



Healthcare Roster Management System (e-Rostering) Service Definition

G-Cloud 15

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*MedModus - The partner of choice
for hospitals producing fairer
staff schedules while maximising
hospital capacity to deliver care.*

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1. About MedModus Rostering

At MedModus, our mission is to transform the rostering of healthcare staff and resources through the strategic use of technology — including advanced software, data analytics, AI, and automation. We enable hospitals to move from manual, fragmented scheduling to a structured, data-driven approach that delivers optimal outcomes. By embedding intelligent, automated processes into rostering, we help healthcare providers achieve:

- Satisfied, well-supported staff
- Full utilization of capacity and services
- Minimized errors and operational risks
- Improved patient safety
- Transparent, accessible rosters as a singlesource of truth
- Accurate analytics to drive continuous improvement

2. Our Customers

MedModus has a proven track record of delivering our RMS to public and private sector healthcare customers across various departments including anaesthesia, surgery,

Our offering comprises three core, integrated services:

- 1. **Clinical Roster Optimisation** – Advanced optimisation algorithms handling numerous rules to generate balanced, compliant, and efficient rosters (see separate Service Definition under this G-Cloud 15 lot).
- 2. **Roster Management System (RMS)** – A user-friendly e-rostering platform to manage day-to-day scheduling, leave, communication and drive capacity utilisation.
- 3. **Roster Design** – Support for reconfiguring rosters and services to meet strategic and operational goals.

medicine, radiology and radiography. Some examples are shown below.



3. Why we are different?

Customers tell us they chose to work with MedModus because:

- Our optimisation technology and managed services ensure fairness, effectiveness and compliance for the most complex hospital rosters.
- The flexibility of our solution to meet bespoke departmental requirements.
- A structured implementation approach that ensures full technology adoption and rapid return on investment.
- Our proven ability to use data from the RMS and complementary hospital systems to drive service improvement.

4. MedModus Roster Management System

MedModus RMS is a web-based solution specifically designed for managing hospital rosters and clinician schedules. It is a customisable application which can handle specific and bespoke departmental requirements. It has a host of features for the effective management

of different hospital environments such as theatre, ICU, Outpatient and Radiology rotas for example. Administrators use the web app to create and publish rosters while staff members generally access their schedules through the phone app.

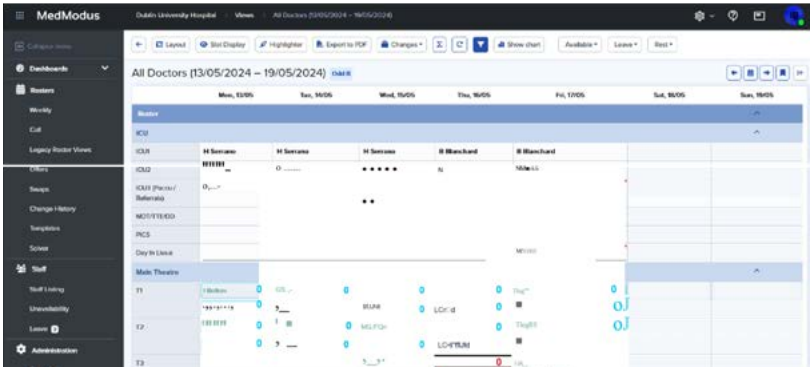


Figure 1 – MedModus RMS

4.1 MedModus RMS Features

The MedModus RMS includes multiple features to streamline clinician rostering described further below.

Customisable staff management module

The staff management module allows the user to:

- Add, edit and delete staff member information such as name and grade.
- Note unavailability for certain weekdays e.g., off-site commitment, OPD commitment (see Figure 2).
- Record criteria pertinent to scheduling e.g. training level etc.
- Flexibly capture differing roster requirements e.g., preferred call days.
- Allocate staff to certain locations e.g., theatre, ICU or both.
- Show past and future roster allocations for staff members.
- See an overview of leave requests (pending, approved, cancelled).

