departments. It is essential the required template aligns budgets with each clinical area.
- It is important budgets are aligned with the required e-roster templates with attention paid to how establishment is converted into a roster template.

Headroom

- Headroom is the % uplift to establishment applied to take account of predictable absences including annual leave, study leave, sick leave and maternity leave.
- Other discretionary leave will result in non-working time and should be referenced in the organisation's e-rostering policy guidance.

8 https://improvement.nhs.uk/resources/safe-staffing-mental-health-services/
9 https://improvement.nhs.uk/resources/safe-staffing-neonatal-care-and-children-and-young-peoples-services/
10 https://improvement.nhs.uk/resources/safe-staffing-urgent-emergency-care/
11 https://improvement.nhs.uk/resources/safe-staffing-district-nursing-services/
12 https://improvement.nhs.uk/resources/safe-staffing-improvement-resources-learning-disability-services/
13 https://improvement.nhs.uk/resources/safe-sustainable-and-productive-staffing-case-studies/
14 https://improvement.nhs.uk/resources/safe-staffing-improvement-resources-specific-care-settings/

Staff leave and non-clinical time

Working restrictions

- All working restrictions, less than full-time training or flexible working arrangements, should be formally agreed between the education authority, managers, HR and the employee, so all parties agree with the working pattern. This should be regularly reviewed – at least annually – in line with organisation policy in case circumstances change.
- The policy for working restrictions aligns with the organisation e-rostering policy, and each should contain a link to the other so staff are clear about the organisation'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 appropriately planned 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, department or service line 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.
- 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.
- Organisations with 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 appropriately planned throughout the year.

Sickness leave management

- Sickness rules can help highlight when sickness has gone above specific headroom percentages or KPIs. They should be managed in line with local organisational 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.
- Organisations 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 or locum shifts. The e-roster system should flag if this is not observed while booking temporary staff.

Study leave management

- Organisations should regularly review study leave policy, which should cover all workforce groups.
- Organisations should convert study leave policy into rostering software rules, to effectively manage study leave levels in accordance with service continuity.

Supporting professional activity (SPA)/non-clinical days

- Non-clinical days are when staff are on a designated clinical area but not providing direct patient care.
- The organisation must agree a definition of a non-clinical day; the e-roster should provide the facility to customise the reasons.
- 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.
- Organisations should monitor SPA time – this includes, but is not limited to, activities such as appraisal, teaching, training, mandatory training, research, audit, clinical management and continuing professional activities (CPD).

Supernumerary

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

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

Real-time e-rostering

A delegated roster lead should review daily staffing levels in real-time– staff, skills, and patient acuity and dependency – to support evidence-based decisions on safe and effective staff redeployment to clinical areas. Currently acuity and dependency tools are available for much of the nursing workforce and other professional groups are working to establish these tools.

Operational changes that may occur daily need real-time responses to 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 organisation's rules and policies as well as national legislative rules such as the EWTD. An organisation's e-rostering policy should be developed to reflect these rules.

Local rules should be implemented with reference to evidence, national guidance, contractual terms and conditions 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, organisations are developing formal, visible and audited escalation processes triggered by both exception data from rostering and benchmark data comparing wards, clinical services and even organisations.

Organisations 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, clinical area and speciality.

All organisations should have clear processes for updating e-rosters and who is responsible for updating. 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 who have responsibility for updating e-rosters should be trained and updates required include:

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

It is important that handover time is built into shifts, this may vary depending on the type of clinical areas and requirements. This time is used to discuss clinical concerns and escalation processes if a risk to staffing levels is identified.

Appendix 1: E-rostering levels of attainment

Each level of attainment is associated with meaningful use standards outlined in *E-rostering the clinical workforce: levels of attainment and meaningful use standards*.

