Strategic Command

Programme CORTISONE

Primary Medical and Intermediate Care (PM&IC) products for Defence Medical Services deployments and operations

DRAFT Statement of Requirement (SOR)

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INTRODUCTION

Purpose

1. This document presents the Ministry of Defence's (the Authority) Defence Medical Services' (DMS) Programme CORTISONE **Draft** Statement of Requirements (SOR) for Primary Medical and Intermediate Care (PM&IC) products for use in the deployed operational environment (i.e., outside of the UK – be that on land or at sea). It includes the specific integration requirements needed to enable UK Defence Medical Service capabilities dispersed across the globe.

2. This summary SOR has been drafted to support the PM&IC[1] products for deployments and operations Request for Information (RFI) and does not represent the totality of Programme CORTISONE's Deployed statement of requirements. Any information contained in this draft SOR may be retained, amended, or deleted in its entirety prior to any formal release of a final SOR to accompany an Invitation To Tender (ITT).

Status

3. This is a draft version of this document until endorsed by Programme CORTISONE's Design Authority and the Deployed sub-Programme Board.

Structure of this document

4. This document is structured as follows:

- **Programme CORTISONE.** Provides background information, context, and an overview of the Programme.
- **UK Defence Medical Services (DMS) Deployments Overview.**
- **Primary and Intermediate Care for deployments Capability Requirements.** Provides an overview of required capabilities covering:
    - **Clinical functionality**
    - **Integration functionality**
- **Requirements Specification.** Details the 'Must have' requirements and signposts required areas of functionality.

[1] Primary Medical Care consists of military general practice and intermediate health care includes mental health, rehabilitation, and occupational health services.

PROGRAMME CORTISONE

5. Programme CORTISONE is a transformation programme, led by Defence Medical Services (DMS), that is seeking to integrate Commercial Off The Shelf (COTS) products and services to deliver an Ecosystem of Healthcare Information Services. This will enable better patient outcomes and contribute to DMS resource optimisation, with the aim of maximising the number of personnel fit for role for Defence. It will deliver access to and exploitation of clinical records across the firm-base and deployed operating environments.

6. The vision for Programme CORTISONE is to deliver a sustainable, integrated, cohesive and enduring information capability that will fully and effectively support the delivery of evidence-based medical and dental healthcare outputs.

7. Programme CORTISONE aims to integrate all the healthcare information generated across Defence and to ensure that information is available to the right people, in the right format and at the right time, to deliver safe effective healthcare to all defence and entitled personnel. All the healthcare information services currently used and those in the future, will create a single Electronic Health Care Record that links data from multiple sources (primary and secondary care) to provide a single and comprehensive picture of the patient.

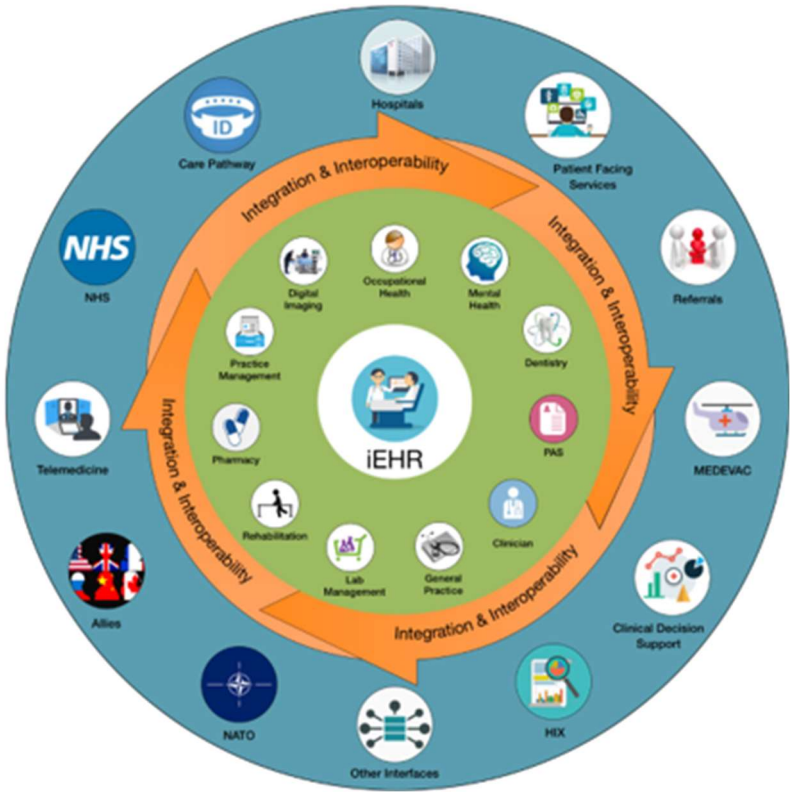

Figure 1: Programme CORTISONE Vision

8. Programme CORTISONE's high-level architecture design assumes an 'Evolve to Open' incremental delivery approach based on a decomposition of the target services into a set of logical sub-systems with their manageable and procurable components.

9. The programme is entering a market engagement phase for a PM&IC solution to support military deployments and intends to hold a procurement exercise for products to provide the clinical and integration capabilities needed to support global deployments.

