



G-Cloud 14: Cloud Software

Service Definition Document

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Executive Summary



Metadvice-AI combines the power of AI with advancements in medical science. This enables clinicians to manage patients better and faster, ensuring improved clinical outcomes.

The tool works by bringing together clinical guidelines and training our neural networks on real world data. This ensures clinical workflow and clinical decision-making are optimised from the population to the individual patient.

Who benefits, and how?

Clinicians: More efficient and effective risk assessment, diagnosis, and treatment recommendations which adhere to latest clinical guidelines. Less time spent scrolling through records and guidelines, freeing up appointment capacity and time to engage face-to-face with each patient, enrolling them in their care.

Patients: Greater confidence in care quality, better access to clinicians and better understanding of options and rationale. Overall, patients live healthier for longer.

Health system partners: Better prevention and management of long-term, complex conditions, more effective use of the workforce, direct targeting of health inequalities, enabling long-term financial savings. Greater confidence in care quality and better understanding of treatment options and rationale.

Commissioners: More efficient and effective diagnosis, risk assessment and treatment options, saving time, preventing patients from deteriorating, improving quality of care .

Metadvice-AI is deployed in the NHS to improve utilisation of resources, reduce cost of care, and improve health outcomes.

Solution Overview

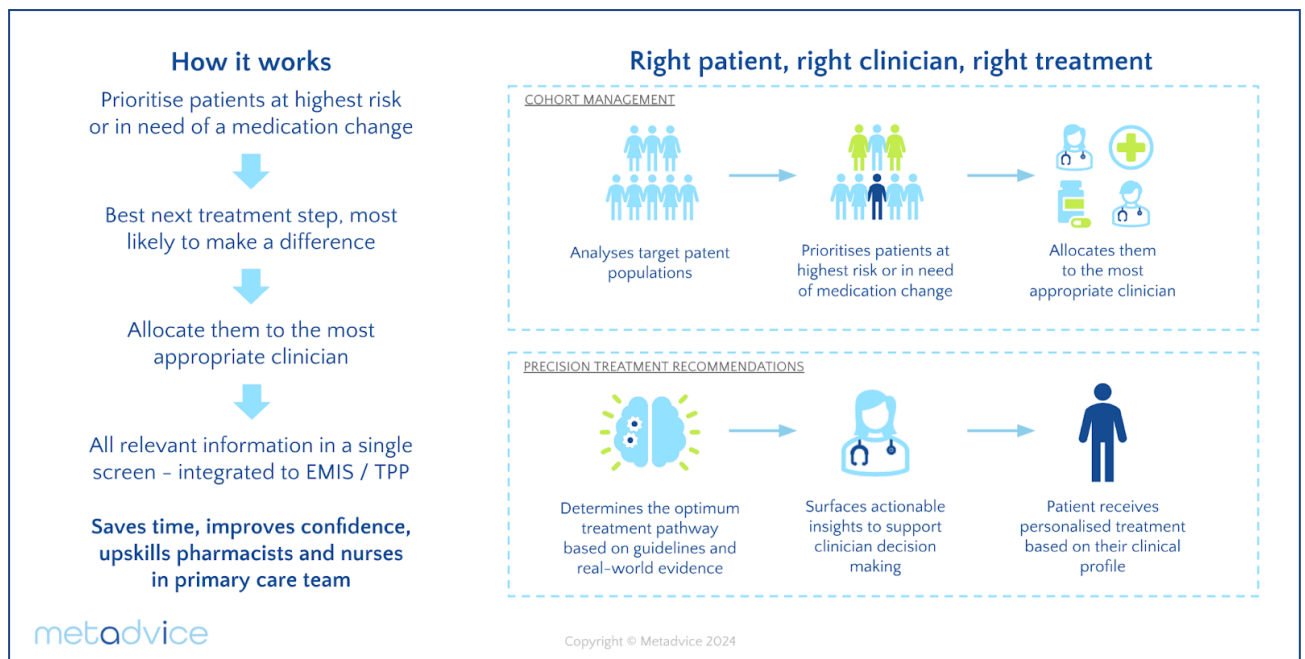
At Metadvice, we develop and implement AI-based Precision medicine solutions that ensure those patients with greatest risk-factors are prioritised and all patients are managed optimally

Our solutions are evidence-based, adaptable and designed to support the needs of healthcare practitioners in delivering the best care.