Level 0	**No attainment:** E-rostering software may be being procured or in place, but fewer than 90% of employees are fully accounted for on the system. E-rosters may be in place (eg paper-based or Microsoft Excel) but not recorded on dedicated e-rostering software.
Level 1	**Visibility of the individual on the e-roster**: The organisation has procured e-rostering software, ensuring paperless payment mechanisms, and trained staff in its use. All contracted hours are recorded on the system, ensuring safe working hours and appropriate skill-mix. Organisation-wide policies detail the e-rostering process, ensuring consistent roster rules are applied. At least 90% of employees are registered on an e-roster.
Level 2	**Timetabling**: The software is used to capture shift preferences and staff personal working patterns via a remotely accessible application. The software can automatically generate rosters, with final roster publication at least six weeks before the roster start date. Unfilled shifts are identified through regular roster reviews. The software reports KPIs for use at all organisation levels.

Level 3	**Capacity and demand**: Teams analyse capacity and demand, using evidence-based tools where available. Team ‘capacity and demand’ meetings ensure rosters reflect service needs and team objectives. Software is used to report productivity and deployment metrics.
Level 4	**Organisational e-rostering**: There is board-level accountability for monitoring e-rostering across all workforce groups, ensuring audit and review. Team objectives, departmental budgets and the organisation’s objectives are aligned, so the organisation can respond dynamically to services’ changing needs.

Appendix 2: Definition of terms

Commonly used terms	Definition of term
Clinical workforce groups	Nurses, doctors, AHPs (allied health professionals) health scientists, pharmacists and other clinical groups
Clinical areas	Includes wards, clinical specialties, outpatients, therapies, pharmacy, theatres, accident and emergency, and other areas where clinical activity is performed
Senior executive level	Human resource director, director of nursing, medical director, director of procurement, director of finance, chief information officer
CHPPD	care hours per patient day
DCC	direct clinical care
SPA	supporting professional activity
MD	medical director
HR	human resources
DoN	director of nursing
CA	chief AHP (allied health professional)
CP	chief pharmacist
SLR	service line reporting
Roster approval times	All workforce: at least six weeks before due to work Doctors: for ‘doctors in training’ a generic work schedule should be sent out at least eight weeks in advance with an opportunity to request leave at this point. A personalised roster should be received at least six weeks in advance as per the

	‘code of practice’ agreed between NHS employers and the British Medical Association.
Non-working time	Annual leave, study leave, parenting, all other leave, etc
ESR	Electronic staff record
WTE	Whole time equivalent
Headroom	Headroom where identified is the % uplift to establishment applied to take account of predictable absences, including annual leave, study leave, sick leave and maternity leave

Appendix 3: Governance: roles and responsibilities

The organisation e-job planning policy may outline the roles and responsibilities of those involved in the e-job planning process:

Chief executive and organisation board

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

Executive directors

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

General Managers, Operational service managers and Matrons

Responsible for implementing the e-rostering policy in their areas and ensuring the compliance of all staff groups.

Lead clinicians 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 lead times and regular reviews of staffing restrictions.

Ward managers, department managers, clinical leads, medical staffing teams, temporary workforce office

Responsible for ensuring e-rosters are produced in line with the organisation 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 organisation's e-rostering policy, understanding both the expectations and implications. This should be reinforced during all organisation staff inductions.

Employee inductions should include what software is used for e-rostering. It should contain training material on how the e-rostering mobile application works (training on how to request shifts, annual leave and study leave), including a quick hands-on demonstration of the system.

Wherever possible, all staff should use the mobile application function or a web portal to make e-rostering requests.

Appendix 4: Board level e-rostering KPIs and metrics

E-rostering level of attainment: this should be broken down by professional group and monitored at organisation level. It should be reported at least quarterly.

Percentage of staff on the e-rostering system: the organisation records the percentage of clinical staff who have an account on the e-rostering system. Organisations are aiming for more than 90%. This should be broken down by team and professional group and monitored at organisation level. It should be reported at least monthly.