Primary Medical and Intermediate Care on Deployments and Operations

10. The DMS works closely with the Royal Navy, Army, and Royal Air Force to generate the medical services and capabilities required to support global deployments involving UK forces. These deployments can either be standalone or as a partnership with NATO and key allies.

11. Deployments cover the full spectrum of UK Defence standing and contingent commitments. These include provision of medical support in all Joint and single Service (Royal Navy, Army, Royal Air Force) deployed environments. The type of deployments includes persistent deterrence, training overseas, capacity building, defence diplomacy, standing operations and contingency operations. Contingent operations hold forces at readiness and need to be able deploy their Medical Information Systems at short notice.

12. The operating environment for deployments is challenging and by extension so is the latency and resilience of Operational IS (OpIS). Where connectivity allows, the full suite of firm-base CORTISONE products and services should be used on deployments to optimise clinical safety and the personnel/patient data integrity. When connectivity is poor (either fully disconnected or intermittently connected), deployable products need to be resilient to these changes. Therefore, Primary Medical and Intermediate Care products for deployments and operations must operate across a spectrum of connectivity as depicted below.

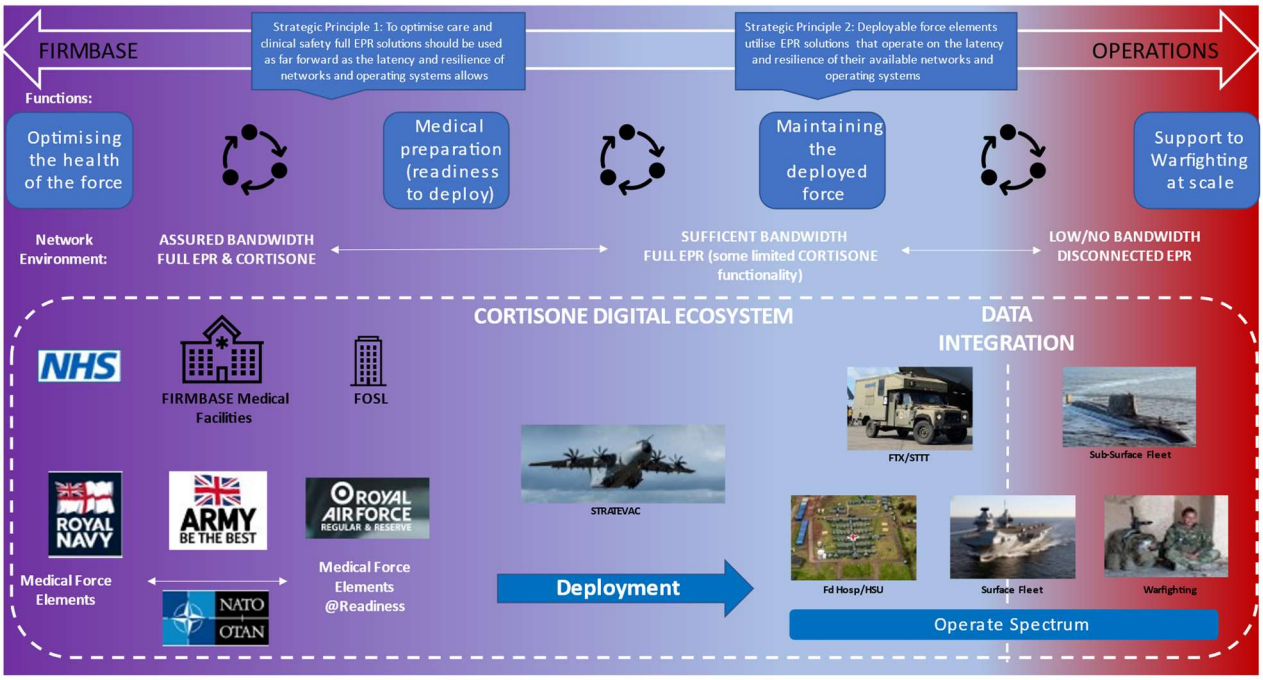

Figure 2: CORTISONE Deployments and Operations: Concept of Use in UK Defence

13. There are often multiple medical facilities on single deployments. In additional lone, semi-autonomous medical practitioners operating geographically dispersed from the main medical facilities are also required to maintain patient care records and access clinical supervision/reach back support, either within the deployed theatre of operations or to the UK. The medical capabilities on deployments should be considered as a network providing care through fixed, mobile, and peripatetic service delivery methods.

14. Deployed environment PM&IC products should be able to operate with extended periods of poorly connected or dis-connected network availability and support digital integration in the following ways.

a. **From Deployed Environment to UK**. Data exchange between the instance/point of presence (deployed PM&IC and enabling software products) and the firm-base CORTISONE digital ecosystem. This ensures the integrity of the patient record between the deployment and master data systems.

b. **Create a deployed digital instance**. Integrate with other applications to generate a deployed digital instance/ point of presence. This ensures the clinical functionality required to deliver care, specific to clinicians and medical administrators, on deployments.

c. **Network multiple digital instances within the same deployment**. This ensures the patient care record is updated across the deployed clinical network and the patient can move between facilities and be referred to specialist care provision.

d. **Wider system interoperability**. Some data types will need to be interoperable with; non-medical personnel systems to support management of the deployed PAR; population health reporting into central management systems.

