Please view in **Slide Show** – Click on the icons in the Interactive Infographic to find out more about Programme CORTISONE

Click  to get back to the Interactive Infographic from any of the information pages

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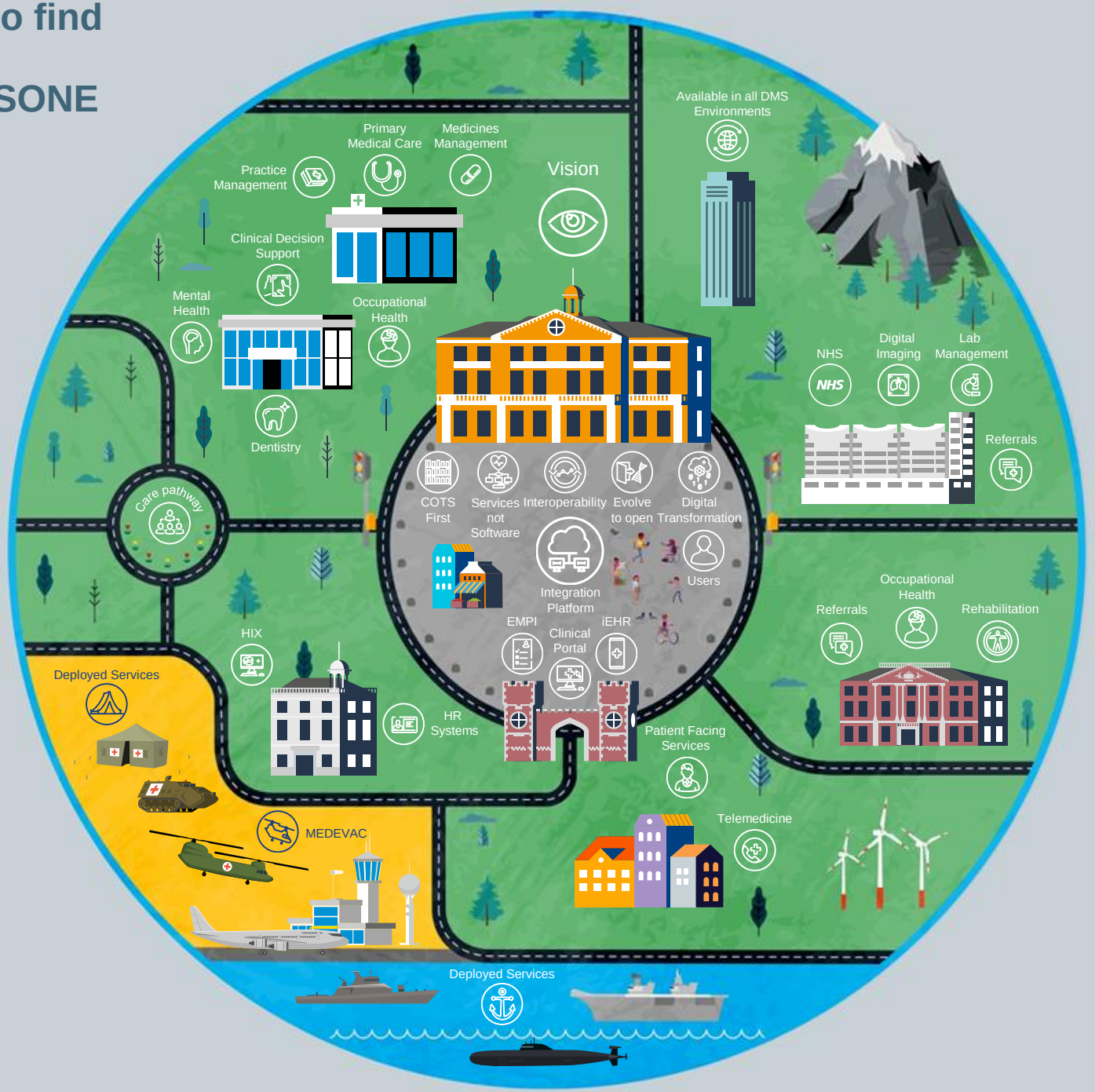

Vision

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 health and healthcare outputs, in order to achieve the aim of the Defence Medical Services (DMS).

