



Health Data Warehouse

Strategic insights for
optimized performance

Make Informed Decisions Faster

Healthcare runs on decisions. Decisions that can mean the difference between life and death, one treatment protocol over another, or whether or not to discharge a patient. At the same time, healthcare organizations and information exchanges are under pressure to make critical choices in order to improve clinical, financial and operational efficiencies. Meeting this challenge requires experience, instinct and the strategic insight that comes from intelligent information.

Don't second guess. Make the right decision – with oacis I Health Data Warehouse

The oacis I Health Data Warehouse is TELUS Health Solutions' sophisticated, flexible, analytics platform designed specifically to support the needs of healthcare management, as well as clinical research. It facilitates cross-functional analysis and decision-making throughout operational levels and enables management to evaluate performance metrics, trends and reports collaboratively. Executives and clinical leaders have easy access to dashboard views of aggregate data, enabling them to rapidly identify key performance indicators, monitor progress, and assign accountability.

With the oacis I Health Data Warehouse, healthcare organizations now have the ability to extract disparate data from any number of systems and have it centralized, optimized and then synthesized into meaningful information for enhanced decision-making.

Unique Technology Enabling:

- Clinical Analysis
- Operational Analysis
- Financial Analysis



Health Data Warehouse

If there's one factor truly unique to the healthcare industry it's the language. From clinical information to pharmaceuticals and specialized equipment, the terminology is entrenched in medical science and tradition. And so is our technology. At TELUS Health Solutions, we recognize that systems for healthcare must be designed and built for the exclusive use of care delivery organizations.

Designed specifically for clinical and operational research, the OACiS | Health Data Warehouse is an optimized data mine with healthcare-specific front-end integration and loading facilities. This innovative built-in integration utility enables the consolidation of operational and clinical data before it enters the warehouse for optimization and reporting. This permits the data to be filtered through pre-defined automated tools that determine exactly what information should be extracted. Health Data Warehouse integrates leading technologies including:

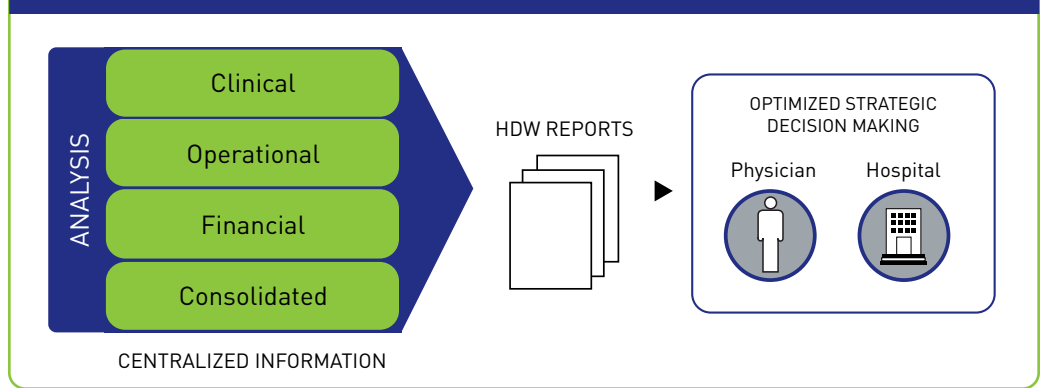
- Highly optimized analytics servers designed to deliver faster results for mission-critical business intelligence, data warehouse and reporting solutions on any standard hardware and operating system. Working with diverse data – including unstructured data – and disparate data sources to deliver unparalleled query performance
- Sophisticated Extract, Transform, and Load (ETL) utilities are used to centralize and optimize the data coming from the OACiS clinical system, as well as non-OACiS systems
- A business intelligence tool set used to query, analyze and report on the vast amounts of data that reside in the warehouse

We also make it easy to use. Our query and analysis tool gives users the ability to interact with clinical and operational information without having to understand complex database structures and language. This enables:

- Ad hoc reporting and analysis, drill downs, dashboards, data integration, scorecards, and metrics
- The ability to share reports and perform ad hoc queries over intranets and extranets using secure access administered by IT
- OLAP analysis allowing the user to quickly analyze information that has been summarized into multidimensional views for drill downs and deep data segmentation

Get the information you need – Without time-consuming translation.

The Value of Health Data Warehouse



Clinical Analysis

Faced with increasing shortages in resources, clinical leaders draw on the power of the OACiS | Health Data Warehouse to maximize staff productivity and treatment outcomes. Clinicians and researchers are able to use the data within the warehouse to evaluate treatment plans, clinical results, drugs, and identify infection outbreaks and trends that can be quickly acted upon.

