



## ■ Business Impact

“SAS® Data Integration for Health Care provides Niagara Health System with timely, detailed, accurate insights into key performance indicators. With SAS, we can monitor KPIs easily, which helps us identify areas to improve for the greatest positive impact on both the quality of patient care and efficient hospital operations.”

– Teresa Struk, Director, Finance and Decision Support Services, Niagara Health System

## ■ Challenges

- **Data overload.** Small- to medium-sized hospitals simply do not have the IT capacity or staff to manage the great quantities of data that they collect.
- **Siloed information systems.** Because of system interoperability issues, many hospitals cannot leverage government-provided benchmark data that would allow them to set service targets and measure performance against them.
- **Unreliable reporting.** Each health-care unit or hospital site (in the case of amalgamations) uses different processes for the same tasks when compiling reports, yielding unreliable composite results.
- **Manual processes.** Reporting is often a time-consuming, labour-intensive process for many health-care organizations. This hampers productivity and allows little time for data analysis.
- **Lack of performance insight.** Because of the lengthy manual processes required to prepare information, data is often weeks – or even months – out of date.

## How can we consolidate and exploit enterprise health data to support clinical performance management?

### YOUR GOAL: Provide high-quality health care as efficiently as possible

As health-care organizations search for new efficiencies to help them meet Canada’s growing demand for health services, the increasing amounts of data that they collect on patients, suppliers, services and finances seem to only create more complexity, compounding their challenges. But buried within that data are myriad opportunities to streamline operations – and help staff deliver timelier, higher-quality care.

For example, with data that provides a clear, comprehensive picture of clinical activity, hospitals can gain insight for more effective staff deployment. With reliable key performance indicator (KPI) reporting, they can easily measure their progress toward Canadian Institute for Health Information benchmarks. If hospitals miss service-level targets, analysts can perform root cause analysis, model scenarios to find the best strategies to address the underlying problems, and ultimately prevent the same mistakes (and the corresponding waste in resources) from reoccurring.

Unfortunately, however, many individual hospitals lack the technical resources to adequately process the data. Even at more sophisticated multisite hospitals, analysts must resort to lengthy, manual processes to assemble reports – leaving little time for them to actually analyze and optimize operations. And because the data is often stale by the time the reports are ready for distribution, few truly strategic decisions can be made.

### OUR APPROACH

Efficient delivery of high-quality health care requires the ability to quickly transform data into accessible, actionable information. SAS approaches the problem by delivering software and services that help you:

- **Automate data management.** A centrally managed repository automatically integrates data regardless of source, cleanses it, standardizes it according to clinical data definitions and stores the data. This centralized control and automated standardization provide a reliable, easy-to-use “single version of the truth” for the entire organization.
- **Standardize KPI computation with automatic reporting.** A dynamic business-rules engine defines standards for KPI computation, ensuring consistent reporting across multisite hospitals and quick information delivery – so that decision makers can proactively manage performance.
- **Provide clear, structured information to all who need it.** The SAS solution provides dashboard reporting for multisite hospitals; program reporting (including drill-down and historical data) for emergency, critical care and surgery; and performance comparisons against provincially mandated targets with corridors and provincial benchmarks.

SAS software’s automated capabilities free analysts from time-consuming data preparation tasks so that they can focus on identifying opportunity for efficiency enhancements. And flexible SAS reporting options ensure that everyone, from clinical staff to executives, can find the data that they need in the right format, at the right time – helping them serve patients more effectively.



## THE SAS® DIFFERENCE: True enterprise health data management

Only SAS offers the depth and breadth of automated data management capabilities, as well as advanced business intelligence, that enable health-care organizations to harness their data for performance management across all functional areas. With SAS, you get:

- **Superior data integration and data quality.** SAS automatically integrates data from disparate sources, thoroughly manages it for integrity and keeps it current – providing the best possible foundation for analysis.
- **Easy access to insight.** SAS delivers intelligence in a variety of ways, including easy self-service Web reporting and executive dashboards.
- **Reliable KPI monitoring.** Standardized KPI computation and other analytical reporting tools help analysts perform the continuous ad hoc reporting on metrics that is essential for day-to-day hospital management.
- **A highly scalable, extensible solution.** The solution can scale to manage vast quantities of data; additional business rules can be configured easily to standardize data and computation however your staff requires.

And because SAS provides software and services within a flexible framework – the SAS Business Analytics Framework – you're assured of a solution that can quickly and cost-effectively be expanded with capabilities to address different issues.

### CASE STUDY: Ontario's largest hospital amalgamation

#### ■ Situation

After eight hospitals in Ontario merged to form the Niagara Health System, the new organization required a single source of enterprise information to support clinical performance management.

#### ■ Solution

SAS delivered a complete solution that:

- Automatically aggregates information and provides a comprehensive reporting environment across multiple source systems.
- Provides flexible options for creating and applying standard business rules to present information and compile reports.
- Enables performance measurement against provincially mandated clinical targets, as well as provincial and Local Health Integration Network benchmarks.

#### ■ Result

- Data is delivered directly to the right people at the right time, in an actionable format.
- Improved data quality has significantly reduced errors and created greater confidence in reports.
- The automated capabilities have saved everyone time and potentially lowered IT total cost of ownership; people rely much less on costly IT resources for manual data aggregation and manipulation tasks.

#### ■ The Vision

##### Automated data management and reporting

What insights would you gain if these automated processes furnished your analysts with current, accurate and appropriately formatted data – allowing them to spend most of their time performing analysis rather than preparing the data?

##### Standardized KPI computation

What if you could consistently update everyone with the latest key metrics (mortality rates, financial status, infection rates)?

##### Access to clear, structured information

What if staff had ready access to online reports containing performance data in historical comparisons, with drill-down capabilities and the ability to measure against service-level targets?

### SAS FACTS

- SAS is the standard for health and life science submissions to the US FDA.
- In 2008, SAS invested 22 percent of its annual revenue in R&D.
- SAS has served the health-care industry for more than 29 years; we have employees with in-depth domain knowledge and experience. Our solutions meet the specific needs of health-care organizations, including health-care performance management, clinical research and condition management.

Learn more about SAS software and services for healthcare at:  
<http://www.sas.com/industry/healthcare/provider/>



SAS Canada

+1 877 SAS INST

To contact your local SAS office, please visit: [www.sas.com/canada](http://www.sas.com/canada)

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. © indicates USA registration. Other brand and product names are trademarks of their respective companies. Copyright © 2009, SAS Institute Inc. All rights reserved. 103915\_525420\_0509