CORTISONE will deliver an ecosystem of Healthcare Information Services to enable better patient outcomes and contribute to DMS resource optimisation, to maximise the number of personnel fit for role for Defence.

Different healthcare providers need different tools to manage their information, so the CORTISONE ecosystem will provide an interconnected network of products and services based on common standards, to meet the needs of different types of users, rather than a ‘one size fits all’ approach.

- COTS First
- Services not Software
- Interoperability
- Evolve to open
- Digital Transformation

CORTISONE
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Users

CORTISONE is committed to delivering user-centric healthcare information services and users are at the heart of everything that happens in the programme.

The CORTISONE ecosystem will be used by a wide range of users from patients, clinicians and everyone involved in the delivery of healthcare to those who analyse and use data for the planning of healthcare delivery across Defence.

Our focus is on ensuring the right healthcare information is available to the right people in the right format at the right time. Better information enables better patient outcomes which will benefit both the individual patients and Defence.

We are committed to ensuring that users continue to be fully involved in every stage from requirements capture, during design and test, through to delivery. Effective, continuous, two-way communication with the users is critical to ensure that we deliver what the users need not what the programme thinks they need.

The flexible design of the CORTISONE ecosystem enables us to modify services in response to changing business requirements, such as new policies, and to user experience.

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Interoperability

Health and healthcare information is recorded and used in direct patient care, but it also needs to be used for secondary purposes such as managing effective delivery of healthcare services across Defence, improving services and planning for the future.

Currently much of this valuable information is held on multiple, unconnected systems. The CORTISONE ecosystem will join up these various information sources, so that information can be recorded once, but used many times. This approach reduces duplication of effort and optimises valuable clinical time.

The users will be able to access all healthcare information they are entitled to see (Role Based Access Control) from a Single Point of Access. This does not mean all healthcare information must be held in a single database. CORTISONE will deliver an ecosystem of products and services, to meet the full range of user needs, rather than a ‘one size fits all’ system.

By connecting up healthcare information services, including those delivered by CORTISONE and other projects across Defence, information is available to care for individual patients, but is also available for planning and improving healthcare delivery across the DMS, without clinicians having to record data in additional systems.

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Healthcare Information Exploitation (HIX)

The CORTISONE ecosystem will enable the DMS to exploit the healthcare data it collects by transforming it into useful information.

Healthcare information systems should not just collect data, but should transform it into useful information that can be used to inform planning both of individual patient care and to help match healthcare delivery resources to demand. Clinical resources are precious, and clinicians would much rather be treating patients than recording data.

CORTISONE is committed to automating the creation of information wherever possible so that everyone can access reliable, accurate information to inform delivery of the best possible healthcare to individuals and the whole organisation, without having to run multiple searches and reports every time they need some information.

Services to enable HIX are required at all levels from the individual patient, clinicians, practices through to the DMS and Defence as a whole. The information generated by HIX services can be used to inform individual healthcare planning, practice management, medical governance, HQ level reporting, medical intelligence, health surveillance, medical research, wider data analysis and to monitor adherence to regulations.

All information within the CORTISONE ecosystem will be managed in accordance with Information Governance standards and regulations to ensure all information is handled legally, securely, efficiently and effectively in order to support delivery of the best possible care.

The HIX solutions will exploit healthcare data by transforming it to create dashboards and reports that provide useful information and actionable insight. As we are delivering the eco-system we are working with users to improve the quality of data entry and ensure that systems are intuitive, with hidden coding and the ability to capture coded data during the normal recording of consultations. This removes the requirement to fill in multiple additional spreadsheets and information is automatically available for re-use.

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NHS Interfaces and Interoperability

One of the main drivers for Programme CORTISONE is the need to improve our ability to exchange information with NHS systems and services from all four nations of the UK.

