



G-CLOUD 14 SERVICE DESCRIPTION

DR FOSTER BENCHMARKING & ANALYTICS

Understand, monitor, analyse and improve quality and efficiency

Telstra Health **UK**

UNDERSTAND, MONITOR, ANALYSE AND IMPROVE QUALITY AND EFFICIENCY

Through the Dr Foster brand, Telstra Health UK has established itself as a leading provider of intelligent analytics within the healthcare sector for over 20 years. Now Dr Foster is part of the Telstra Health family, combining the Dr Foster legacy in the NHS with that of the capability of Australia's largest health technology and services provider.

The Dr Foster Benchmarking Tools utilise the Healthcare Intelligence Portal (HIP) to present benchmarking data to customers. The Tool has the following features:

- Brings together three key HES datasets (Admitted Patient Care; Outpatients; and Emergency Care) into a single online tool updated monthly.
 - Accesses benchmarked hospital data, with preset comparators such as national and regional peers; but also the ability for users to create bespoke comparator groups.
 - Three Analytical functionalities: (i) high level analysis alert dashboards; (ii) interrogative deep dives of the data; and (iii) reports, giving access to executive summaries.
 - The analysis functionality allows users to compare, trend, drilldown and access record-level, longitudinal data.
- Data can be cut by hospital activity (e.g. admission type), patient acuity (e.g. comorbidity score), and socio-demographics (e.g. deprivation).
 - Report functionality provides several pre-made reports that can feed directly into the Trust's internal reporting processes, including data quality, mortality, depth-of-coding summaries and national quartile analyses by diagnoses, procedures, HRGs and specialities.

Co-developed with customers

Developed in close collaboration with customers to understand their needs, Healthcare Intelligence Portal is a sophisticated tool designed to enable healthcare organisations to better understand potential quality performance issues and identify inefficiencies within a health economy.

THE BENEFITS



1 SHARED VIEW ACROSS THE WHOLE ACUTE PATHWAY

All inpatient, outpatient and A&E activity accessible for providers and commissioners.

2 ONE PLATFORM

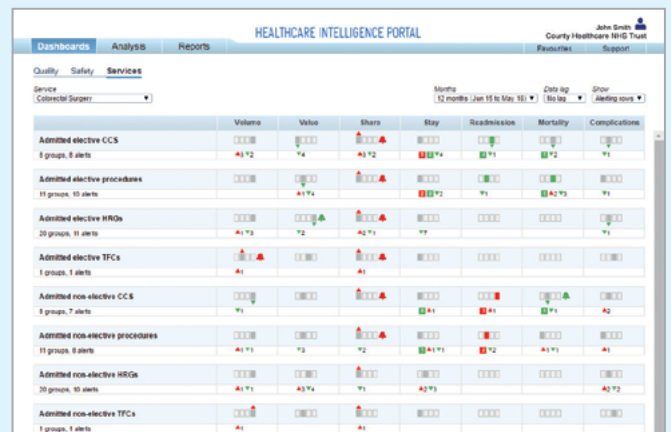
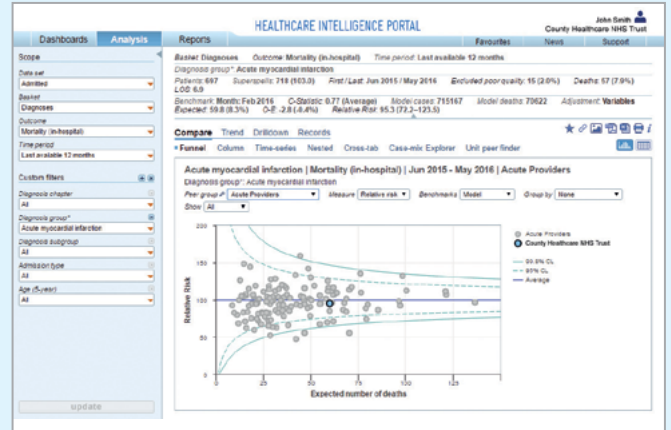
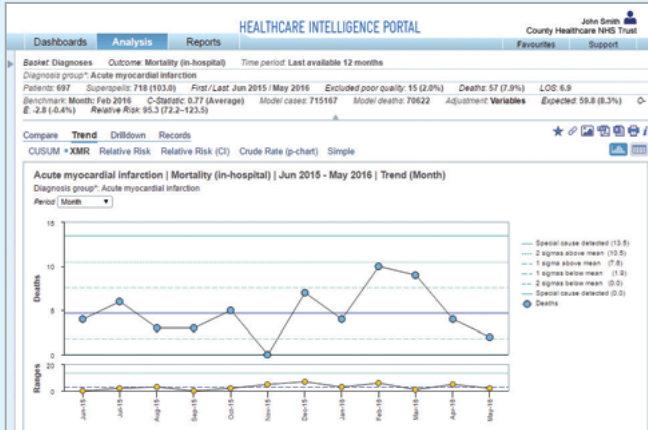
A single platform enabling access to all of your key quality and efficiency metrics.