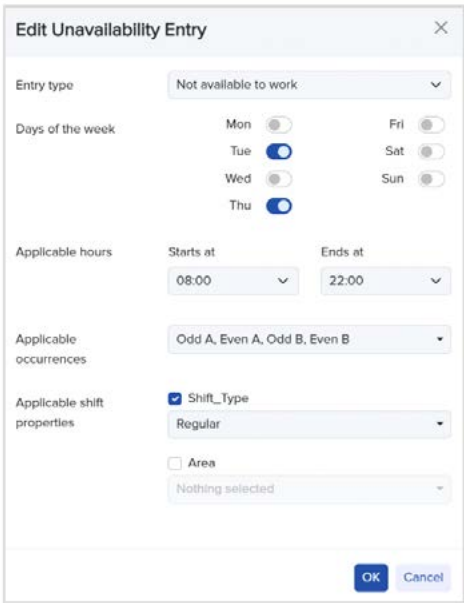


Figure 2 – Staff Unavailability

Flexible roster set-up templates

Roster set-up templates allow weekly planned shift allocations to be captured and are the basis of producing live rosters. Templates are flexible and can include varying work patterns such as even/odd weeks, week numbers and alternate weeks. Shifts can also be split to AM and PM sessions. Once finalised, templates can be converted to rosters and published.

Clinical roster optimisation module

The application's Clinical Roster Optimisation module is used to design more complex on call rosters that need to consider multiple constraints. Our optimisation logic ensures call allocations are evenly distributed while constraints relating to areas like leave requests are met (see also separate service definition document for Clinical Roster Optimisation).

Extensive roster layout and formatting options

- Roster by staff member or by shift (see Figure 3 and Figure 4).
- Weekly, bi-weekly and monthly views (with navigation and calendar controls to access different periods).
- Combined view functionality for joining and grouping related rosters – Theatre views for example combine surgical and anaesthetic rosters, grouping allocations by operating room (see Figure 5 below).

	Mon, 07/03	Tue, 08/03	Wed, 09/03	Thu, 10/03	Fri, 11/03
Master					
Call					
ICU Call	C Valentine	D Benton	V Shuh	F Armstrong	E Cole
2nd J	B Gonzalez	D Niesen	A Berg	X Mayo	A Terrill
2nd S	S Decker	P Franklin	S Witham	W Gomez	N Wang
2nd J (LJ)					P Franklin
2nd S (LJ)					W Moulough
Theatre Call	E Powers	S Flech	Z Potter	G Clay	Z Potter

Figure 3 – Roster layouts by staff

	Mon, 07/03	Tue, 08/03	Wed, 09/03	Thu, 10/03	Fri, 11/03
Reider					
A Hassell		RDSC1			
B Drake			T1		
B Greig		Theatre Cell			T2
B Wood					RDSC1
					Pre-Assessment
Britan O'Connor		ICU2	ICU2	ICU Cell	ICU2

Figure 4 – Roster layout by shift

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Roster Warnings

Cell warnings ensure gaps in shifts, shift clashes with other commitments, leave or rest are clearly highlighted (see Figure 5).

	Mon, 08/07	Tue, 09/07	Wed, 10/07	Thu, 11/07
Router				
TMT				
T1	B Allen (Ontho) A Raja Navee C Arne	D Stewart (Ontho) L Patten Navee C Arne	J Hisscott (Ontho) James Grant	R Naidu (Ontho) P Hildray
T2	B Allen (Ontho) J Taylor	D Stewart (Ontho) A Heston	J Hisscott (Ontho) James Grant	B ... P ...
T3	A Lovell D Linton	N Kaur (Ontho) K Thomas	M Hest (Ontho) B Critchley	L Gibbons (Ontho)
T4	A Kowsey (Gen Surg) James Grant	N Kaur (Ontho) P Roberts	G Tsang (Ontho) B Wood	T Kye (Ontho) A Raja

Annotations:

- Leave class:** Points to James Grant on Mon, 08/07.
- Multiple allocations:** Points to James Grant on Tue, 09/07.
- Not enough cover:** Points to A Raja on Thu, 11/07.

Figure 5 – Cell warnings for leave clashes, multiple allocations and not enough cover

Roster Warnings

Roster coordinators can make various changes to rosters including:

- Changing staff allocations.
- Cancelling sessions / closing shifts.
- Splitting shifts (Full Day to AM and PM shifts for example).
- Moving allocations (Move all staff from one theatre to another theatre for example).

Availability and Unavailability

The Available panel shows staff who are yet to be allocated to a shift on a particular day, or if “flexi” staff have not yet been given enough shifts across the week. Unavailable staff are listed in both the Leave panel (by reason), and the Rest panel which populates with staff who are, for example, post call following an overnight shift.