CORTISONE will enable interfaces for efficient and effective information management, to securely exchange healthcare information with the current and future NHS systems and services, to support healthcare delivery to regular service personnel, reservists and veterans. This will also allow the DMS and its patients, to benefit from national initiatives such as cancer screening, GP2GP and Summary Care Record.

This information exchange with be enabled via the Integration Platform and Enterprise Master Patient Index. Improved interoperability with NHS-provided systems will reduce clinical risk and improve efficiencies.

Examples include:

- Synchronising patient information with NHS demographics services - import GP patient record on recruitment and export record on discharge;
- Urgent and Emergency Care - provide summary information to the NHS as required;
- Order Communications - send diagnostic test requests to local NHS pathology services, receive diagnostic reports back;
- Referrals - refer patients to local NHS Trusts, receive discharge letters/summaries and other clinical correspondence back;
- Receive screening call and recall messages.

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Interfaces with HR and other Systems

CORTISONE will enable interfaces for efficient and effective information management, to securely exchange healthcare information with a range of other systems that could utilise the information captured by the CORTISONE ecosystem, providing the appropriate data sharing agreements, anonymisation and rules are in place.

DMS is an occupational-health-focused healthcare delivery organisation and has various requirements to share occupational health data such as deployability and employability grades with personnel administration systems including JPA and others.

CORTISONE is committed to automating the creation of information wherever possible so that everyone can access reliable, accurate information to inform delivery of the best possible healthcare, without having to run multiple searches and reports every time practice management information is required.

In addition to information exchange with HR systems, the integration platform gives us the opportunity to develop the ability to exchange information with logistic systems, NATO, allies and other health service providers and wider UK Government departments.

CORTISONE
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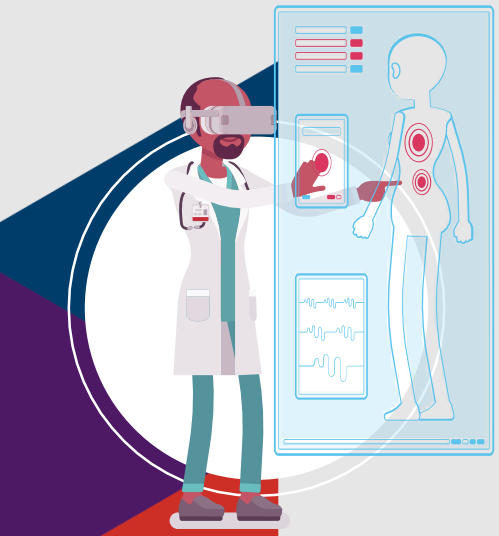
Digital Transformation

Digital healthcare information services and systems don’t improve patient care or healthcare delivery efficiency by themselves. However they do provide tools and opportunities for healthcare delivery organisations to transform the way they engage with patients, capture and use information and deliver business outcomes.



Digital transformation is the process of using digital technologies to create new, or modify existing, business processes, culture and customer experiences, to meet changing business and market requirements. This reimagining of business in the digital age is digital transformation.

CORTISONE is a key enabler of digital transformation for Defence Medical Services, providing a holistic and on-going approach to improve and reinvent the way in which healthcare services are provided and outcomes delivered. As in all industries and business environments, the use of digital and information technology allows for very different ways of working to those used in the past. To deliver maximum benefit from the programme, a holistic and business-led approach is required.

Digital transformation does not just consider the technology and information services, but also ensures that the business, organisational, social and cultural dimensions are included, typically resulting in new ways of working and changes to the culture of the organisation. The approach puts the patient, clinicians, the business and other end users at the centre of the design and implementation.

Digital transformation is about transforming business activities, processes and competencies to fully leverage the changes and opportunities of digital technologies in a strategic and prioritised way. This enables organisations to be more agile, people-orientated, innovative, connected, aligned and efficient. CORTISONE will enable the delivery of technology that facilitates this transformation.

COTS First

CORTISONE will employ a COTS (Commercial Off The Shelf) first approach, to simplify procurement and reduce the time and cost of implementing upgrades, as standard releases can be applied without need for additional customisation.