3 UNDERSTAND QUALITY PERFORMANCE

Compare and benchmark your care quality performance against peers, to identify areas for improvement and best practice.

4 DRIVE IMPROVEMENT

Identify outlying performance in quality and efficiency so you can develop plans to drive improvement initiatives.



5 ANALYSE TRENDS

Review and analyse trends over time with historic data available.



6 MONITOR EFFICIENCY AND IDENTIFY BUSINESS OPPORTUNITIES

Mitigate financial risks by investigating market share and trends for key conditions of interest and explore competitors' activity.



7 DRILL DOWN TO PATIENT-LEVEL DATA

Access records at a granular level with a complete patient timeline and history.



8 AVAILABLE ANYWHERE

Accessible data via multiple devices.

Use information and insight to inform more effective, accurate, data-driven decisions.

Healthcare Intelligence Portal enables users to easily measure, intelligently compare, benchmark and analyse indicators of:

Quality

- HIP Quality provides access to our pioneering mortality model, the HSMR (Hospital Standardised Mortality Ratio), on every admitted patient spell.
- A broad range of analysis can be conducted at Trust or service-line level using the HSMR, which is applied to mortality, LOS and readmission patient outcomes:
 - Observed deaths vs. Expected deaths
 - Observed long LOS vs. Expected long LOS
 - Observed emergency 28-day readmission rate vs. Expected emergency 28-day readmission rate
- Highlights potential quality of care and safety issues using the risk-adjusted methodologies, which are easily identified and interpreted, supporting insightful analysis. Outliers and alerts within the data are easy to detect, and the tool offers extensive options

for understanding these to ascertain whether these are noises within the data, or whether these are signals of concern.

- HIP Quality is a valuable tool for supporting investigations and Trust-wide processes for understanding clinical data quality, helping to drive improvements in quality-based outcomes. This includes regular mortality and/or clinical outcomes reporting, facilitating internal assurance processes, such as for patient reviews and board reporting.

Efficiency – Supports planning and decision making by enabling in-depth analysis of performance issues and inefficiencies within a health economy.

Across each of the three HES datasets, users can analyse:

• **Admission**

- Average LOS
- DOSA Rates
- Bed Usage
- Readmissions
- Waiting Time
- Excess Bed Days
- Tariff

• **Outpatient**

- Appointments
- DNAs
- Cancellations
- Waiting Time
- Inpatient Conversion
- First/Follow-Up
- Tariff

• **A&E**

- Attendances
- Conversion to Inpatient
- Left Without Being Seen
- Time to Assessment
- Time to Treatment
- Transit Time



Market share and activity – hospitals can explore both their activity and that of competitors to understand market share trends in activity right down to referral level. It delivers an easy to navigate, visual representation of market share allowing users to identify their key competitors and see in which areas they are gaining or losing market share.

Intuitive, easy-to-use interface

Hundreds of indicators in one platform provide a convenient one-stop shop for managers, analysts and clinicians, saving time and energy from previously viewing data in multiple tools and sources of information.

Healthcare Intelligence Portal displays a multitude of data in an intuitive way and enables drilldown to patient level to enable rapid identification of potential quality and efficiency issues and intervene quickly.

Visualise your data your way

There are various options for visualising the data, which are easy to interpret for all users, with built-in support to further a user's understanding of the tool's outputs and capabilities. Visuals include, but are not limited to, funnel plots, bar charts, box-plot-and-whisker diagrams, tables, pie charts, line-graph trends, and XMR trends.



OPTIONAL BENCHMARKING TOOLS

Consultant Focus

An additional tool that provides simple, easy to use, self-contained reports to support the medical appraisal and revalidation process. Each report includes 3 sections with all relevant methodologies documented for ease:

1. A summary of activity by care setting,
2. A summary of elective activity by procedure group with comparative benchmarking across a range of casemix factors and outcomes,
3. A summary of non-elective activity by diagnosis group with comparative benchmarking across a range of casemix factors and outcomes.

Benchmarking is provided at a national level but local comparators are also available. Users can choose to create a 'Department' to allow a Consultant to compare themselves to their speciality colleagues or they can use the 'Whole Organisation' or 'Service' comparators. Medical specialties, for whom attribution of activity can sometimes be a challenge, may prefer to use the 'Department' comparator and then focus on the department performance vs. the national benchmarks rather than focussing on the individual Consultant's performance.