15. PM&IC products for deployments need to integrate with the CORTISONE firm-base ecosystem and enable information exchange between deployed medical facilities. Indicative scenarios are presented in Figure 3. These should be considered in relation to deployments and operations across the land, sea, and air environments. The Medical Information Systems (Med IS) solution must be data capture centric and able to utilise opportunistic connectivity to share clinical information across the deployed environment. The availability of the clinical information is critical to support in-theatre near real time analytics, which in turn will facilitate clinical oversight and situational awareness by the chain of command.

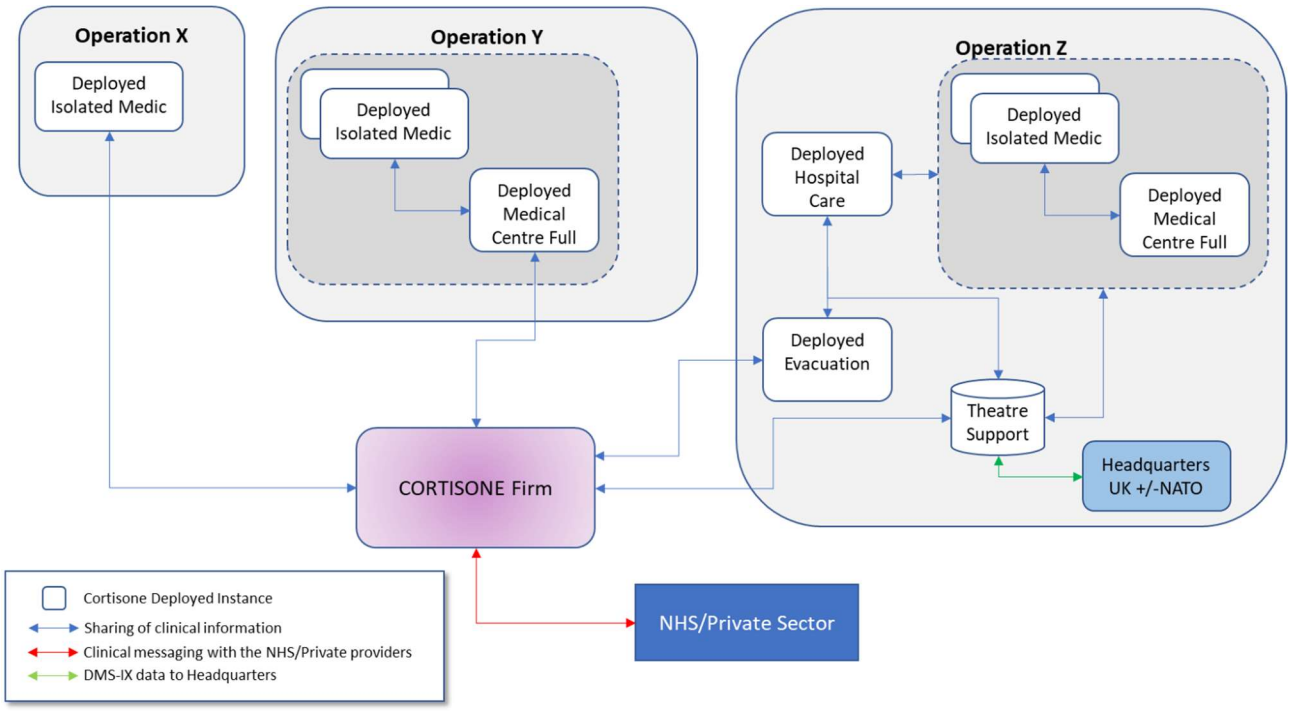

Figure 3: The relationship between deployed environments and CORTISONE Firm-base ecosystem

13. As the RFI forms initial market engagement the capabilities are presented at a high level. The capability requirements outlined below are split into 2 parts. If required, please ask for further clarity when considering your responses. Firstly, we outline the clinical functionality required from a Primary Medical and Intermediate Care product. Secondly, we outline the integration and hosting requirements. We expect there to be numerous ways these requirements could be approached and welcome single source or collaborative responses.

14. **Exclusions**. Deployed Primary Medical Care practitioners deliver care as part of the Operational Patient Care Pathway and work within sub-sets of additional medical capability that are excluded from this SOR. These include Pre-Hospital Emergency Care, Medical Forensics, Public Health, and Environmental Medicine.

CAPABILITY REQUIREMENTS

15. **Clinical and Administrative Requirements**. Deployed Primary Medical Care (PMC) includes integrated delivery of specialist services, Mental Healthcare, Physical Rehabilitation, Occupational Health, and Sexual Health through normal referral processes. This forms the vast majority of deployed medical interventions. Large scale deployments may include established intermediate healthcare teams[2] who require enhanced management of protocols/templates, pathways, and outcomes tracking. Products that deliver this are within scope of the RFI.

