

Data Warehousing in Government Healthcare

Government healthcare agencies must serve those most in need – the poor, aged, young, disabled and indigent – while also addressing rising consumer expectations. The number of people that can be helped and the amount of care that can be provided is impacted by budget constraints, resource shortages, fraud, waste and abuse.

Legacy transaction-based systems that provide little in the way of real-time clinical data compound this challenge by making it difficult to tie outcomes to investments. To increase the effectiveness of public healthcare delivery and minimize costs, streamlining business processes and leverage new technologies to improve data sharing is critical.

Because of a focus on the interoperability of electronic health records and the Centers for Medicare and Medicaid Services (CMS) Medicaid Information Technology Architecture (MITA) initiative, agencies are looking to technology to help streamline the claims process. Service oriented architecture and industry standard technologies are requirements for agencies that want to use Web-based, self service options as a way to reduce costs and provide services such as claim inquiry and eligibility verification.

Historically, employees in need of strategic information have chosen from a limited number of reports through MIS, submitted a request and sometimes waited as long as 30 days to get results. In addition, most healthcare organizations have been burdened by a multitude of disjointed sources of information. Today, agencies can address these challenges with a data warehousing solution, which provides a single platform that multiple payers can use for program administration, and stove piped health and human services organizations can use for interoperability and cost containment.

There are endless ways a data warehouse can be utilized for business gain. One is user defined investigative querying. A manager, for example can investigate resource utilization by a particular group of doctors or for a health plan's different lines of business. In addition, a data warehouse performs a second and very valuable function by examining data for trends and abnormalities which users may not know to look for. In this way, the system can lead users toward hidden business opportunities and cost centers. For example, a data warehouse could assist state and federal governments in detecting erroneous or fraudulent billing, identify patient or provider trends for disease management or uncover seemingly insignificant pockets of loss.

In addition to the constant pressure to reduce costs, there are increasing demands to improve the quality of care. As is often the case, knowledge is one key to improving the quality of care and thereby improving customer satisfaction. A data warehouse can help the government watch trends in patient care and physician practices utilize quality care measurements and apply this knowledge for improved customer satisfaction.

With the Administrations increased focus on improving the community health system, it is hoped that the community healthcare service model can efficiently connect hospitals, clinics, pharmacies, and customers for sharing information, reducing administrative costs and improving the quality of care. Thus, the successful community healthcare model depends critically on the collection, analysis and seamless exchange of consumer, clinical, pharmacies and other health information or knowledge within and across the above organizational boundaries. A data warehouse-enabled community healthcare management system would help to integrate patients, hospitals, pharmacies and governments through a common technical architecture.

Overall the benefits are:

- Decrease program expenditures at the state level, by coordinating state-administered benefits;
- Reduce costs by eliminating redundant claims processing platforms;
- Improve provider satisfaction through web-based self-service options;
- Decrease implementation costs for future federal mandates;
- Improve accountability through enhanced reporting and analysis;
- Improved quality of care oversight and quality transparency through the provision of timely performance information;
- Improved care coordination for chronic diseases and better coordination between behavioral health and physical health services;
- Enhanced opportunities for better self-management of chronic illnesses by beneficiaries and their families through access to their health information and online wellness materials.

With data warehousing, the Department of Health and Human Services can create a network that will improve patient care by harnessing the expertise of academia and industry to develop new paradigms for patient care and screening and have the ability to disseminate these techniques and methodologies to all levels of health providers.

This structure will facilitate innovative research, model validation from a research and healthcare perspective and provide the necessary evidence to compare outcomes that will allow new standards of care. Through these efforts, patients will benefit from evidence-based approaches that are able to personalize treatments and screening techniques to fit the disease and patient, providing better outcomes that should ultimately reduce economic burdens currently plaguing the healthcare enterprise.

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