Caring for Healthcare

For IBM Healthcare

By Robert Fripp

Florida Hospital, the largest private, not-for-profit hospital in Florida, wanted to institute new patient care procedures, but needed to make sure its new practices were better than the old ones. Data mining allows the hospital to install its new Standard Care Plan in one campus for treatment of pneumonia and acute pneumonia and thoroughly compare the results against those for the same types of patients in its other 11 hospitals.

Information garnered in the data mining run will determine if the Standard Care Plan should be instituted in all Florida Hospital facilities or if current practices are best for patient care and recovery.

Hospital administrators are looking to data mining as means of looking at relative relationships among data that hospital personnel may not necessarily think to go after and to do so in a manner that for the human mind to do would take many days if not years.

In undertaking these pilot programs, the hospital is one of the first in the country to use data warehousing and data mining as means to improve care and cut costs. By gathering and analyzing data on patients, doctors, nurses, pharmacy and financial records, Florida Hospital will find new relationships in the data or support past practices and hypotheses.

Florida Hospital maintains its data warehouse on an IBM S/390 using IBM DB2 Universal Database and will complete its data mining run using IBM DB2 Intelligent Miner.

While data mining may seem the kind of procedure set aside for the nation's largest corporations, Florida Hospitals found the equipment and procedure to be very cost effective. Administrators see a likely return on investment within one to two years.

In the first pilot program, the hospital is looking at its clinical practices to make sure they are providing the best care. The hospital is looking over information on staff patterns, physician related variables and patient demographics. The first data mining run was completed and reviewed by a staff physician who helped adjust some variables before a second run could be run to provide better analysis.

Along with the Standard Care Plan, the clinical best practices pilot program will also help hospital administrators prepare guidelines for patient registration associates in order to provide more accurate initial diagnoses.

Patient registration associates make the initial diagnosis of a new patient. They are trained in federal, state and local guidelines on how to handle patient registration, but are not medical personnel.

The data mining run will highlight information the patient registration associates have recorded and produce reports that will determine the accuracy of their diagnosis and determine guidelines to make those initial diagnoses as accurate as possible.

Data mining can find clusters of data and test hypothesis that could develop predictive modeling as to whether Florida Hospital can improve the way it assigns the initial diagnosis. Data mining would allow for a more accurate diagnosis up front, but would not take critical diagnostic responsibility from doctors.

The second pilot program has been termed the Bad Debt Study. The hospital is reviewing payment practices of patients, insurance companies and health maintenance organizations. This would not result in anyone being declined healthcare. The process would be post treatment and would be designed to determine the length and scope of collection. If the hospital determines that factors prevail that show collection to be cost-prohibitive, it would chose to write off some debts rather than involve collection agencies or litigation.

The third pilot program focuses on supply costs. Here Florida Hospital will analyze all of its supply ordering, consultant fees and overtime to identify all costs and definitions associated with running a hospital to determine the most effective ways to reduce expenses.

These are some very innovative moves for Florida Hospital and administrators there are very eager to do interviews to discuss the project. IBM executives are also available for interviews on this project.