16. PM&IC for deployments comprises the high-level medical (clinical and administrative) capability requirements in Table 1 below.

Capability Requirements	Sub-Capability Requirements	Description
Medical IS and Patient Administration	Population at Risk (PAR) management *[Unique to the DMS]*	▪ Ability to pre-load patient lists at sub-unit, unit, and formation level. ▪ Ability to add new patient records or patient recently arrived in Theatre. ▪ Enable patients to be registered in several practices at once[3].
	Practice Management & Administration	▪ Administer the Med IS systems at practice level. ▪ Undertake routine patient administration including appointments.
	System Administration	Undertake local restricted system administration.
Clinical Management	History and Examination	• Enable the contemporaneous recording of history and examination, including the use of templates, workflows, or protocols. • Allow graphical data to be added e.g., use of body maps.
	Management: Investigations	Organise for the appropriate investigation (pathology, imaging etc.) and enable tracking to ensure that these have been undertaken and read.
	Management: Medications	• Prescribe or supply appropriate medicines and general medical supplies. • Clinically manage repeat prescriptions, drug side effects, drug interactions.
	Management: Military Occupational *Health [Unique to the DMS]*	Manage military patients in accordance with Joint Service Publication 950 through the award of specific occupational health codes

[2] Consultant led multidisciplinary teams e.g., Deployed Medical Rehabilitation Team (Cons SEM/Physio, Physio, Exercise Instructor).

[3] For example, in deployments where groups of personnel are flexed in and out of theatre on an as required basis.

Capability Requirements	Sub-Capability Requirements	Description
		(PULHHEEMS and Record Joint Medical Employment Standard Codes).
	Management: Referral *[Unique to the DMS]*	▪ Enable the patient to be referred both internally within the practice or to intermediate or secondary care facilities within Theatre. ▪ Facilitate both local and RAF strategic evacuation of patients back to the UK Firm-base (DMS or NHS).
	Clinical Administration	▪ Write letters & reports. ▪ Undertake other routine duties such as setting up appointments & tasks, tracking results, etc.
Clinical Support	Clinical Decision Support *[Unique to the DMS]*	▪ Provision of diagnostic support tools as well as clinical diagnostic and management advice. ▪ The ability to update the clinical advice based on theatre specific risks.
	Clinical Support & Supervision *[Unique to the DMS]*	Access near "real-time" advice and support (telemedicine, messaging etc.).
Reports and Returns	Local Reports *[Unique to the DMS]*	The ability to generate local ad-hoc reports and audits.
	Business Reports *[Unique to the DMS]*	Enable the business to produce standardised & automated reports across the organisation.
Medicines Management	Dispensing and supply	• Undertake and process standard dispensing procedure including stock selection, label production, bag label production, owing labels, interaction flags, and suggested counselling. • Labelling to comply with legal requirements set down in the Medicines Act 1968 and the Human Medicines Regulations 2012 (inc. amendments). • Undertake and process supply and administration of medicines against patient group directions and medicines issuing protocols including ability to pre label medicines for later supply.
	Stock management and resupply *[Unique to the DMS]*	• Enable efficient stock management and the ability to semi-automate requests for resupply of out of date and out of stock items.

Capability Requirements	Sub-Capability Requirements	Description
		• Recover batch numbers and expiry dates, with function to run out of date stock reports. • Search the system to find medicines subject to Drug recalls, with additional function to identify patients supplied a product subject to a recall.
	Operational formularies [Pre-deployment activity] *[Unique to the DMS]*	• Create and amend formularies used by the deployed medical facility. To include patient group directions and medicine issuing protocol formularies. • Flag items outside the formulary or any supply likely to be unlicensed or off label.
	Controlled drugs	• Legally supply and administer Controlled and Accountable (JSP 950 Lft 9-2-1) drugs in line with Misuse of Drugs regulations (2001 inc. amendments). • Stock manage Controlled Drugs and Accountable drugs (JSP 950 Lft 9-2-1), and if possible, manage them on an electronic Controlled Drugs register. • Undertake a full audit of all transactions relating to Controlled and Accountable drugs.
	Audit Medicines	• Prescribing, supply, and administration. • Supply and stock management systems to include different legal mechanisms to supply such as prescription, patient specific direction, patient group direction or medicine issuing protocol. • Stock adjustment reports with details of the HCP undertaking the adjustment.

Table 1: High-level medical (clinical and administrative) capability requirements

17. **Integration Requirements**. The integration solution for Primary Medical and Intermediate Care for deployments and operations comprises the high-level integration capability requirements in Table 2 below.

Capability Requirements	Description
Hosting	• Exploit type 1 Hypervisor architecture (local) hosting environment. • Use of Technology and Operating Systems which can be hosted on Virtual Machines (VMs). • Ability to expose services such as physical I/O (input/output) devices (peripherals) to child VMs in the form of Virtualised I/O devices.