	Mon, 28/02	Tue, 01/03	Wed, 02/03
Available			
Anaesthesiologist			
Fixed	Brian O'Connor D Ramsey S Bennett	Brian O'Connor	Elizabeth Gillon (AM) J Hawke (AM) S Bennett (AM)
Flexi	D Ramsey (1 / 3.5), F Huggins (3 / 3)		
Roster			
Leave			
Anaesthesiologist			
Annual	L Candy		G Sherwood
Maternity	C Coleman	C Coleman	C Coleman
Sick	D Linton	D Linton M Wong	D Linton
Rest			
NCHD			
	S Donnelly	E MacDonald F Higgs S Donnelly	J Baldwin J Li

Figure 6 – Available, leave and rest panels

Shift assignment intelligence

Shift Assignment Intelligence functionality (Figure 10) uses information captured in the application about availability and suitability to help roster coordinators with decision making. When changes need to be made to rosters, the user will be prompted with suitable people to fill the shift. The user will also be warned if filling a shift with a person who breaches any pre-defined criteria. For example:

- Availability criteria: already assigned to a shift, on rest day or leave, etc.
- Suitability criteria: non-orthopaedic surgeon being assigned to an orthopaedic theatre.

Cell warnings are used to indicate any potential issues with the roster, with different colours used depending on the severity of the warning.

Thu, 11/07

Fri, 12/07

Sat, 13/07

Assign Staff

Select staff (19)...

☐ No Leave 1

☐ No Set Time Off 1

☐ Templated

☒ No Clashing Allocations 1

☐ Locums Only

☒ Exclude Locums 1

☐ Not Post Call 1

OK Cancel

Shift assignment intelligence

Figure 7 – Shift Assignment Intelligence

Changes and change notifications

All changes to rosters are captured in the application's change history. This change history is accessible in the roster view and is also used as the basis for various analytical reports. There is also the facility to examine recent roster changes for specified time periods, i.e., all changes made in the last 'x' days. Notifications of changes are sent via email and in mobile app messages (see Figure 10) to specified users depending on your requirements. Notifications can also be configured to only apply to certain time horizons.

Leave management

Leave management functionality allows users to request leave for different reasons. Leave can be set up to require approval or be automatically approved depending on the reason for leave. For example, sick leave may not need to be approved. It is also possible to setup rules which will restrict "problematic" requests or at least warn coordinators about them (see Figure 8). Problematic requests might include a leave request which clashes with an upcoming allocation, one which will result in too many team members being unavailable at the same time, or one which results in the staff member taking more leave days in the year than is allowed.

Leave Clash

Daily Breaches	09/01/2023 Mon	10/01/2023 Tue	11/01/2023 Wed	12/01/2023 Thu	13/01/2023 Fri	14/01/2023 Sat	15/01/2023 Sun
Allocation Clash		T1	T3				
Consultant Leave Limit	4	3	5	4	6	2	

Allowance Breaches

2023

Al. Limit - 20 Days

27

A leave rule has been breached. You cannot proceed.

OK

Figure 8 – Leave limit warning examples

All approved leave will be automatically avoided during roster creation and any subsequent roster changes which would clash with leave entries will result in warnings or prevention of changes if desired.

Charts

In-app charts provide users with an ‘at a glance’ reference when making allocation decisions. For example, the chart in Figure 9 provides coordinators with the ability to see variation in shift allocations over user defined date ranges while making allocation decisions.

Summary of allocations

Start Date: 20/01/2023 End Date: 19/02/2023 Remember dates:

Regular Locum

Doctor	Doctor Type	Locum	Theatre (T)	T Week	T Fri Sun	T Sat	ICU (I)	I Week	I Nights	ILD
Philip Beid	NGHQ		5	3	3	0	0	0	0	0
David Dunn	NGHQ		4	0	0	0	0	0	0	0
Jurly Pritchard	NGHQ		4	2	2	0	0	0	0	0
Colin Parker	NGHQ		4	2	2	0	0	0	0	0
Jemine Dear	NGHQ		4	3	2	0	0	0	0	0
Ralph Young	NGHQ		3	0	0	0	0	0	0	0
Grace McGrath	NGHQ		3	2	2	0	0	0	0	0
Habibullah Hamid	NGHQ		3	2	1	1	0	0	0	0
Jill Griffiths	NGHQ		2	1	0	1	0	0	0	0
Dennis Whitehouse	NGHQ		2	1	0	1	0	0	0	0
Wayne Doyle	NGHQ		2	0	0	0	0	0	0	0
Diane Gibson	NGHQ		2	1	0	1	0	0	0	0
Frances Donnelly	NGHQ		0	0	0	0	8	6	8	0
Maureen Thorpe	NGHQ		0	0	0	0	7	3	4	3
Nicholas Webb	NGHQ		0	0	0	0	6	3	3	3
Colin Lannon	NGHQ		0	0	0	0	6	5	3	3
Karen Durlie	NGHQ		0	0	0	0	6	3	6	0

Grand Totals: NGHQ 36 20 15 16 9 1 1

Figure 9 – In-app charts

Offers

The application allows roster coordinators to offer available shifts to doctors or groups of doctors. Doctors can accept or reject these offers. Offer functionality helps coordinators save time when trying to fill gaps. It also helps ensure better session utilisation.

Swaps

The application allows shift swaps between doctors based on pre-defined rules. These swaps can be allowed with or without supervisory approval depending on what processes your hospital wishes to follow. Swap functionality can also be disabled.

Bids

Clinicians can also bid on vacant shifts to help fill schedule gaps. The conditions under which bids are allowed is configurable.

Other desktop features

There are several other features that streamline decision making for coordinators including:

- Labelling and notes for sharing pertinent information/context between system users.
- Filters to focus on only the information a user wants to see on screen.
- PDF roster exports in A4 and A3 page formats.
- Cell highlighting for identifying staff member shifts or certain types of shifts e.g. emergency lists.
- Slot display functionality for adding information such as specialty description under staff names.

We will continue to add features recommended and prioritised by you and other customers to our development 'backlog'.

Mobile phone app

Most users will interact with the application via a mobile phone app through which they can view their shift assignments and request leave. Roster coordinators can also make changes using the mobile phone app. Realtime change notifications are pushed to users via the phone app.

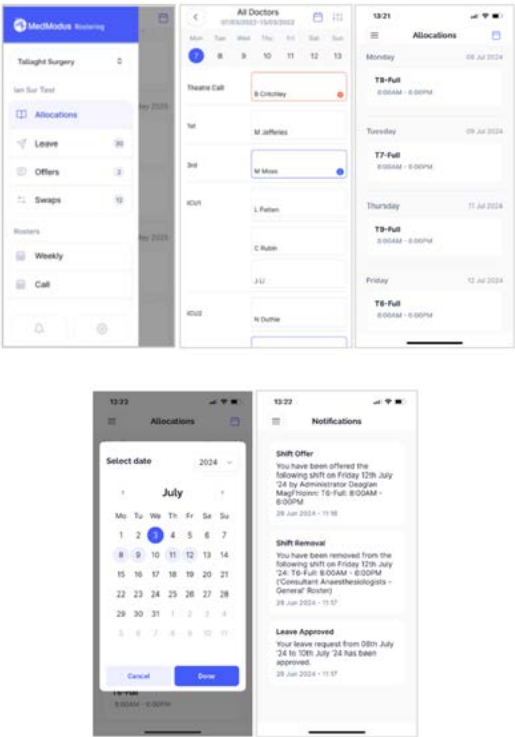


Figure 10 – RMS Mobile Phone App views (login, menu, allocations, notifications)

Analytics and reporting

The application includes several embedded dashboard reports. This includes dashboards relating to shift allocations, leave taken to date and theatre session utilisation. Further analytical reports can be agreed with you on implementation or requested post implementation as the need arises.

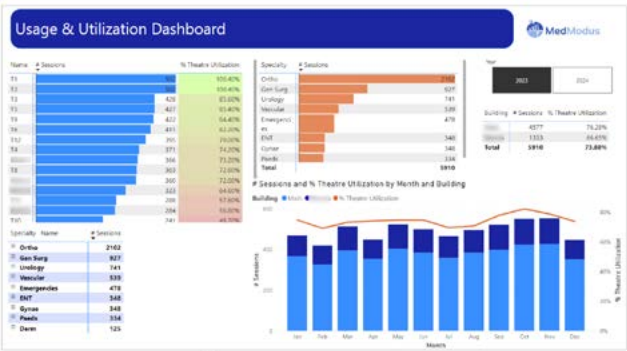


Figure 11 – Theatre session utilisation dashboard example

Permissions system

The application has been designed with multi-site usage and information security in mind. Our permission system ensures information is viewed on a need-to-know basis determined by you, and that editing or administrative rights are assigned appropriately.