Any specific DMS capability requirements will be met by configuration and business process change in the first instance. Any bespoke functionality deemed essential will be incorporated into sub-components, that will interface with the chosen COTS package.

This approach ensures that the core health record remains separate from (though related to) Defence-specific information and can therefore be readily transferred to/from NHS or other provider systems as and when required, with the military element remaining within the DMS information domain.

CORTISONE services should be based on open standards wherever possible, in line with the government's commitment to the wider use of open standards in the public sector.

Evolve to Open

The overall CORTISONE capability will be delivered progressively using an ‘Evolve to Open’ approach. Through this approach, CORTISONE will deliver an open Medical Information Services (MedIS) ecosystem, whilst sustaining the existing capability provided by DMICP. We will build open interfaces to existing capabilities which will allow for the integration of new components into the ecosystem.

There will be a gradual transition of services away from DMICP and onto new CORTISONE-delivered services. This minimises the transitional risk, as each release decreases uncertainties for the next release. This also maximises opportunities to deliver benefits to users as early as possible, through progressive delivery of capability.

The ecosystem is built around the integration platform, which enables dual running of existing and new systems and brings together tools and information in the clinical portal for a seamless end user experience.

The CORTISONE capability will be characterised by the establishment of a regime of continuous improvement known as ‘evergreening’. Regular development and delivery of information capabilities will become business as usual.

CORTISONE will deliver a MedIS architecture that enables DMS to keep pace with rapidly changing technology and policies. This will enable the procurement of MedIS via shorter, more flexible and configurable contracts which can ‘plug and play’ services into the architecture without disrupting other services.

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Services not Software

CORTISONE is not just about delivering new software. Technology is no use if users don't know how to use it or what to do if they have problems or questions.

Delivering effective information services needs training, embedded easy access support (not reams of manuals) and a clear service support wrapper. Also, services need to come with a plan for how they can be developed and replaced at the end of the contract.

The CORTISONE programme will deliver value-adding information services, combining COTS software, underlying infrastructure platforms, security, operational services and on-going maintenance and change, all packaged and delivered within business driven Service Level Agreements (SLAs) and Through Life Management Plans.

Available in all DMS Environments

The Defence Medical Services deliver healthcare in a wide, diverse range of environments all over the world. The healthcare information services delivered by Programme CORTISONE need to be integrated, cohesive and scalable to provide the right information services and tools for all end users, from an individual deployed medic to a GP in a large practice in the UK.

Appropriate healthcare information services must be available in all environments where the DMS is delivering healthcare, from the UK, through fixed bases around the world, to all types of deployments.

These services should be scalable and capable of functioning offline with subsequent synchronisation, to meet the variable capability requirements at different locations.

They should also be integrated and cohesive to avoid duplication of effort and wastage of valuable clinical time. There should be a single source of the truth for each information item.

CORTISONE is working with all types of users to identify requirements and match them to solutions.

Having the right information tools means DMS personnel can easily access the information needed to support safe, effective healthcare in the particular environment they are working in without wading through irrelevant information.

CORTISONE
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Integration Platform (IP)

The Integration Platform (IP) is the heart of the ecosystem. CORTISONE is focused on joining up information and the IP enables this by connecting and translating messages passing to and from the various systems including DMICP. It also enables better connections with UK-wide NHS systems and services.

The Integration Platform will control all information exchange activities within the MedIS ecosystem; between the ecosystem and other MOD services; and across the Defence/NHS boundary. It will provide secure interoperability capabilities based on open standards. It will also permit MedIS business rules to be maintained centrally, and allow services using different code sets e.g. SNOMED CT, READ, local codes, to coexist in a clinically safe way.

Information exchange across the NHS boundary will be supported by a flexible architecture, taking both Defence accreditation requirements and CORTISONE's agreed availability metrics into account. The IP will also be a key enabler for the integration of valuable patient data from a range of currently disconnected sources including medical devices and services delivered by other projects.

Examples of these data sources include: medical devices e.g. ultrasound scanners or hearing test devices; telehealth services e.g. video consultation or remote vital signs devices; and patient wearable devices.