	• Performance in line with application/virtual machine specific requirements of RAM, CPUs etc, with physical hardware limits in mind – resource efficiency is a priority. • Manage degraded scalability when physical hardware is used – finite amount of hardware resources will be available. • Ease of portability of software between hosting environments agnostic of operating system and virtualisation hypervisor. • Capability will have a secure data storage.
Platform/Infrastructure Integration	• Employ Active Directory (AD) and Group Policy services but not Single Sign On (SSO), designed to permit wired (and potentially wireless) connectivity to I/O devices (peripherals). • Ensure VM Operating System (OS) updates, patches, and fixes in line with current military best practice and with backwards compatibility considered. • Use of Anti-virus updates in line with current military best practice. • Exploit Defence Public Key Infrastructure (DPKI). • Employment of Cyber Security Monitoring and Logging. • Exploit the use of Virtual Private Networks (VPNs) and/or Virtual Networks within Platform/Infrastructure hosting environments. • Integration/Interoperable with all home nation NHS platforms and NATO.
User Access/Interfaces	• Provision of Remote Desktop Services (RDS) access to Virtual Desktop Infrastructure environments (running Windows 10/11 OS) to maintain a level of separation between healthcare information and applications and business information and applications (Data Segregation). • Provision of Virtual Desktop Infrastructure Environments Applications and Services within VM stacks in dedicated Med IS VPN/Virtual Network. • Ability to use Thick Client and/or Thin Client User Access Device (UAD) to VDI environments. • Use of VDI multi-session RDS. • Employment of Access Management - Role Based User Access.
Information Exchange(s)	• Use of common standard Interfaces (UK Defence, NATO, NHS). • Use published and configurable (through RFCs) Application Programming Interfaces (APIs). • Use recognised International and/or *de facto* Standards for Data at Rest/Persistent Storage Data Schemas; Information Standards; and Business, Process and Healthcare/Clinical Coding and Terminology. • Employment of Security and Encryption within capability (Data at Rest; Data in Transit). • Ability to collaborate seamlessly with current Fixed Base and Deployed Medical information exchange variations. • Bi-directional medical info exchange with NATO medical hubs via Bearer Of Opportunity (BOO). • Capability must maintain data integrity.

Corporate Governance	• JSP604; JSP440; Clinical Safety (DTAC; DCB-series). • Management plan for System updates. • Management plan for Security patches. • Capability delivered in line with Service Integration and Management (SIAM) processes. • Access management, Employment of non-repudiation rules. • Use of administer led auditing and reporting. • Capability should have intrinsic immunity to Cyber-attack. • Capability should comply with data Privacy rules. • Capability should be able to employ and enable confidentiality rules. • Comply with legal aspects (including but not limited to GDPR). • Comply with NHS Data Governance rules.
Operational Administration	• Use bi-directional information exchange with a Local Integration Platform. • Use bi-directional information exchange with a Local Master Patient Index. • Use bi-directional information exchange with a Local Healthcare Provider Directory. • Use bi-directional information exchange with a Local Record Locator Service. • Access to Medical Reporting toolset (including ability to automate). • Access to Practice Management tool set. • Access and participate in consumption of a Deployed medical. Common Operating Picture. • Ability to work disconnected from main Medical and Communications HUB. • Employment of Business continuity (system recovery after failover).

Table 2: Integration Capability Requirements

PM&IC FOR DEPLOYMENTS AND OPERATIONS: REQUIREMENTS SPECIFICATION

18. The following section adds more detailed summarised requirements to each of the capabilities listed in Table 1 and 2.

System Configuration Requirements

Operational and Reference Data

19. Deployed products and services are expected to make use of national sources of operational and reference data to provide consistency across DMS. Reference data will include clinical reference datasets, such as Clinical Terminology and datasets used to populate the Drug Dictionary and non-clinical datasets.

20. Deployed products and services are required to interface with the DMS Enterprise Master Patient Index (EMPI) as the principal source of patient demographic data for DMS. (Note: this system is integrated with the MOD Joint Personnel Administration (JPA) HR system). Deployed products and services are also required to hold and use the service personnel's NHS Number as a secondary identifier. Deployed products and services are required to integrate their solution with the CORTISONE Integration Platform (IP), which facilitates the transfer of patient demographic data between NHS and DMS.

21. The MOD DMS Organisation Data Service (ODS) downloads and information on API access (including ORD & FHIR) is available from https://digital.nhs.uk/services/organisation-data-service/apis-for-the-organisation-data-service.

Patient Communications

22. Patient communication functionality facilitates written contact and non-verbal communication with patients and/or their nominated representatives, as well as supporting written communication with other health care providers in order to further patient care (i.e., communication about a patient rather than just directly to/from the patient). An effective patient communication function will support the creation and management of targeted communications via various delivery methods and be inclusive of clinical messaging services prevalent on current deployments that facilitate clinical decision making and patient communication.

23. Effective communication within a PM&IC deployed system means:

For service personnel/patients: receiving clear, relevant, and timely information in a format and manner that suits the patient's personal preferences, lifestyle, health, and care needs.

For a PM&IC clinician or medical administrator on deployment:

- Providing mechanisms that support targeted communication with patients and other health care providers to facilitate patient care and protect patient confidentiality that can operate within the constraints of the communication and infrastructure in the deployed environment.
- Enable external messaging to access specific clinical advice which integrates the message input and output into the HER.