We enable:

- Easy identification of patients most at risk
- Individualised treatments to treat patients to target and improve outcomes
- Reduced cost and pressure on healthcare systems

The Metadvice platform enhances clinical practice by fostering earlier interventions and more efficient management of chronic diseases. It streamlines the healthcare workflow and formulates treatments to meet individual needs, crucial for improving patient outcomes.



Cohort Management

In the management of long term conditions, there is huge unwarranted variation in care, and this is driving significant health inequalities

By stratifying patient groups, Metadvice ensures the efficient allocation of resources. This strategic approach not only delivers timely and precise healthcare but also increases the capacity for early interventions, essential in chronic disease management.

Users can focus on target populations, such as aligning with Core20PLUS5 priorities, to reduce health inequalities.

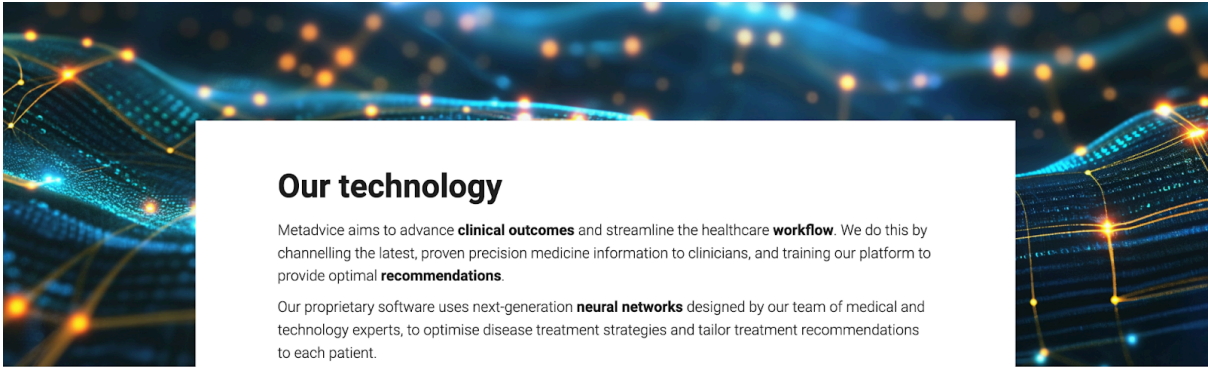
Precision Treatment Recommendations

The platform provides personalised, real-time treatment guidance. This method has been shown to yield better health outcomes and can be adapted for various diseases and patient populations worldwide.

We also simplify the management of multimorbidity, allowing for earlier and more accurate treatment of overlapping, long term conditions.

By synthesising data across multiple disease areas, the platform's neural networks guide clinicians with the necessary insights to establish the best treatment protocols with confidence.

Here, we are able to relieve the burden on the NHS, and we also apply this technology to other healthcare systems across the globe.



Our technology

Metadvice aims to advance **clinical outcomes** and streamline the healthcare **workflow**. We do this by channelling the latest, proven precision medicine information to clinicians, and training our platform to provide optimal **recommendations**.

Our proprietary software uses next-generation **neural networks** designed by our team of medical and technology experts, to optimise disease treatment strategies and tailor treatment recommendations to each patient.

The neural networks interpret complex clinical decisions with **precision**, using 'digital twin' modelling techniques applied to retrospective patient data. Our algorithms analyse existing patient and health system data at scale and speed: by extracting and interpreting lab results and medical records, **optimal** treatment options and supporting evidence can be given.

