

In 1998 the South Carolina Department of Health and Environmental Control (DHEC) was in the process of modifying systems to prepare for the year 2000. During this time a comprehensive inventory of applications and data was undertaken. It was determined that there was a lot of data redundancy and undocumented code. 1999, DHEC embarked upon developing an agency-wide enterprise data model (EDM) to address the issue of data redundancy. In 2000, DHEC began the implementation of the EDM on IBM's DB2 database running on an IBM mainframe at the South Carolina Data Center. Upon completion of the EDM DHEC began the process of re-writing its systems to fit into the common data model, began to share data and cut down on data redundancy.

In the process of developing the new enterprise applications DHEC chose a combination of web and thin client, Citrix, application delivery methods. This has allowed DHEC to reduce the need for expensive PC upgrades to run applications. All of DHEC's new thin client applications run on a centralized server farm in Columbia. The server farm is made up of an expandable set of load balanced servers to provide optimum performance to end users. Some of the applications developed so far are a Personnel Information Action Information System (PAIS), a Training Management System (TraMS), a Consolidated Billing and Accounts Receivable system (CBARS), and a Client Automated Record and Encounter System (CARES) to support all clinical operations within our health departments. DHEC and non-DHEC staffs have the ability to securely access these applications from anywhere on the DHEC network infrastructure as well as from remote locations via the internet using SSL data encryption. This delivery methodology gives DHEC great flexibility in serving the public in the event of natural disasters that might affect existing DHEC locations.

Through the implementation of the EDM and new enterprise applications DHEC has been able to improve its ability to put its hands on all information from both an administrative and clinical perspective statewide. With the EDM there are relatively few duplicates because of the single interface for client entry. DHEC now has the future ability to share health treatment information with our disease trackers for epidemiology surveillance purposes. The EDM gives DHEC the ability to not only track its clients through an ENCOUNTER based system, but also to begin proactive health care identification through the connectivity to our vital records (VR) systems to evolve into a POPULATION based system. This methodology identifies the "hard targets" of people that don't routinely receive health care and might be a risk. With data shared between disparate systems, improved management information such as specific identification of personnel who provide the service; the cost of that personnel's salary; the ability to track how many services are provided by individual or within a program area; allows for numerous costing algorithms to be developed to improve productivity and manpower utilization planning.

With PAIS the turn around time for processing personnel information has been reduced as have errors. With CARES DHEC has been able to determine things such as where best to locate new health department facilities to better serve the public health needs of South Carolina's citizens. CARES has also given DHEC the ability to track Katrina survivors that we have served in our state.

In 1998 the South Carolina Department of Health and Environmental Control (DHEC) was in the process of modifying systems to prepare for the year 2000. During this time a comprehensive inventory of applications and data was undertaken. It was determined that there was a lot of data redundancy and undocumented code. Another area of concern was the fact that many legacy applications were running with no analyst support or supported by someone soon to retire. In 1999, DHEC embarked upon developing an agency-wide enterprise data model (EDM) to address the issue of data redundancy. In 2000, DHEC began the implementation of the EDM on IBM's DB2 database running on an IBM mainframe at the South Carolina Data Center. Upon completion of the EDM, DHEC began the process of re-writing its systems to fit into the common data model, and began to share data and cut down on data redundancy.

The process of developing the new enterprise applications began in 2000, along with the creation of the EDM, and is an ongoing process. DHEC chose a combination of web and thin client, Citrix, application delivery methods. This has allowed DHEC to reduce the need for expensive PC upgrades to run applications. All of DHEC's new thin client applications run on a centralized server farm in Columbia. The server farm is made up of an expandable set of load balanced servers to provide optimum performance to end users. The servers are running Microsoft Windows 2003 O/S with Citrix Presentation Server 4.

Some of the applications developed so far are a Personnel Information Action Information System (PAIS), a Training Management System (TraMS) and a Consolidated Billing and Accounts Receivable system (CBARS) to enhance administrative and financial functions. The Client Automated Record and Encounter System (CARES) is being developed to support all clinical operations within our health departments. CARES is being used to replace an aging DOS based application running 60+ separate databases around the state. All new applications use role based security with single user sign on for all of its Citrix based applications. DHEC and non-DHEC staff have the ability to securely access these applications from anywhere on the DHEC network infrastructure as well as from remote locations via the internet using SSL data encryption. This delivery methodology gives DHEC great flexibility in serving the public in the event of natural disasters that might affect existing DHEC locations.

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