For the wider DMS: supporting the use of patient records as a means of communication between organisations, thus facilitating the coordination of patient care across the health and social care system.

24. To support PM&IC on deployments in fulfilling their regulatory and legal obligations, such as those detailed in the Data Protection Act 2018, all communications that can be related to a specific patient must form part of that patient's record. This includes any communications sent directly to the patient, as well as all communications sent to other organisations where they relate to identifiable patient(s).

Further System Configuration requirements

25. This SOR will be further developed to include requirements for (but not limited to) the following related functional areas:

Requirement	Description
Data Models (open, standards-based)	The PM&IC deployed system will be required to support open, standards-based data models in order to promote the standard recording of data related to specific information, concepts, and documents.
Practice and Staff information (including User Configuration)	Access to PM&IC deployed data and functionality is to be based on RBAC and specific mapping between functions and RBAC should be configured/requested by the individual's fixed base practice. However, PM&IC deployed system may be required to provide supplementary local access configuration to a select group of key individuals at a more granular level to support both the requirements within this document and the needs of users.
Related organisations and staff information	PM&IC deployed will contact other organisations, in particular the relevant deployed Chain of Command and other health care organisations (allies, 3rd sector etc), to obtain resources and organise further patient care.
Flags and Alerts	PM&IC deployed products need to be able to define and maintain clinical and administrative flags and alerts within the PM&IC deployed system. An Alert is a prompt to the end user that either action needs to be taken or the action they may be attempting to perform may not be permitted and/or has certain consequence. There may be override facilities associated with certain types of alerts. A Flag is a visual icon indicating that there is important information that must be taken cognisance of in relation to an individual patient and or activity.

Patient Medical Record Management

Patient Registration

26. Service personnel and entitled patients are registered with a PMC Practice across all 3 Services. As stated above, the PMC System is required to use the military number as its main patient identifier, and to hold and display the patient NHS number and service personnel number for the purpose of internal and external patient related communications. Administrator completion of a Practice registration shall send a notification message via IP to CORTISONE EMPI.

27. The PM&IC deployed system is required to provide the ability to manually register different "types" of patients (such as HM forces, Non-UK Military, Reservist, UK Civilian (e.g., dependants, contractors), Non-UK Civilians etc., and injured captured individuals from other countries). This process will require the PM&IC deployed system from time-to-time to automatically issue a temporary identifier for those individuals.

28. CORTISONE is developing a centralised Patient Registration capability based on electronic forms and orchestrated by the IP. The PM&IC deployed system is required to integrate with the CORTISONE IP in such a way as to permit a 'push' of patient registration details from the IP to the PM&IC deployed system.

Reviewing/Updating Health Records

29. The PM&IC deployed system functionality is required to provide the DMS end users with the ability to view patients' PMC records in accordance with the individual end user's RBAC permissions.

Further Patient Medical Record Management requirements

30. This SOR will be further developed to include requirements for (but not limited to) the following related functional areas:

Requirement	Description
PM&IC deployed system internal iEHR Synchronisation	PM&IC deployed system is to both integrate with the core Primary Medical Care (PMC) System and other associated applications that make up the patient's Electronic Health Record (iEHR) (e.g., Electronic Content Management, Order Communications, etc.). Integrations will flow via the CORTISONE IP and the deployed integration solution.
Wi-Fi, Offline Mode, and Synchronisation	The PM&IC deployed system will need to operate across multiple connection types and in offline mode. Offline mode will be used where connectivity is poor and as the operational situation dictates.
Related/Named Persons	Functionality to manage details relating to a patient's next-of-kin, carers, etc.
Patient Preferences	DMS is patient-centric and, as such, the PM&IC deployed system is required to support patient choice and preference where the operational situation dictates this is possible.
Patient Audit Trail	Functionality relating to the patient audit trail within the PM&IC deployed system.

Searching and Reporting

31. This SOR will be further developed to include requirements for (but not limited to) the following related functional areas:

Requirement	Description
Search Criteria	Search and search criteria functionality are required to be flexible, allowing them to be used in support of both the ad-hoc identification of information and patient medical records, and the creation of regular reports and inputs into other operational business processes. In this context, 'search criteria' means the ability to define criteria to assess the content of individual fields in the PMC System and the ability to logically relate these criteria.
Search Results	Search results are the data items / records that meet particular search criteria when a search is performed. Search results must be able to be saved for future use, including as input into other processes.
User-defined Reports	A report is an output of search results which may include additional data associated with the records found and aggregate information such as numbers or percentages calculated from the search results. A report may be in multiple formats depending on the purpose (print for discussion at a meeting, output to csv or other file format as a 'data extract' or for web publication). In this context, a report template means a report definition which may be reused and applied to any compatible search results.
General Reporting / Report Templates	PM&IC deployed system will have some common and some bespoke information needs. It is important that where possible these information needs are met through standard reports pre-supplied as part of the PM&IC deployed system.

	PM&IC deployed system is a dynamic environment and therefore it is important that the supplier can respond to requests for new standard reports in a flexible and timely manner or that new system reports can be readily configured by the user / Authority.
Cross-Practice Reporting	There is a need to provide information based on data from multiple deployed medical facilities dependent on the deployment or operation. The PM&IC deployed system functionality shall support new organisational models and ways of working through the provision of reports across multiple deployed facilities. It is essential that access to these reports is granted through appropriate models of consent, security, and confidentiality.

