DataHub

Empowering Analysis to the Policy Makers

ncs

making IT happen

The mission of Singapore's Ministry of Health (MOH) is to promote good health and reduce illness, ensure access to good and affordable healthcare, and pursue medical excellence. To assist in its policy decisions and to assess the effectiveness of the implementations, the Ministry gathers data from healthcare providers and government agencies from time to time.

The Data Hub provides a platform to consolidate the data from various sources and makes them available to authorised officers for ad-hoc analysis and reporting. The analysis can then be shared across the Ministry via online access or download of pre-defined reports for dissemination. The availability of this data enables decision makers to identify and tune policies to better serve the Singapore healthcare landscape.

A HOLISTIC PERSPECTIVE OF SINGAPORE HEALTHCARE SYSTEM

The Ministry of Health has a wide range of information systems to support its various administrative functions in regulating and managing healthcare utilisation, financing, manpower, clinical quality and patient safety, and disease control. The Data Hub consolidates and transforms administrative data for enterprise-level analysis, providing a holistic perspective of the Singapore healthcare system. NCS assisted MOH in identifying analytical data needs and data standardisation requirements. As some data were still collected via spreadsheet documents, a web based interface was subsequently included to facilitate the verification and upload of the data into the Data Warehouse. To address confidentiality concerns, sensitive information such as Patient National Identifier (NRIC) are translated to a separate non-identifiable ID where required. Linkage between episodes across various systems was also included to facilitate analysis across the full episode of care with data from more than one administrative system.

CHALLENGES

- Ability for policy makers to have access to data for ad hoc analysis/queries without programming effort

- Provide a consolidated platform from which to generate reports from disparate data sources

SOLUTION

- Deploy a Data Warehouse and Microstrategy Business Intelligence (BI) Solution

- Customise Web application and Excel programmes to validate and verify data submitted via Excel

- Manage the large number of pre-defined reports in the Ministry

BENEFITS

- Faster turnaround in reverting to adhoc queries and analysis for policy decisions

- Productivity gain in reduction of effort to consolidate data

- Cost savings in being able to generate reports without need of programming changes
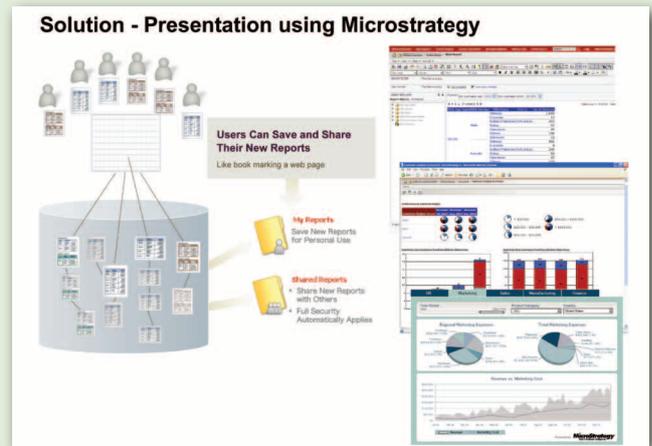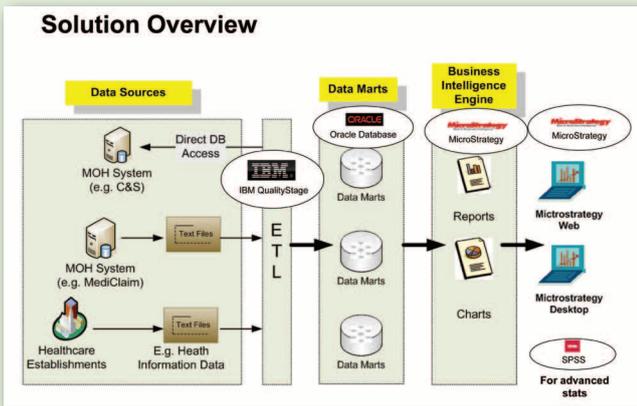
BUSINESS ANALYSIS

With the information collated into the Data Hub, NCS worked with MOH stakeholders to identify data analysis needs. NCS leveraged on the proposed Business Intelligence Solution, Microstrategy, to create the building blocks that allow end users to create ad-hoc queries and reports in a drag and drop interactive user interface.

NCS helped MOH in the construction of pre-defined reports that are published regularly and for some of the management dashboards. The dashboards provide a powerful visualisation of the data with a good level of interactivity.

> "With the Data Hub, MOH has a powerful enterprise platform to build upon to meet evolving analytical needs, and to draw deeper insights into patient healthcare needs and system relationships in Singapore's healthcare."
>
> Mr Tong Ming Shen, Director (Health Information)