The IP will be an important enabler to safe, confidential, and consistent management of patient information across DMS and NHS organisations. It will deliver loose coupling between the COTS products and services, enabling the ecosystem to be evergreen and responsive to change.

It also enables translation between various code sets as the information flows around the CORTISONE ecosystem, allowing systems that use different codes for the same activities to interoperate and exchange data automatically.

Enterprise Master Patient Index (EMPI)

The Enterprise Master Patient Index will provide the master source for demographics (patient identifiers, names, addresses, etc.) for Defence Medical Services. It will provide the advanced patient matching (across the CORTISONE ecosystem, UK NHS organisations and other MOD services) required to support safe information exchange.

Centrally configured business rules will ensure consistency of handling, for example creating civilianised addresses required for information exchange with UK NHS organisations. Over time, the EMPI will also improve the accuracy of the demographic data held and used within Defence, which will improve the accuracy of healthcare records and improve reporting.

The EMPI enables records for the same patient to be identified in all the different systems in the ecosystem and information to be safely exchanged. This means information recorded by one healthcare professional can be safely shared (subject to permissions) to multiple different types of users increasing efficiency. Information can be recorded once but used many times. This reduces duplication of effort, improves patient safety and frees up clinical time for direct patient care.

CORTISONE
Connecting Healthcare

Clinical Portal

The CORTISONE Clinical Portal is the Gateway to the CORTISONE Medical Information Services (MedIS) ecosystem, providing users with role-specific access to clinical applications relevant to them, including their primary clinical application and a range of clinical and administrative tools and utilities to support them.

The Clinical Portal is the user gateway to the ecosystem. It will be configured to look different depending on the role and permissions of the person logging in. It provides a unified view of the healthcare record and will include amongst other things, the ability to embed and launch clinical applications.

The CORTISONE Clinical Portal will be available to all authorised users and on all appropriate MODNET User Access Devices.

Nobody wants to be signing in and out of multiple systems to record all the important information gathered during a consultation. The CORTISONE Single Sign On capability will be a key benefit for all end users, providing a single and consistent approach to access all CORTISONE services.

The core MOD Identity and Access Management service will be utilised and extended to provide the control required for access to sensitive patient medical records.

A centralised user management function will be provided to enable administrators to see the full extent of a user's rights across the whole ecosystem, allowing the appropriate authorisation to be granted based on their role(s).

CORTISONE
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Integrated Electronic Healthcare Record (iEHR)

The CORTISONE integrated Electronic Health Record (iEHR) is one of the clinical applications available on the Clinical Portal and provides users with access to a number of configurable 'views' of the patient data.

The CORTISONE iEHR will pull data from across the ecosystem including DMICP, the new Primary Medical Care service and new services as they are introduced e.g. Occupational Health, Dental, Rehabilitation, Mental Health etc.

The CORTISONE iEHR presents views of the patient data using filters and aggregations in a variety of textual and graphical formats (e.g. a timeline of a patients contacts with healthcare services, all medication and referrals).

CORTISONE
Connecting Healthcare

Clinical Decision Support

Software doesn’t make clinical decisions, clinicians do. However, by making the right information available and easily accessible, healthcare information services can support clinicians by making decision making more evidence-based and efficient.

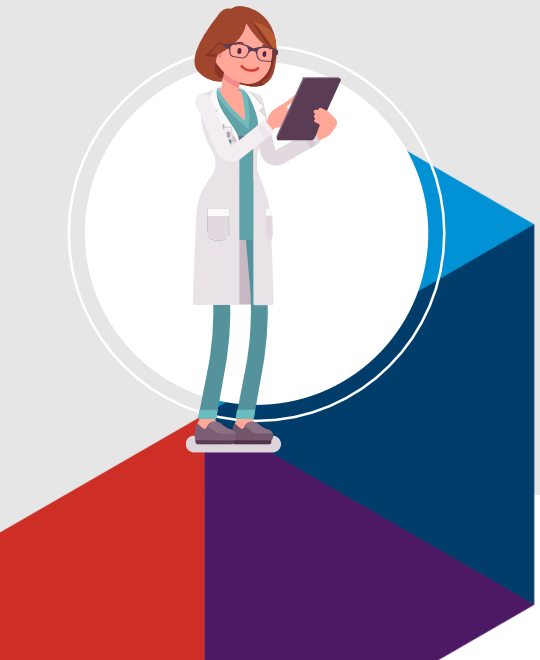
Clinical decision support tools can be active, passive or both and may be very broad ranging or have a narrow focus. They may perform important clinical safety checks e.g. checking for allergies or contra-indications when prescribing) or may provide additional advice and guidance e.g. providing encyclopaedic information about intervention and management options for medical conditions.