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Features and Benefits at a glance

<u>Metadvice Features</u>	<u>Benefits in the NHS</u>
Neural Network learns guidelines and evidence for chronic conditions	Identifies gaps in care, prioritises interventions, and personalises treatment recommendations
Training AI to understand complex comorbidities and continually increase precision	Creates operating efficiencies, releases GP time and practice capacity
Applies to patient data to determine optimal treatment plan	Reduces time taken to optimise treatment plan for each individual
Prioritises patients who will benefit the most from medication change	Enables clinically significant improvement in population health
Segment and allocate to the most appropriate clinician	Reduces unwarranted variation and improves access to consistent, high quality care
Clinical decision support with guidance, and personalised statistical evidence	Recognise the nuance in evidence, and reduces bias in treatment
Direct integration with EMIS and TPP SystemOne	Clinical decision support provides clinical guidance, and personalised statistical evidence
All relevant data, information and evidence in a single screen	Increases confidence, knowledge and adherence to NICE guidelines, especially useful for Pharmacists and ANPs
Quick and easy implementation and training	

Metadvice is aligned with Core20PLUS5 to reduce health inequalities.

Supports the NHS Long Term Plan for primary and secondary prevention of long term conditions in Primary Care.

Case studies demonstrate increased clinical capacity, and improved patient outcomes.

Social Value

Metadvice creates social and economic value through the transformation we enable into the way in which healthcare is planned and organised, and the improvement in patients outcomes delivered.

Tackling Economic Inequality:

By reducing inequalities in treatment and outcomes for vulnerable populations, such as the Core20PLUS5 priorities, our technology ensures that all individuals receive the same level of quality care, regardless of socio-economic background or geographic location.

By focusing on primary and secondary prevention of cardiovascular disease (CVD) events, our technology not only improves health outcomes but also generates significant health economic benefits by reducing the burden of costly treatments and hospitalizations associated with CVD complications.

Through population health management strategies implemented by our software, we address underlying social determinants of health and work towards closing the gap in health disparities, ultimately fostering greater equity and inclusivity within healthcare systems.

Covid 19 Recovery:

Our technology plays a role in COVID-19 recovery efforts by optimising resource allocation within healthcare systems, thereby increasing efficiency and mitigating the strain on overstretched services caused by the pandemic.

Through the implementation of preventative healthcare measures facilitated by our platform, we contribute to reducing future demand on healthcare services, alleviating waitlists, and addressing backlogs resulting from the impact of COVID-19 on healthcare delivery.

By empowering clinicians with personalised medicine insights and AI-driven recommendations, we enable proactive management of patients' health, which may reduce the likelihood of COVID-19-related complications and ensure that healthcare resources are used effectively to support both future pandemic response efforts and ongoing patient care needs.

Health and Wellbeing:

Our platform enhances overall wellbeing by freeing up GP capacity and increasing practice efficiency, allowing healthcare professionals to devote more time to patient care and education on preventive measures for maintaining optimal health.

Our platform supports the diversification and upskilling of the wider primary care workforce, including nurses, pharmacists, and healthcare assistants, empowering them

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with the knowledge and confidence to effectively manage treatment plans for patients with long-term conditions. This not only reduces pressure on GPs but also ensures comprehensive and coordinated care delivery, enhancing the overall wellbeing of patients and promoting better health outcomes.

Through shared decision-making facilitated by our software, patients, including disadvantaged individuals, are empowered to actively participate in their healthcare journey, leading to improved treatment adherence, better health outcomes, and enhanced overall wellbeing.

Security and Data Protection

Metadvice has the appropriate information security controls in place as supported by the applicable policies and procedures.

- Metadvice has active UK Government issued Cyber Essentials and Cyber Essentials Plus Certifications.
- Metadvice uses an ISO27001-accredited infrastructure platform to host the Metadvice -AP platform and the associated data. Amazon Web Services (AWS).
- Metadvice has successfully completed the NHS Data Security and Protection Toolkit self-assessment to demonstrate it is practising good data security and that personal information is handled correctly.
- Metadvice has a current UK NHS Digital Technology Assessment Criteria (DTAC) document which is regularly updated
- Metadvice has policies and process in place to ensure compliance with EU and UK GDPR and is registered with UK Information Commissioner's Office (ICO)

Integrations

Metadvice -AI has been approved by NHS England under the IM-1 pathway to integrate with EMIS Web and with TPP SystmOne Electronic Medical Records (EMR) systems for secure transfer of patient data.

