



Service Definition - Deontics G-Cloud 15

Deontics Intelligent Healthcare is a Clinical Decision Support System (CDSS) provided as Software as a Service (SaaS). The platform uses Knowledge Representation – a branch of artificial intelligence (AI) that is deterministic, accountable, safe, adheres to regulations and fit for the medical sector. This approach is suitable for processing data based on evidence, and representing evidence-based medicine. It achieves transparent, accountable, and shared decision-making. Deontics CDSS analyses individual patient data and the relevant clinical guidelines to suggest personalised, evidence-based management plans and to drive clinical workflows.

It promotes up-to-date, evidence-based practice, reduces unwarranted variation in care, and streamlines clinical workflows to make healthcare safer, more efficient, consistent, and patient-centered.

Safe, Regulated, and Integrated: Deontics CDSS is a result of more than 20 years of research around safety of medical decisions and its safety and performance has been validated in a number of clinical trials. There are more than 300 peer reviewed publications supporting it. It is a regulated system, with MHRA Medical Device certification and approved for operations via HSCN and in IM1 primary care interface and complies with the NHS DSP toolkit . Deontics supports industry standards for interoperability (HL7, FHIR, SNOMED, ICDs, etc). It includes an integration engine with existing integrations (Emis, SystmOne, Somerset Cancer Register and more), integrations near production (EPIC) and a few underway. While designed for seamless EMR integration, our solutions can also function standalone, serving as an effective interim solution for NHS Trusts transitioning to new EMR systems.

Backed by science & evidence: Deontics was founded by clinicians, cognitive scientists and engineers who set out to understand the complexity of clinical medicine and to model a system to capture knowledge and clinical workflows. The technology originated from foundational AI research developed at Oxford University. The team has spent over a decade advancing Deontics' technologies, resulting in a highly capable intelligent healthcare system, backed by over 300 peer-reviewed publications.

Domain and Clinical Setting Agnostic: The Deontics CDS platform is modular and configurable. It can be utilised across any clinical domain simply by incorporating the relevant clinical knowledge-base (clinical guidelines). The platform is configured to suit different clinical settings, such as primary and secondary care.

Single CDS platform with two configurations

Deontics Intelligent Healthcare technology is a single regulated CDSS software platform that can be configured to suit the requirements of different clinical settings. Currently there are two different configurations available for NHS customers.

Pathways IQ: Deontics CDSS configured for secondary care (Acute Trusts)

Pathways IQ is a clinical decision support and workflow (pathway) management tool for streamlining cancer and other chronic decision management pathways. The technology has been evaluated in two clinical trials of streamlining cancer MDT meetings at major NHS Trusts, and is shown to have multiple clinical, operational and financial benefits.

Clinic IQ: Deontics CDSS configured for primary care (GP surgeries)

Clinic IQ is an intelligent tool that is used in GP Surgeries to provide treatment management for chronic diseases. Clinic IQ works in the background while GPs are using their EMR system. It automatically pulls all patient information including lab results, medications, clinical data, uses it to search and evaluate multiple NICE Guidelines, and produces comprehensive patient specific recommendations for clinicians to review and enact. The tool is effortless, non-intrusive, and no additional forms or data input are needed.

Features of Deontics Intelligent Healthcare platform

Clinical:

- Triaging cases for pathway streamlining
- Risk stratification & risk based prioritisation
- Clinical decision support
- Identifying eligible patients for clinical trial accrual
- Population analytics for GP surgery populations
- Supporting shared decision-making
- Automated audit functionality
- Training tool for junior clinical staff

Technical:

- Secure API for integration with multiple clinical systems
- Data extraction & normalisation layer for unstructured information
- Role-based access control with multi-factor authentication
- UK-hosted cloud infrastructure for processing patient data

Key benefits

- Improved patient outcomes
- Reduction in unjustified variation in care
- Relieving pressure on clinical staff
- Left shift - reactive to proactive care
- Left shift - early intervention such as prevention, early diagnosis and early treatment

- Left shift - management away from secondary care into primary care
- Reduction in preventable hospital admission (PHA)
- Direct and indirect cost savings
- Evidence-compliant decisions
- Compliant and defensible healthcare
- Better quality data
- Improved clinician satisfaction through less cognitive load and decision & workflow support
- Improved patient satisfaction through informed and shared decision-making
- Improved clinical trial accrual

Evidence from clinical trials & pilots

- Reduced case load of cancer MDT meetings between 34 to 78 %
- Cost savings between £38 to £100 per case discussed in MDT meetings (based on NHS tariff of £139 per case)
- 66% improvement in clinical trial accrual rate
- 97-100% evidence-compliant care
- User acceptance

IMPLEMENTATION, CUSTOMISATION & ONBOARDING SUPPORT

Deontics offers an “off the shelf” service from the existing library of pathways and clinical logic with a fully interactive, cognitive enhancing User Interface and a set of APIs for interoperability. However, the system can be customised to accommodate specific customer needs. The technology is modular and deals with customisations as configuration and extensions as add-ons avoiding bespoke solutions that are difficult to maintain.