Medical Laboratory Test Requests and Test Reporting

32. Requesting of radiology imaging and pathology laboratory work is required as part of the PM&IC deployed system.

33. The expedient access to radiology images and laboratory work is important from a clinical decision-making, treatment, and patient satisfaction perspective. Where the electronic ordering and return of external images and laboratory work is possible, it should be the preferred method with a full end-to-end audit trail possible.

Consultation Management

Finding and Accessing a Patient Record

34. PM&IC deployed system have, as a fundamental requirement, to support the correct identification of individual patients and their patient record. Therefore, the PM&IC deployed system is required to provide the ability to search for, identify and retrieve a patient record for use across the system by searching full or part of the contents of any combination of the following fields:

a. Military Number

b. Family name / Surname

c. Rank/Grade

d. Unit

e. Sub-unit

f. Given name / Forename (including first or other names)

g. Preferred name / Alias / Also Known As

h. Date of Birth

i. Service Number

j. NHS Number or CHI Number

k. Address (5 lines)

l. Postcode

m. Telephone number

n. Registration type

o. Local patient identifier

Basic Data Recording

35. The PM&IC deployed product must ensure that all relevant clinical and administrative patient data is linked in a single patient record and that patient records combine narrative and encoded information to assist clinical decision making.

36. The PM&IC deployed product functionality should include the ability to record for every consultation / encounter, whether planned or unplanned, any number of data items including as a minimum:

a. Start date / time (local and in deployed geographies)

b. Staff member(s) involved in the consultation / encounter

c. Organisation

d. Location (e.g., as per Operation name)

e. Consultation / encounter type, mapped to a coded PMC term, to support episodic entry (i.e., data is to allow identification of new episodes of care or reviews within an episode and allow linking of episodes to existing problems/diagnoses)

f. Record data pertaining to ‘problem-based encounters`.

Consultation and Assessment Process

37. The PM&IC deployed product is required to provide an audit trail for what has been amended and/or removed, when and by whom. All amendments/deletions from the patient record in any module should be fully auditable.

Charting

38. The PM&IC System should include the ability to annotate charts (graphical representation), including (but not limited to):

a. Anatomical person chart

b. Audiology data

39. (Note: All notes should have a full audit trail recorded in the system to include user, location, date, and time stamp).

Referrals (Internal, External, Requests and Discharge Letters)

40. This section specifies the requirements for the PM&IC services relating to the management of referrals for access to health care services.

41. Referral management includes the creation, forwarding and monitoring of patient referrals across a range of services, disciplines, and locations.

42. The referral management functionality must provide a process in which events that need to occur to deliver patient care are recorded accurately and in a timely fashion. It must also enable integration between medical capabilities on a deployment and also to CORTISONE's electronic content management system to ensure that all letters and clinical archived records are linked.

43. Any changes to a referral and associated document shall be recorded with date, time, person who made the change, which attribute values were altered and what the alterations were.

Further Consultation Management requirements

44. This SOR will be further developed to include requirements for (but not limited to) the following related functional areas.

Requirement	Description
Viewing / Displaying a Patient Record	Patient records will be accessed and used to support a wide variety of consultations / encounters. As such, user interfaces are expected to facilitate efficient and accurate retrieval and interpretation of data contained within patient records to meet the specific and emerging/changing needs of users.
Decision Support	Many decision support tools are available on the market to support users in making clinical decisions. The PM&IC service should support integration with a wide range of decision support tools.

Data Entry Forms and Templates

General Template/Form Entry

45. The PMC system functionality should include the ability to define, design, amend and delete data entry form templates to reflect DMS policy. Such templates should be capable of:

a. Enabling SNOMED-CT codes and numerical values to be entered and stored with the patient record

b. Allowing background text and hyperlinks to be added to the body of the template

c. Being pre-populated with all historical entries of data relevant to those fields and present the logic against this data.

d. Displaying any medication entered on the patient record on the template relevant to those fields (e.g., statin, antibiotic, etc.)

46. Each template should have as a minimum:

a. A unique identifier and / or name and version

b. A template status (whether draft, published / available for viewing and use across the system or obsolete)

c. Basic business logic / rules, such as the ability to:

(1) Include defaults e.g., current date

(2) Auto-populate data items from within the patient record e.g., use of merge fields

(3) Auto-populate data items based on other data within the form

(4) Set mandatory data items.

Appointments

Session Management

47. Sessions are used to describe the functionality by which blocks of time can be defined to support the planning and allocation of specific activities to specific time periods or slots.

48. The PMC system should provide functionality for practices to manage appointment sessions, with flexibility/configurability to provide practices with an appointment builder to enable the scheduling of consulting sessions / clinics.

Appointment Management

49. Appointment management supports the effective allocation of sessions and slots to specific activities and supports the booking of appointments for / with patients. The PMC system should provide a full audit trail of all bookings and amendments / cancellations to bookings or slot types.