CORTISONE services will include built-in decision support functionality to support DMS clinicians in a broad range of clinical scenarios.

CORTISONE
Connecting Healthcare

Primary Medical Care (PMC) Information Services

The DMS provides an occupationally focused primary healthcare service. The PMC information services will provide a wide range of functionality including the ability to record consultations, create prescriptions and manage medications, order tests including laboratory and radiology and create referrals both internally within the DMS and out into UK NHS organisations.



The PMC service will maximise the capability provided by a Commercial Off the Shelf (COTS) product by configuring the service to meet the specific needs of the DMS.

Additional services, such as e-forms and workflow tools, will be integrated with the core PMC service to ensure DMS specific data such as occupational health information, JMES codes etc. can be efficiently captured and shared as required.

Using a modern PMC COTS product has the benefit of built-in functionality to improve information exchange with nationally provided systems and services.

The various elements that combine to create the PMC information services will be integrated to give a seamless end user experience.

CORTISONE
Connecting Healthcare

Medicines Management

The Medicines Management capability provides a range of tools to ensure that patients are always receiving the most clinically effective medication.

The medicines management services will ensure that information relating to conditions, indications, side-effects, adverse drug reactions, allergies and drug-to-drug interactions is available to prescribing clinicians. This can contribute to improved safety, quality of care and efficiency.

The services will also provide an audit trail of the prescribing and medicines administration process.

In primary care settings, this capability will be provided by the PMC information services solution, but other solutions will need to be integrated into the CORTISONE ecosystem to meet the full range of medicines management capability requirements.

Practice Management

The CORTISONE ecosystem will include a range of practice management tools and services to reduce the time and effort required to complete administrative tasks.

CORTISONE is committed to automating the creation of information wherever possible, so that everyone can access reliable, accurate information to inform delivery of the best possible healthcare, without having to run multiple searches and reports every time practice management information is required.

Efficient and effective patient management and communications will be enabled by digital services to improve document management, workflow, appointment management and recalls.

The practice management function will provide tools to allow for the efficient running of healthcare facilities and the most appropriate use of resources.

- Data analysis of patient information will be easily manipulated to provide timely and accurate reports.
- Exploitation of clinical data will inform the provision of clinics and resources required to run them.
- Straight forward, logical and user friendly templates and forms will ensure the correct, uniform capture of patient information.
- Interaction with patients will be streamlined and offer options other than standard phone calls.
- Interaction with NHS and private healthcare providers will allow for better assurance of the patient journey and experience post referral.

CORTISONE
Connecting Healthcare

Dental Healthcare Information Services

CORTISONE will deliver a Dental Healthcare Information Management service fully integrated into the CORTISONE ecosystem.

The dental information service will provide a wide range of functionality including the ability to record consultations, charts, treatment plans, periodontal charts, NATO Dental Fitness Categories, Treatment Need and dental recall dates.

The service will also include integrated digital dental imaging (DDI) and dental laboratory management functionality.

Dental users will see information that relates to the delivery of dental healthcare, drawn from the whole ecosystem e.g. medication alerts, regardless of who added it.

Critical data recorded by dental users can flow into the whole ecosystem enabling improved information sharing and enhanced patient care.

CORTISONE is committed to automating the creation of information wherever possible so that everyone can access reliable, accurate information to inform delivery of the best possible healthcare, without having to run multiple searches and reports every time practice management information is required.