5. Roster Management System Benefits

Streamline scheduling

The application will transform manual/excel based staff scheduling processes. This includes helping roster coordinators to make faster and better decisions and to communicate those decisions instantly. Shift assignment intelligence will prompt decision makers with the best available options for filling a shift saving valuable time. Schedule conflicts with leave or other availability constraints will be clearly visible, with cell warnings to anyone making shift changes in the desktop application or using the mobile app. Hundreds of hours of administrative time are saved through reduced spreadsheet updates and avoided phone calls/emails.

Improve team communication

Clinicians have easy access to their schedules on the mobile app or desktop app, where they can check allocations, see who they are working with, notify leave and accept/decline shift offers or make swaps. Real-time change notifications are pushed to the mobile app and email to ensure all team members impacted by a schedule change are made aware instantly. Coordinators also have a real time view of change notifications.

Improve resource utilisation

The RMS helps capacity managers in areas like theatre, cardiovascular intervention, endoscopy, radiology and outpatients to ensure available capacity is used, to plan more effectively but also to react quickly to situations where capacity becomes available and must be filled. Each theatre session saved equates to thousands of pounds in productivity, so incremental improvements in this area will ensure a rapid return on investment in our software.

Facilitate varied work preferences

The staffing module is designed with flexibility in mind. The application can handle bespoke preferences for doctors such as unavailability criteria.

Integrate RMS with roster optimisation and design

MedModus integrates the roster optimisation and design service with its RMS offering. This ensures complex call rosters are optimised before being published. This right first-time approach is fairer for clinicians, ensures better doctor availability and avoids hours of roster changes by co-ordinators that would otherwise have to be made.

Reduce costs

The improved planning associated with automation of rosters and real-time communication of roster changes may reduce costs associated with cancelled or underutilised sessions. We can quantify this benefit with you as part of any implementation.

Improve management information

Dashboard reports relating to shift allocations, leave and roster change history are embedded in the desktop application to assist with service planning and continuous improvement. MedModus's analytical capability also means we can relate information from our RMS to other hospital systems to drive improvement.

Extend to other areas or services

The application has been designed for easy extension to other areas such as medicine, the emergency department, radiology and outpatients, without the need for investment in multiple systems and with a permissions system that enables easy cross site use, while helping ensure information security.

Responsive managed service approach

MedModus prides itself on a responsive partnership approach to roster optimisation, design and management. Our analysts understand hospital environments and will respond quickly to helpdesk tickets, change requests or roster challenges needing our support.



6. Information Security Rigour

MedModus is ISO/IEC 27001:2022 accredited and Cyber Essentials certified. We maintain a rigorous Information Security Management System (ISMS) defined by over thirty policies in areas like information security, data protection, risk management, business continuity, disaster recovery and access control. Further information on our ISMS can be provided on request.

7. Service Levels

MedModus provides telephone and online ticketing support according to the following SLA response times.

Priority	Acknowledgment	Considered Response*	Resolution Time
High	Immediate	< 1 hour	< 3 hours
Medium	Immediate	< 24 hours	< 24 hours
Low	Immediate	< 48 hours	< 72 hours

**Monday to Fri 8am to 8pm, with out-of-hours support for high priority infrastructure related tickets.*

8. Technical Requirements

As a Software-as-a-Service (SaaS) solution, all that is required is a reliable internet connection and a modern browser. A monitor with a 16:9, 16:10 or 3:2 aspect ratio is recommended. Screen resolution with a width higher than 1500 is recommended. There is an option to restrict access to the application through public networks, if required by the customer.

9. Hosting Options and Locations

MedModus uses Microsoft Azure as its cloud hosting vendor and as such, it allows for services and resources to be hosted within multiple regions world-wide, including EU/EEA and the United Kingdom. For the UK, it provides the following locations: UK South (London), UK West (Cardiff).





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