Appointment Demand Management

50. The DMS Defence statistics community is interested in exploring the options for incorporating data capture to monitor demand management for deployed appointments.

51. All appointment data should be available for reporting purposes, either through the system itself or exportable to an external data warehouse/management reporting capability.

Prescribing

52. This SOR will be further developed to include requirements for (but not limited to) the following related functional areas.

Requirement	Description
Stock Management	
Drug Database	The system requires, or should support integration with, a comprehensive database of prescribe-able items to support authorised prescribers, record items prescribed by others outside the organisation (e.g., hospital and other external prescribers) and to record self-medicated items (e.g., over the counter drugs). All prescribing has to abide by the laws of the country the prescriber is prescribing within and Military Law.
Practice Formularies	A Practice formulary is a selected subset of the system's drug database.
Defence PHC Formulary (DPCF)	The DPCF formulary is essentially another practice formulary and subset of the system's drug database. The key requirements are the ability to deploy remotely to practices to allow central development by DMS, and the provision of a mechanism to facilitate automatic/electronic issuing of updates to all DMS practices.
Non-medical Prescribing	The legislation governing prescribing by non-medical prescribers (Medicines Act, Control of Medicines Act) has been adopted by the 4 nation countries. There are no significant differences between how prescribing works for these groups between England, Wales, Scotland, and Northern Ireland. However,

	there have been and will continue to be changes to the professional groups able to prescribe and to the level of prescribing undertaken by each group.
Supplementary Prescribing	Supplementary prescribers can prescribe a range of products covered by legislation. Examples include all General Sales List ('GSL'), pharmacy only ('P' list) and Prescription Only Medicines ('POM') (including 'black triangle' items), Advisory Committee on Borderline Substances (‘ACBS’) items and unlicensed products.
Repeat Prescribing	Practice business needs relating to repeat prescribing by authorised users.
Instalment Prescribing	The dosage instructions to support instalment prescribing / dispensing can be very verbose; this is particularly true of the Home Office approved wording for controlled drug instalments. The system is therefore required to allow a large amount of free text to be entered to express the instructions fully. The maximum size of the text is limited only by the size of the prescribing area on the prescription form (or equivalent) and the associated overprint specification that details font size, etc.
Regimen Review	Practice business needs relating to regimen review.
Prescription Printing	The system must provide the ability to print prescriptions to the specifications of a specific MOD prescription layout (MOD F Med 296) or NHS equivalent (FP10) and be able to use different formats depending on prescriber type.
Recording other Drugs and Appliances	In order for DMS clinicians to make informed decisions about patient care, including prescribing, the system needs to be able to store a comprehensive picture of a patient’s prescribing history and current medication and therefore the system needs to record various details about items prescribed outside the Practice, including at other Medical Practices, hospitals, hand-written items (e.g., during out-of-hours home visits) and over the counter (OTC) items.
Handling Items with ‘As Needed’ Dosage Instructions	Prescribed items which are not consumed regularly (i.e., those that are used intermittently) are often dispensed again unnecessarily, resulting in patients holding large amounts of the item in stock which may never get used and therefore incurring wastage. Unnecessary prescribing and dispensing of intermittently used items may occur when patients or their representatives request a repeat prescription and default to selecting all items on a repeat listing. Similar problems may occur when surgery staff issuing prescriptions inadvertently select intermittently used items which may not have been requested by the patient. To provide greater control over the inadvertent selection of these items when they are not needed, systems are required to differentiate such items (in both the patient record and on the repeat re-order form) from those consumed regularly.

Document Management

Document Configuration

53. The supplier is required to describe the document management functionality and related out-of-the box document management integrations available in their product.

Task Management

54. This SOR will be further developed to include requirements for (but not limited to) the following related functional areas:

Requirement	Description
Configuration	Practice task management configuration requirements.
Task Management	Practice task management requirements.

Additional Functional Requirements

55. Screen Refresh. The supplier should ensure that the currency of information displayed is always explicit in the interface, specifically, currently prescribed medication and any lists that may be accessed or altered by other users such as appointments and worklists / task lists.

56. Usability. This SOR will be further developed to include requirements for (but not limited to) the following related functional areas:

Requirement	Description
Online/offline Help	PMC Practice online/offline help facility requirements.
File Acceptance	PMC Practice file acceptance requirements (e.g., attachments).
Message Handling	PMC Practice message handling requirements (e.g., documents/message generated by the system).
Multiple User and Device Support	The system is required to support multiple concurrent users while maintaining system performance such that additional users do not result in noticeable degradation of service.
Numeric Conversions and Comparisons	The system is required to accurately record numeric data items and allow assessment of comparable numeric measurements recorded using different units of measure.
Test Patients	The system is required to provide functionality that can support the local testing and training needs of Practice users, provide mechanisms to support the identification and resolution of issues, and support the process of assuring that a given instance of a system is able to interface with relevant DMS and NHS systems.
System Administration	The supplier is required to describe the system administration functionality available in their product(s).

57. Clinical Safety. It is expected that clinical safety legislation compliance is achieved through the delivery of PM&IC and Integration solutions for use on UK DMS deployments.

DOCUMENT END