Clinical decision-making is also improved at the bedside where a patient's record, having been analyzed and updated by the system, relays new information, warnings and alerts to the health team, reducing errors and enhancing outcomes.

Benefits:

- Extraction and analysis of clinical data
- Analysis of clinical practice such as mortality audits
- Ability to monitor protocols such as chest pain guidelines
- Infection control monitoring with the ability to track patient movement and contacts throughout the entire encounter
- Aggregates clinical trial data and speeds-up study recruitment



Operational Analysis

Operational efficiency is critical to running a smooth and effective healthcare facility. The OACiS | Health Data Warehouse helps care organizations streamline business processes and ensure equipment and staff are fully utilized. The warehouse's tools facilitate the tracking of performance metrics and benchmarking across multiple departments and facilities. Customized and timely dashboard views display information that enables healthcare executives to evaluate performance and make quick decisions or take corrective action.

Benefits:

- Streamline the processes that expedite the movement of patients within the healthcare facility
- Benchmark tracking against key success factors such as patient satisfaction, quality of care, staff utilization rates, facility utilization rates, and re-admission rates
- Meet regulatory compliance by identifying and measuring critical quality and safety criteria
- Measure waiting times and identify variables that influence them across different departments and facilities

Financial Analysis

At the end of the day fiscal responsibility can make or break a healthcare organization. Executives need real-time financial information in order to make decisions. The financial analysis capabilities found within OACiS | Health Data Warehouse empowers CEOs and CFOs by integrating clinical and financial data into one central data mine. Management can more readily cross-match, track and control costs and identify revenue generators and new revenue opportunities. Detailed financial analysis and reports can be produced to support income statements and balance sheets, as well as provide key financial information required by Boards and shareholders.

Benefits:

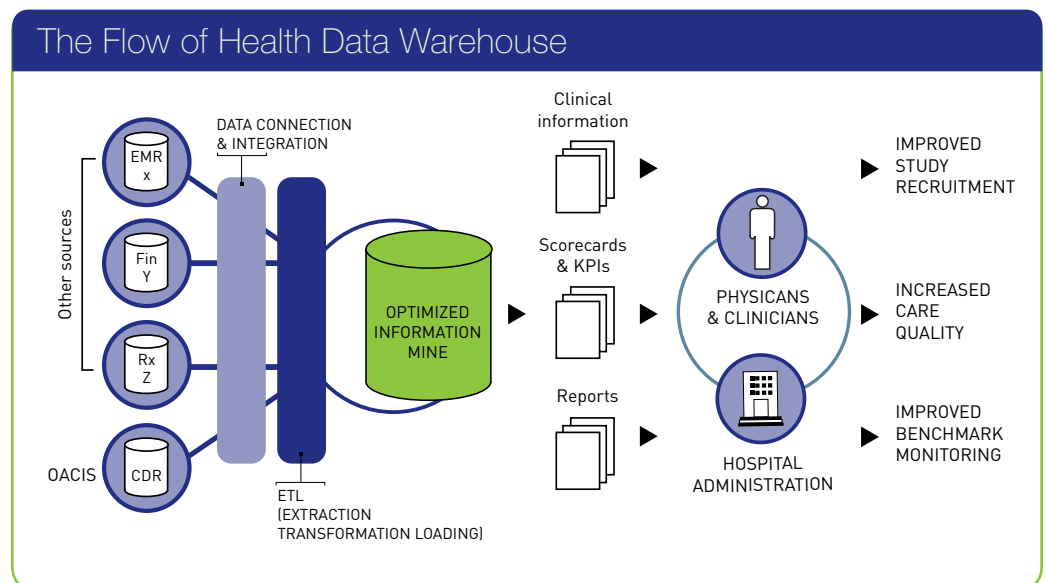
- Evaluate financial performance on a departmental basis to determine underlying revenue generators and cost drivers
- Evaluate treatment costs against treatment outcomes to identify potential cost savings
- Analyze patient profiles and trends to determine where future investments should be made

Consolidated Analysis

The oAcis I Health Data Warehouse inherently fuses all clinical, operational and financial data, thus making it ideal for cross-functional and cross-facility consolidated analysis. Standardized corporate reports, such as service ordering trends for pathology, radiology, referrals and pharmacy, as well as clinical unit scorecards, can be defined and used to streamline processes and evaluate performance. Moreover, this clinical data can be easily amalgamated with financial and operational data, resulting in a complete and comprehensive depiction to inform strategic action. Conversely, consolidated analyses can reveal potential concerns into which further and more focused investigation should be implemented.

Benefits:

- Complete, consolidated view across all functional areas
- Saves enormous time and cost with respect to data gathering



Balanced Scorecards for Measurable Results

Many healthcare facilities are implementing "scorecard management strategies" to accurately represent the current state of their clinical and management operations, as well as to measure the success of implemented change. Using this scorecard approach, executives and senior health professionals can compare the results in relation to key performance indicators and make decisions accordingly.