Percentage of e-rosters approved six weeks before the e-roster start date: this should be reported at least monthly. It should be broken down by team and professional group and monitored at organisation level.

Percentage of system-generated e-roster (auto-rostering): this is the percentage of shifts filled by the system-generated functionality. It should be reported at least monthly. It should be broken down by team and professional group and monitored at organisation level.

Planned versus delivered hours (net hours) per WTE: cumulative variance between the number of planned contracted hours and actual delivered hours per WTE per roster period, excluding doctors in training. The organisation should aim for less than a variance of 13 hours per WTE. This should be reported at least monthly, broken down by team and professional group and monitored at organisation level.

For nursing staff: percentage of actual clinical unavailability versus percentage of budgeted clinical unavailability (headroom): this should be reported at least monthly. It should be broken down by team and monitored at organisation level.

Appendix 5: Pre-implementation checklist

Item	
Strategic fit of different software solutions across the **sustainability and transformation partnership (STP)** or **integrated care system (ICS)** and alignment with organisation objectives	
Fit with **related workforce improvement programmes**, such as staff retention, temporary staffing reduction and clinical pathway redesign	
High level **outline of project scope**, timeframe, phasing, resourcing and potential clinical and financial benefits	
Overview and understanding of **the range of systems** on the market and associated benefits	
Organisational capability of IT infrastructure and hardware, workforce skill base and competing organisation priorities	
Identification of **preliminary work** required, such as basic IT training for staff, interoperability of related software systems and review of ESR data quality and processes	
Chief information officer, chief clinical information officer and Caldicott Guardian endorsement	
Stakeholder identification and engagement, including: clinical, operational, finance, IM&T, workforce and analytics leaders	
Shared expectations around **markers of success** and **metrics for tracking implementation**	
Organisation should complete the **Equality Impact Assessment (EIA)**	

1.

Appendix 6: E-rostering policy checklist

This template is a checklist for organisations reviewing or developing their e-roster policy. It highlights good practice from all organisations in both Carter reviews. This checklist should be owned by clinical heads, DoN, MD, HoT and CP.

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 organisation board • DoN, MD, CPhO, HoT • general managers, operational service managers and clinical heads of departments • ward managers, department managers or deputies • all employees?	
3	Does the policy include rules for producing e-rosters including: • timetables for roster approval times • organisation agreed headroom where identified • organisation agreed KPIs for annual leave, sickness, training, maternity leave, carer's leave and other leave?	
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 organisation policies on: • working restriction/flexible working policy • sickness/absence policy • training and development policy • annual leave policy • study leave policy • equality and diversity policy?	
6	Does the policy highlight the process for validation and approval of rosters: • by roster creators as the first level to validate and approve • by clinical heads and managers for second validation and approval?	
7	Is there an escalation process when e-rosters are not approved on time and how is it monitored?	
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 clinical areas requirements and individual needs?	
10	Does the policy have a section on skill mix, including ensuring appropriate cover on each shift and specific competencies depending on the workforce groups?	
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 EWTD (European Working Time Directive), including: • shift patterns worked in the organisation • time-owing process – for booking and taking it back, with guidelines on limits • rest periods highlighted for workforce groups?	

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 or/and locum 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 5)?	
20	Does the policy have a clear review date?	

Appendix 7: Pre-approval e-roster checklist

We developed this template from feedback from organisations for use before final approval of an e-roster. The organisation 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.	

Appendix 8: E-rostering audit tool

This audit tool should be used by the roster manager to monitor compliance with the e-rostering policy at least every six months. 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 EWTD and workforce contractual terms and conditions?			
Is the approved minimum number of staff e-rostered for each shift/clinical area?			
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 clinical areas?			
Have these working restriction/ flexible-working practices been reviewed in line with organisation policy or at least annually?			
Is the request system used in accordance with the policy?			
Do e-rosters follow the lead times making it 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?			
Is there a process in place for second-approval of e-rosters?			
Do the organisation 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/locum shifts?			

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