Certifications

- Metadvice-AI is a CE marked class 1 medical device.
- Metadvice-AI has been manufactured to conform with EU Medical Devices Directive (MDD) and is self certified under Annex IX as a Class I Medical Devices.
- Metadvice-AI is registered with the UK MHRA.

Our commitment to compliance with these standards underscores our dedication to providing safe, reliable, and secure healthcare solutions.

On-boarding Process

Project Management

Metadvice will provide a named deployment lead who will work with Client's nominated person(s) to develop an agreed schedule of activities during phase 1 of deployment. The schedule will focus on planning of joint activities and ensuring resources are available for planned activities. Metadvice will also provide access to a named senior management representative should issues arise that require escalation.

Client Engagement

It is anticipated that the client will nominate a main point of contact with whom the Metadvice implementation team can coordinate deployment activities with. The point of contact will then provide access to other clinical and technical staff within the client organisation as required. If the client is acting on behalf of multiple client organisations such as an ICB, GP federation or a primary care network (PCN), it is anticipated that the point of contact will also act to coordinate all practices within its network.

Deployment

The onboarding process will be outlined to each client at the start of the relationship. There are 5 main stages to deployment.

1. Demonstration, Information Gathering and Clinical Pathways

Metadvice will explain and demonstrate the tool and the functionality of Metadvice-AI. The incorporation of Metadvice-AI into the clients existing clinical pathways will be discussed along with the specific AI modules (disease areas) to be deployed will be agreed and the expected benefits discussed and documented. The client's EMR system(s) will be reviewed and the required data integrations methods defined. The nominated point of contact will then provide information to allow Metadvice to draw up the relevant Information Governance (IG) and commercial documents and to commence the EMR data integration process. Metadvice will prepare the Internal Governance and contract documents.

2. Information Governance and Document Approvals

The Client will receive the required Information Governance and contractual documents to review and approve. Metadvice will also share its Data Protection Impact Assessment (DPIA) and assist the client as required to develop documents required by the client's internal

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processes. Completion and approval of these documents is a precursor to proceeding to step 3.

3. EMR Data Integration and Testing

If required by the Client's EMR vendor, Metadvice will request access to Client's data. Once access has been granted, the Client will provide access to technical resources to allow installation of the Metadvice-AI application and testing of the data integration. If the EMR integration does not require EMR vendor engagement the Metarvice team will move immediately to install and test.

4. Clinical Engagement and Training

The Metadvice team will engage with the Clients clinical team to provide training in the use of the application and to provide an understanding of the AI features and guidance in interpretation of AI generated recommendations.

Incorporation of Metadvice-AI into the Clients clinical pathways will be reviewed and the expected users, usage levels and benefits confirmed.

At completion of this activity the Metadvice-AI product is fully deployed and available for clinical use.

5. Early Adoption Support

During initial usage (time frame mutually agreed with client) regular meetings will be scheduled between Clients Clinical and Technical representatives and the Metadvice team to address any questions arising from early usage and to ensure the expected benefits are being realised.

The total onboarding process should take between 2 and 6 weeks, depending on the Client's availability and speed of the EMR integration process.

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User Support

Metadvice has standard services to deal with Incidents and Problems.

Incidents

Metadvice follows a standard incident management system that has the following elements:

- Incident Identification: An issue is identified, either by a Client reporting it or through our environment monitoring systems.
- Incident Logging: The issue is documented in our ticketing system, capturing details like user, date, and a description of the problem.
- Incident Classification & Prioritization: The issue is categorised and prioritised based on severity and urgency.
- Investigation & Diagnosis: The Metadvice support team investigates the problem to identify the root cause.
- Resolution & Implementation: The team works on a fix, which could involve troubleshooting, applying updates, or providing workarounds.
- Closure & Verification: Once resolved, the client confirms the fix, and the incident is closed in the ticketing system.