Score a competitive advantage. It's all inside.

CASE-IN-POINT

State of South Australia Advances Care Delivery Using Sophisticated Analytics

About ten years ago, the Department of Health in South Australia visualized a future where an enterprise-wide, patient-centric clinical information system providing clinicians with access to cumulative patient information at the point-of-care could be used to provide better quality health services to the community.

At the time, clinical systems were in their infancy and paper was still the common tool for recording and storing information. Not wanting to wait for technology to catch up, South Australia made the strategic decision to build the system themselves – based on the open architecture of OaCIS.

The project began with the implementation and evolution of a sophisticated, state-wide electronic medical record system – OaCIS EMR. Based upon its pioneering clinical data repository, OaCIS successfully connected dozens of disparate systems to provide a common, longitudinal patient record for most of the state's 1.5 million people, making it one of the largest EMR system deployments in the world.

That's when South Australia decided to take the next step – the OaCIS | Health Data Warehouse. Officials knew that streamlining clinical efficiency through OaCIS' EMR applications was only one step towards improving the population's health. Being able to constantly evaluate patient outcomes, as well as administrative and cost data, would give them the leverage required to improve quality of care, while working towards reducing costs associated with its delivery.



“The State’s significant advancements in care delivery quality, as well as improvements in operational performance during the past several years, would not have been possible without the oacis I Health Data Warehouse solution.”

John Mieczko, Director, ICT Projects Branch, South Australia Department of Health

Using the open architecture and flexible tools found in OaCIS, the State and TELUS health Solutions co-developed another industry first – OaCIS I Health Data Warehouse. The Health Data Warehouse is a sophisticated, flexible, analytics platform designed specifically to support the needs of healthcare management, as well as clinical research. It facilitates cross-functional analysis and decision-making across operational levels and enables management to evaluate performance metrics, trends and reports collaboratively.

Amalgamating information from eight participating hospitals, this rich data mine currently contains approximately 2 billion clinical information records, or 300 GB of information and grows by approximately 1 million records per day. Key data elements include patient demographics, provider details, orders, results, location and encounter information associated with a specific clinical event.

With this information stored in the OaCIS I Health Data Warehouse, the State of Australia is now implementing a massive integrated analytics project to provide:

- Operational reporting state-wide
- Quality assurance activities including monitoring, evaluating, and auditing the provision of a particular treatment, care or other service
- Public and environmental health activities including epidemiological studies and disease surveillance
- Managing the provision of healthcare and associated services, including service planning, allocating resources
- Clinical and population research



Strategic Insights For Optimized Performance

Healthcare is a competitive field. Facilities compete to recruit the best clinicians and professionals in order to ensure high quality care and improved outcomes. Market share is increased because patients see and hear about the results and want the same positive experience for themselves and their families. But in the end, to compete effectively, care organizations need to streamline processes, control costs, improve outcomes and maintain profitability.

All this can be achieved through OACIS | Health Data Warehouse. Strategic data analysis of the clinical, operational and financial areas of a care delivery organization enables health leaders to identify key performance indicators, spot trends, determine changes to routine therapies and find ways to improve profitability. This insight ensures more informed and timely decision-making, often resulting in significant improvements in patient safety and quality of outcomes, in addition to utilization rates, infection control and bio-surveillance, process management, clinical trials recruitment and regulatory compliance.



Key Benefits – Make Informed Decisions Faster

- Evidence-based decision-making on timely patient history reporting
- Enterprise best practice reporting on clinical, financial and operational data
- Consistent scorecard reporting, automated data collection, automated report generation and distribution
- Can work in conjunction with rules/alerts from other systems including oAcis EMR

Key Product Deliverables

- Healthcare-specific integration and loading facilities
- Clinical Dimension Data Model
- Replication Server
- Extraction, Transformation, Loading (ETL) configuration
- Information Extraction & Reporting
- Pre-configured reports
- Web intelligence tool



Health Professional Services – Jump Start Your Analytics

The complexities of health-based analytics are enormous. That's why our professional services team is comprised of highly skilled consultants with deep clinical experience, as well as healthcare administration tenure. We can help you jump start your analytics projects by infusing the necessary momentum up front. Our industry experts can provide services such as:

- Strategy definition
- Project planning
- Configuration
- Milestone tracking
- Training
- Support





Information for life

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TELUS Health Solutions is a leading provider of Information and Communication Technology (ICT) for the health industry. We develop, implement and manage healthcare applications, ICT processes and industry consulting services that optimize the efficiency of caregivers, drive better decisions, and foster prevention in the health system.

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