Efficient and effective patient management and communications will be enabled by digital services to improve document management, work flow, appointment management and recalls.

CORTISONE
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Occupational Healthcare Information Services

The DMS is dedicated to promoting, protecting and restoring health through the delivery of an occupationally oriented healthcare service, that delivers safe and effective patient-centred care, through seamless healthcare pathways leading to positive patient outcomes.

All the DMS clinical services (Primary Medical Care, Dental, Rehabilitation, Mental Health, Pharmacy and specialist services) support this prime directive of ensuring that personnel are fit for task. These occupational health services are delivered across a wide range of facilities including the primary healthcare facilities, regional centres, and specialist centres.

DMS is an occupational-health-focused healthcare delivery organisation and most patient encounters involve an assessment of whether there has been an impact on the individual's ability to do their job. This can range from a simple 'sick chit' to more complicated down grading processes.

The ability to manage occupational health (OH) information will be built into each individual component of the ecosystem and for more complex occupational medicine activities, specialist OH MedIS tools will be integrated into the ecosystem to ensure all capability requirements are met.

Efficient and effective patient management and communications will be enabled by digital services to improve document management, work flow, appointment management and recalls.

The integration platform will enable OH information that relates to HR activities to be automatically shared (subject to appropriate rules), to reduce the administrative burden on staff.

CORTISONE
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Mental Healthcare Information Services

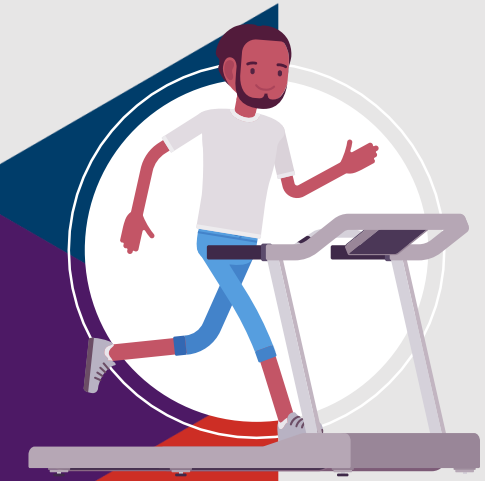
Military mental healthcare includes clinical, educational and command liaison services, the latter supporting the wide range of command activities to maintain mental wellbeing.

Community mental healthcare to service and entitled personnel is provided through a network of permanent locations.

In addition to the Primary Medical Care information services, specialist tools will be integrated into the ecosystem to meet the information management capabilities required to support the delivery of safe, effective mental healthcare.

Rehabilitation Information Services

Rehabilitation services are provided through a tiered network of Primary Care Rehabilitation Facilities (PCRF), Regional Rehabilitation Units and the Defence Medical Rehabilitation Centre (DMRC).



Delivery of rehabilitation across Defence has a wide range of complex information management requirements to ensure that the right information is available to the right people to ensure delivery of safe, effective rehabilitation activities.

In addition to the Primary Medical Care information services, specialist tools will be integrated into the ecosystem to meet the information management capabilities required to support the delivery of rehabilitation.

The Integration Platform will enable current and future rehabilitation information tools and services to be connected and it will also integrate vital patient data from a range of currently disconnected sources such as medical devices and standalone apps.

The Integration Platform will improve information sharing with NHS organisations throughout the UK to enable more efficient referral management and care pathway tracking.

Radiology and Imaging

Radiology management services will enable images and reports to be available to clinicians to inform evidence–based diagnoses and safe clinical decision making. This will ensure prompt delivery of appropriate care and minimise risk of patient treatment delays.

Over time, modalities, the Picture Archive and Communication System (PACS), the Radiology Information System (RIS) and the Image Exchange Portal (IEP) will all be integrated into the CORTISONE ecosystem.

In later delivery phases CORTISONE will also provide a Vendor Neutral Archive (VNA) in which the PACS can store its images once no longer under active study. This will be accompanied by a Zero Footprint Viewer, which will provide a high level of medical image display functionality from within the Clinical Portal.