The first step is to make the default system available to the user and start a discussion around clinical, technical and user experience collecting feedback and helping configure the system optimally for the needs of the customer. The process varies in scope and duration based on contractual requirements.

Once this discovery phase is completed and all requirements and tests are satisfied, Deontics will make the service available for production. At this stage we offer training (user training and technical staff training, depending on the contractual requirements) and a period during which operation will be carefully monitored. If all works as expected, the after sales and maintenance phase is entered which is covered by an agreed SLA.

OFFBOARDING SUPPORT

On termination or expiry of the contract, the customer retains full ownership of all clinical and operational data processed by Deontics.

Data will be made available to the customer in a commonly used, machine-readable format within an agreed timeframe, in line with NHS standards and contractual requirements. Secure transfer mechanisms will be used, and data will be protected in accordance with UK

GDPR, the NHS Data Security and Protection Toolkit, and applicable information governance policies.

Deontics will provide reasonable assistance during transition to support continuity of service and minimise disruption to clinical operations.

AFTER SALES SUPPORT

Post implementation, Deontics offers support and a set of professional services for the duration of the contract.

In terms of support, Deontics typically offers 2nd and 3rd tier support with the option of 1st tier (service desk) to be added, if the customer does not have their own. Typically, Deontics will train the customer's service desk as part of the onboarding process to deal with first level support requests. Most customers prefer this so that their users have a single point of contact. If the customer does not have such an option, Deontics can set this up at an additional cost. Level 2 and 3 support is offered as standard. Details of the SLA can be fine tuned to fit the customer needs.

Deontics can also offer a set of professional services to assist the customer in system use. Typically this includes the customisation of clinical knowledge or the development of bespoke add-ons (note: this is optional and is not the core-service). All are subject to contractual agreement.

SUPPORT RESPONSE TIMES

The service desk operates during normal business hours (9-5 on weekdays, excluding bank holidays).

Our baseline SLA sets out target response times for different categories of incident as follows:

- Critical issues: response within 1 working hour, target for resolution or communication of an expected timescale: 3 hours.
- High priority issues: response within 3 hours, resolution or expected timescale within one working day.
- Low priority issues and normal support requests: response with expected timescale within 2 working days.

At weekends and outside business hours, requests can be logged and are reviewed on the next working day. The exact SLA can be varied to suit individual customers and will be defined in the contract.

TECHNICAL REQUIREMENTS

The system is accessible via Web Interfaces and optionally via secure API. The only technical requirement is a modern web browser. Any recent version of the following will work:

- Google Chrome

- Mozilla Firefox
- Apple Safari
- Microsoft Edge

HOSTING OPTIONS AND LOCATIONS

The system is hosted in datacentres located within the United Kingdom and accessed via the HSCN.

OUTAGE AND MAINTENANCE MANAGEMENT

The cloud-hosted, HSCN-connected system is designed for high availability and resilience. Planned maintenance is scheduled outside of core clinical hours wherever possible and communicated in advance to users. The Deontics platform meets NHS Data Security and Protection Toolkit requirements for system availability, resilience, and continuity.

Unplanned outages are managed through established incident management processes, with automated monitoring, rapid investigation, and regular status updates until service restoration.

RESILIENCE

Deontics provides full Disaster Recovery/Business Continuity support for our clinical software. The service is hosted on UK-based cloud infrastructure that provides resilient power, networking, and physical security. Application components are deployed in a fault-tolerant configuration using load balancing and automatic provisioning of server instances. This allows the service to continue operating in the event of individual component failures. All infrastructure, configuration and data associated with a customer account is fully, regularly and securely backed up to allow full and rapid recovery of the service in case of disaster.

SECURITY

Data is held within UK-located data centres and is securely encrypted both in transit and at rest. Data is backed up for resilience and all backups are similarly encrypted.

Deontics operates according to best practices for data security. Access to systems follows the principle of least privilege, with unique user accounts, multi-factor authentication, and regular access reviews. Security monitoring, vulnerability checking and penetration testing are carried out routinely. Compliance with policies is supported through staff training, periodic reviews, external audits (including Cyber Essentials Plus), and annual completion of the NHS Data Security and Protection Toolkit.

Deontics complies with the following standards and guidance:

NHS Data Security & Protection Toolkit
UK General Data Protection Regulation (GDPR)
Cyber Essentials Plus

UKCA | CE Mark
DCB0129:2018 - Clinical Risk Management