The Benefits of Consultant Focus include:

- **Ease of use** – reports generated from a few simple criteria such as consultant name and time period.
- **Exportable** – Report can be exported and shared as required.
- **Access control** – Hierarchical access can be provided so that only subordinate view are available

Patient Re-Identification & Early Warning Mortality

Analytical toolkit which can be set-up collaboratively with the Trust's information and data teams whereby Trust's send their SUS+ data in a secure environment according to governance-tight processes, supporting the Trust's assurance processes. The platform acts as a rich database where only those users with a need to access re-identifiable patient-level data can do.

- Benefits of the Patient Re-Identification & Early Warning Mortality include:
- Predictive view – Key insights into future trust performance
- Data quality – A key indicator of data quality within the Trust

Key Support – Telstra Health Consultancy Team

Our comprehensive benchmarking tool suite can be used on their own, or alternatively we can provide optional support in the form of a Consultants. This value-add service includes:

- **Standard mortality reporting** – customers can purchase regular consultant delivery of standard mortality reports which provide top-level insights into a Trust's data and includes presentation of report at mortality meetings. A key benefit of these reports is that they provide an independent and robust interpretation of the data to support with internal mortality review and assurance processes.

- **Bespoke mortality reporting** – deep dives into mortality data can also be regularly delivered at a more detailed level, investigating specific areas or concerns. This provides essential insights to any signals within the data about a pathway or cohort.
- **Expert consultancy** – access to a dedicated consultant helps to facilitate tangible improvements. Organisations can purchase a range of consultancy support to enable a deeper understanding of the data and valuable insight. This helps to develop super users and upskilling in the use of the data and available insight.
- **Efficiency and productivity analysis** – utilising the consultants' wealth of knowledge and experience, reporting and training can also be provided to provide valuable insight on hospital data and patient flow, such as for LOS, readmissions, outpatient activity, A&E, market share and health inequalities.

Enhancing the impact of our tool with Analytics and Data Science services

Dr Foster Benchmarking can gain access to our in-house expert analysts, statisticians and data scientists whose time can be purchased as additional bolt-on service. Analysis goes beyond the toolkit to provide tailored analysis and custom-built visualisations for an organisation. Examples of the type of services provided include:

- **Demand and capacity modelling** – Our team have experience of developing demand and capacity status forecasting models. Measuring capacity utilisation using patient level data and applying appropriate modelling methodology to forecast future demand.
- **Bespoke benchmarking models** – We develop bespoke risk-adjusted metrics, such as a COVID-19 mortality risk model, which enables health organisations to understand variation in performance of hospitals & systems for COVID-19 and provides benchmarks to compare these against peers and nationally.
- **Bespoke predictive models** – Our predictive models use supervised machine learning algorithms to predict future adverse outcomes. Predictions are made at patient-level and can further be aggregated into risk groups at provider or system-level where appropriate. When developing bespoke models, our team will work with you through each stage of your data journey to apply our unique combination of deep healthcare expertise and the latest methodologies in advanced analytics.
- **Data mining** – Our analysts mine the data to investigate anomalies, patterns, and trends with regards to data availability, coding, and outcomes.
- **HSMR+** – Completed a comprehensive methodology review of the hospital standardised mortality ratio, with the view to update the methodology to improve the explainability and fairness of our models, incorporate updates to key features, reflect new coding and data practices and provide more robust benchmarking.

Population Health Analytics

For customers operating at a system level, Telstra Health's Dr Foster Population Health services underpinned by the Dr Foster Risk stratification tool, allows us to combine the key elements of Benchmarking data with patient stratification and segmentation.

The Dr Foster Risk Stratification Tool, available as a separately priced cloud services tool assesses the risk of emergency admissions and changes to patient frailties, for patients aged 65 or more. The tool is underpinned by our in-house machine learning model, it allows clinicians to quickly assess the needs of their local population and identify patients most at risk of an emergency admission.

In addition, our analytical team can enhance our Risk Stratification tool by linking datasets, such as primary and secondary care data, to provide segmentation analysis to enable a greater understanding of the patient characteristics that are drivers of demand on care services within a region and give an indication of the costs for these patient segments. This insight can support evidence-based decision making and enable targeted interventions to prevent hospital admissions.

ABOUT TELSTRA HEALTH

The way health is delivered is changing. Telstra Health is leading that change by building solutions for a better connected health system. Regardless of the role you play in the healthcare system, patient or practitioner, provider or government, our goal is the same - we want to make health care easier for you.

We want to deliver a better experience, lower costs and increased convenience. We want to make healthcare simpler for everyone. That's why we've invested in digital health solutions across the health system – including general practice, aged and residential care, hospitals, radiology and pathology, pharmacy, health analytics and telemedicine.

And we're connecting those services together to empower patients in their own health, free healthcare professionals from paperwork, make all that medical data meaningful.

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