CORTISONE
Connecting Healthcare

Laboratory Information Management

Laboratory information management services will be integrated into the CORTISONE ecosystem.

The Integration Platform will improve information exchange with NHS labs in the UK, including the management of requests and results, to speed up delivery of the right care to patients.

Deployed laboratory information management systems which cover tasks such as requests, reports, workflow, communications and blood stock management will be integrated with the CORTISONE ecosystem.

Deployed Information Services

Medical Information Services (MedIS) must be available in all environments where the DMS is delivering healthcare - from the firm base, through fixed bases around the world, to all types of deployments.

MedIS should be scalable and capable of functioning offline with subsequent synchronisation, to meet the variable capability requirements at different locations.

Services should also be integrated and cohesive to avoid duplication of effort and wasting valuable clinical time. There should be a single source of the truth for each information item.

The CORTISONE ecosystem will enable healthcare information captured in all types of deployed environments from primary care to deployed hospitals, in current and future systems, to be integrated.

The CORTISONE ecosystem will connect current and future systems which record and communicate healthcare information during Medical Evacuation (MEDEVAC) e.g. patient tracking, clinical records, triage, first responder information and clinical decision support.

Referrals/Care Pathways

The CORTISONE ecosystem will support the management of both internal and external referrals i.e. to specialist providers within the DMS, NHS or other healthcare delivery organisations.

Care pathways are the route or path a patient will take if they are referred for treatment by their GP (or other health professional). From first contact with the GP, through referral, to the completion of their treatment; including any time the patient is in a hospital or other specialist treatment centre.

The pathway gives an outline of what is likely to happen on the patient's journey and can be used both for patient information and for planning services.

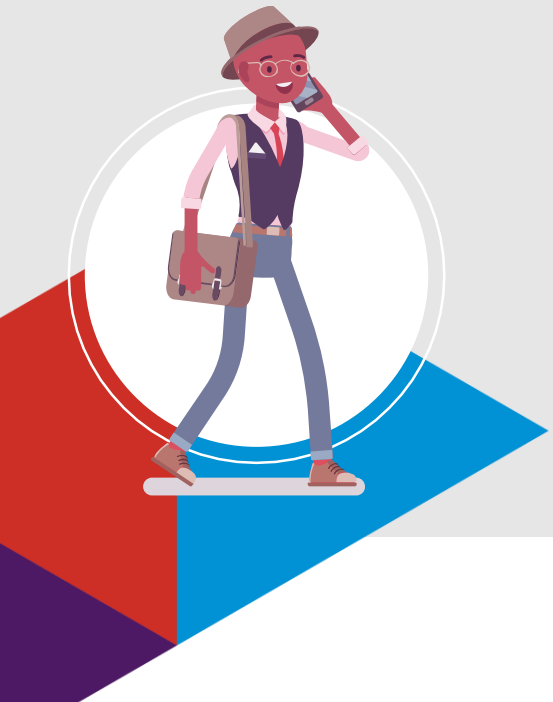
Digital tools will be included in the development of the CORTISONE ecosystem to improve care pathway management, to optimise patient experience and generate better patient outcomes.

Patient Facing Services

The CORTISONE ecosystem will enable the development of a wide range of patient facing services including patient access, transactional and communication services.

Patients will be able to use digital services to complete activities such as booking appointments, managing prescriptions, recording symptoms/progress against treatment plans, accessing information sources and completing forms e.g. medical history questionnaires, consent forms.

Services such as SMS reminders and remote consultation tools can help to reduce the number of missed appointments and optimise the use of available healthcare delivery resources.



Telemedicine

Telemedicine, which literally means ‘healing at a distance’, signifies the use of information and communication technologies to improve patient outcomes by increasing access to care and medical information.

Over the last few years there has been an explosion of products, devices and applications to enable the delivery of telemedicine. There are significant opportunities for the DMS to make use of technology to improve patient access to healthcare services and optimise DMS resources.

The flexible, evergreen nature of the CORTISONE ecosystem means that it is designed to integrate the ever-changing set of telemedicine tools and medical devices that the DMS currently uses and will want to use in the future.

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