Problems

A problem for Metadvice is defined as the underlying root cause of an incident or a technical issue. The Metadvice support team follows a defined problem identification and resolution process that focuses on structured information gathering, technical investigation and troubleshooting. Clients will be informed when a problem impacts the expected behaviour or availability of the Metadvice-AI application.

Metadvice Support staff are available to be contacted regarding incidents or problems during regular business hours (08:00 to 18:00 Monday to Friday) in the Clients operating country.

Support can be accessed by emailing tpp.support@metadvice.com or emis.support@metadvice.com

Hosting, Availability, Monitoring & Maintenance

Metadvice contracts with Amazon Web Services (AWS) to provide the hosting services for Metadvice-AI. The management of the service provided by AWS and all communication with AWS is managed wholly by Metadvice.

The Metadvice technical team monitors and audits the AWS environment continually to ensure security and availability of the environment.

If a planned period of downtime is required for maintenance during clients working day (08:00 to 18:00 Monday to Friday) Metadvice will endeavour to provide 5 working days notice. In the event of an unplanned downtime Client will be notified as soon as possible with an anticipated time for service resumption.

Ordering and Invoicing

You can use Contract Award Service, accessed through the Public Procurement Gateway (PPG) to buy Metadvice services through the G-Cloud framework

1. Complete the order form (Part A of the G-Cloud call-off contract)
2. Metadvice will contact you directly to confirm project contacts, installation sites, invoicing details and any purchase order requirements

Our invoicing system operates in alignment with the agreed-upon terms and conditions stipulated within the commercial agreement with the Client.

Clients can expect transparent and accurate invoicing practices, ensuring clarity and adherence to contractual obligations. Should there be any questions or discrepancies regarding invoicing processes, clients are encouraged to refer to the agreement for clarification or to reach out to our dedicated support team for prompt assistance.

Customer responsibilities

The Client shall:

- Work with Metadvice in order to successfully deploy Metadvice-AI into their EMR once the agreement is in place
- Inform Metadvice of any changes in Information Governance requirements
- Inform Metadvice of any issues or unexpected behaviour with Metadvice-AI immediately by emailing the correct Support email
- Communicate changes to their contact details or staff

User comments

Early adopters of Metadvice-AI have commented about the benefit of the platform, including the time saved during consultations, the benefit of prioritising patients at highest risk, and favourable feedback about the speed and simplicity of accessing Metadvice directly from the EMR in practice.

“It really helped me make decisions without having to cross reference NICE guidance, and look at multiple pages in EMIS to find the relevant information.”

(Advanced Nurse Practitioner / Metadvice-AI User)

They stated that Metadvice enables the more holistic care of a patient, specifically that the QRISK functions of Metadvice remind them to consider other contributing factors to CVD while doing hypertension reviews. They elaborated that hypertension reviews occur more efficiently after the implementation of Metadvice.

“We’re able to identify particular cohorts at risk in secondary prevention, those that may be suboptimally treated or not treated at all, and prioritise who we’re contacting.

It makes it easier to manage the workload, and means patients can see the right person to help them.”

(PCN Clinical Director / Metadvice-AI User)

They also described the ability to enable a shift in clinical workload from GPs to pharmacists, due to the confidence and knowledge gained by utilising Metadvice-AI.

“The non-prescribing diabetes nurses were particularly happy to be able to see the expected treatment plan going forwards so they could advise patients if there was a likely change.

For that review process the reassurance that a patient is being treated according to guidelines is hugely helpful.”

(GP / Metadvice-AI User)

“Really helped the team, giving confidence that they were looking at the latest NICE guidance, and allowing those professionals to take a wider view – be much more proactive, spend more time with the patient, and understand what’s most important to them.”

(GP Partner / Metadvice-AI User)