IBM Consulting

G-Cloud 15
IBM – Data and Analytics for Health

Service Definition Document

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IBM Data and Analytics Services for Health Service Overview

IBM Data and Analytics Services for Health provides healthcare organisations with an end-to-end capability to transform fragmented, inconsistent or siloed datasets into trusted, AI-ready, high-value data assets. We help organisations build high-quality data foundations, enable rich aggregation and enrichment, deploy modern data lakes, and integrate seamlessly with national services including the Federated Data Platform (FDP), Shared Care Record (SPR/ShCR) and the NHS App.

These capabilities power intelligent care pathways, advanced analytics, safer clinical decision-making, and readiness for future standards such as ICD-11.

Features

- Data Quality Management
  - Continuous profiling, cleansing and monitoring of clinical, operational and diagnostic data.
  - Automated rules for completeness, accuracy, consistency and timeliness.
    - *Example:* Detecting missing diagnosis fields that impact waiting list metrics and care pathway analytics.
- Data Aggregation, Cleansing & Enrichment
  - Aggregation from acute, community, mental health, social care and national datasets.
  - Normalisation across HL7, FHIR, SNOMED CT, ICD-10, ICD-11, OPCS and local codes.
  - Enrichment using terminology services, reference data and contextual patient information.
    - *Example:* Enhancing datasets with comorbidity scores to support risk stratification.
- Data Lakes & Lakehouse Architectures
  - Design and implementation of scalable lakehouse platforms across cloud, hybrid or on-prem environments.
  - Ingestion of structured, semi-structured and unstructured data (notes, letters, imaging metadata).
    - *Example:* A Trust-wide lakehouse supporting unified analytics for urgent and emergency care.

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- Integration with Federated Data Platform (FDP)
  - FDP-aligned data models, pipelines and governance.
  - Secure bi-directional data sharing to support ICS-level planning and insight.
    - *Example:* Feeding validated Trust datasets into FDP to optimise regional demand and capacity management.
- Integration with Shared Care Records (SPR / ShCR)
  - Bi-directional integration enabling richer longitudinal patient records.
  - Multi-provider data exchange across ICS partners.
    - *Example:* Supporting coordinated discharge planning using complete patient histories.
- Integration with NHS App
  - Data services enabling personalised patient views and pathway navigation.
  - Secure flows for appointments, results, messages and self-management content.
    - *Example:* Publishing validated pathway milestones directly to the patient through the NHS App.
- Support for Transition to ICD-11
  - ICD-10 → ICD-11 readiness assessments, mapping and data transformation.
  - Updates to analytics models, reporting logic and operational workflows.
    - *Example:* Automated mapping pipelines preserving continuity of reporting and reimbursement.
- Advanced Analytics & Intelligent Care Pathways (Enhanced)
  - **PHM Analytics & Visualisation:** Stratification, segmentation and outcomes dashboards spanning prevention, long-term condition management, urgent & emergency care, elective and community services; tailored views for Trusts and ICSs to identify at-risk cohorts and measure intervention impact.
    - *Example:* System-wide PHM dashboards that track inequalities, backlog cohorts and proactive outreach effectiveness.
  - **Pathway Intelligence & Decision Support:** Risk scoring (deterioration, readmission), demand/capacity forecasting, and next-best-action recommendations surfaced directly in EPR/clinical systems and the NHS App.
    - *Example:* AI-supported urgent care pathways dynamically adjust routing based on real-time capacity and longitudinal records.

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  - **Operational Analytics:** Theatre utilisation, RTT, diagnostics turnaround, LOS, flow and bottleneck analysis using near-real-time feeds from lakehouse platforms; KPI drill-downs with lineage to source systems.
  - **Process Mining & Journey Analytics:** Automatic reconstruction and visualisation of end-to-end processes from digital footprints (EPR, PAS, LIMS, RIS/PACS, workforce and ticketing). Used to quantify cycle times, rework, handoffs and variation; identifies friction points and prioritises interventions.
    - *Example:* Applying process mining to discharge workflows to reduce delays and improve flow across wards and community services.
  - **Closed-Loop Improvement:** Measurement frameworks (lead time, defect/incident rates, backlog trajectories, equity indicators) linked to interventions; A/B testing, control groups and benefit realisation dashboards across programmes.
  - **Embed & Scale:** Analytics products are delivered as modular assets (PHM cockpit, pathway intelligence tiles, flow explorer, equity lens) and integrated into existing platforms (FDP, ShCR, NHS App) to drive action, not just reports.
- Governance, Metadata & Data Lineage
  - Clinical-grade governance aligned to NHS data and IG standards.
  - Metadata catalogues, lineage graphs and audit trails.
    - *Example:* End-to-end lineage for datasets consumed by FDP or surfaced in the NHS App.
- Vendor-Agnostic Technology Ecosystem (including Quantexa)
  IBM supports a fully open, interoperable ecosystem including:
  - IBM watsonx.data & watsonx.ai
    - Snowflake
    - Databricks
    - Palantir Foundry
    - Azure, AWS, GCP
    - Elastic
    - Quantexa (entity resolution, contextual decision intelligence)
      - *Example:* Using Quantexa's entity resolution to improve patient identity matching across ICS systems.

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Benefits

- High-Quality Data as a Foundation for Transformation
  - Clean, accurate data enables system-wide improvement and safer, more effective care.
    - *Example:* Reliable RTT and waiting list reporting based on assured data pipelines.
- Robust Record Capture & Longitudinal Patient Views
  - Aggregation and enrichment reduce duplication and information gaps.
    - *Example:* Clinicians accessing unified records through Shared Care Records, improving handover quality.
- Powers Intelligent Care Pathways
  - High-quality, integrated data supports personalised and AI-assisted pathways.
    - *Example:* FDP-scale datasets driving AI recommendations for urgent and emergency care optimisation.
- Accelerates National and Local Digital Programmes
  - Ready-made alignment with NHS App, FDP and Shared Care Records.
- Future-Proof for Standards Evolution (ICD-11, FHIR, SNOMED CT)
  - Ensures continuity of reporting, analytics and clinical workflows.
- Reduced Operational Burden & Cost
  - Automated cleansing, validation and enrichment reduce manual reconciliation.

Key Differentiators

- Deep NHS & UK Healthcare Expertise
  - Experience supporting NHS Trusts, ICSs, national bodies and global health systems.
- End-to-End Approach
  - From strategy and architecture to engineering, governance and scaling.
- AI-Ready, Secure-by-Design Architectures
  - Aligned to NHS cyber, IG and clinical safety requirements.
- Vendor-Agnostic Ecosystem
  - Supporting Quantexa, Databricks, Snowflake, Palantir and more—avoiding vendor lock-in.
- Co-Creation with IBM Garage
  - Rapid, collaborative design and delivery of high-impact data and AI use cases.

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Closing Statement

IBM is committed to partnering with NHS organisations, Integrated Care Systems and national bodies to build a future-ready health and care ecosystem powered by trusted, high-quality data. Our vendor-agnostic, standards-aligned approach ensures that your organisation can confidently modernise its data foundations, integrate seamlessly with national platforms, and unlock the power of intelligent care pathways, advanced analytics and AI.

To explore our broader healthcare capabilities and how IBM supports transformation across the UK health sector, please visit our UK Healthcare Sector page: http://ibm.biz/uk-healthcare

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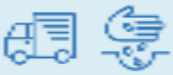
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The problems we solve for clients are complex and cannot be satisfied with technology alone. They require a partner that can also offer deep industry expertise and a relationship of trust.
IBM combines the portfolio, people and sense of purpose necessary to meet today's enterprise demands.

Every day, we support and manage complex delivery for government clients where the impact of delivery has wide-reaching impact on citizens and national services.
We bring access to the industry experience, insight and technology capability to deliver and operate secure, scalable, optimised and available services for government.

We support you by bringing:

- Industry expertise – Professionals who understand and are passionate about delivering quality public services and can bring industry insights and apply innovation to your business processes
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- Innovative technology – Expertise in areas such as AI, blockchain, 5G, Automation, IoT, cybersecurity and quantum, delivered in a Hybrid Cloud environment
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In the UK alone, IBM **invests £170 million in R&D** each year