
BAYLOR HEALTH CARE SYSTEM DALLAS, TEXAS

NORTH AMERICAN EXCELLENCE AWARDS: WORKFLOW, MERIT

EXECUTIVE SUMMARY

“An increasingly dynamic health care marketplace creates the need for tools that enhance our ability to effectively manage a very valuable resource: time.”—Brett Broadnax, Assistant Vice President BHCS and Project Owner

Healthcare has become a very competitive, margin-sensitive industry as indicated by the wave of consolidations in early 90's. As Baylor Health Care System grows through acquisition, the new organization is challenged to communicate and cooperate effectively. Business processes are being re-engineered and standardized to support a larger organization so that Baylor affiliates can take advantage of their collective bargaining power.

Baylor sees workflow solutions deployed on an Intranet as one of the best ways to regulate its business processes because of the relative ease of deployment and training. Once developed for internal use, a secure Intranet application can easily be expanded to support external Internet access. Therefore, it can serve as a springboard for connecting Physicians and patients into their virtual enterprise.

The first Intranet application chosen by BHC was contract negotiations because it involved users from all of its member hospitals and promised a quick return on investment. After an extensive search, Metro was selected as the work coordination engine because of its strong, process-centric approach. The Contract Negotiation application was deployed two months after the initial installation of ActionWorks Metro from Action Technologies. The system has accelerated the execution of volume purchase agreements by an average of two months. By accelerating the resulting savings from lower prices, Baylor will save \$120,000 per year for pharmacy contracts alone.

ABOUT BAYLOR HEALTH CARE SYSTEM

Industries: Healthcare

Mission: To operate as an integrated health care system which exists to serve people as an extension of the Christian ministry of healing by offering a continuum of quality services with a commitment to patient care, medical education, research and community service.

Vision: To be one of the preeminent health care systems in the world.

BAYLOR HEALTH CARE SYSTEMS

Description: Baylor Health Care System (BHCS), founded in 1981 as a four-hospital, not-for-profit health care system, is a regional network of acute care facilities, community hospitals, family health centers, senior health centers and contract affiliations. BHCS treated 834,959 patients last year alone.

BHCS a horizontally and vertically integrated delivery network servicing North Texas through its flagship hospital, Baylor University Medical Center, and several community hospitals and “Centers of Excellence,” which are dedicated to specialized treatments.

Baylor University Medical Center opened its doors in 1903 with 25 beds. Baptist minister Dr. George W. Truett petitioned the city’s business leaders and citizens to found “a great humanitarian hospital, onto which men of all creeds and those of none may come with equal confidence.” Baylor University Medical Center, a five-hospital complex located in Dallas, is one of the major tertiary care teaching and referral centers in the region. Baylor offers primary, secondary, tertiary and subspecialty services. Tertiary services include organ transplantation, high-risk neonatology, cardiology, gastroenterology, orthopedics, oncology and women’s health.

Based in Dallas, BHCS employs approximately 11,347 people in the North Texas area. Boone Powell Jr. has served as president and chief executive officer of the system since its formation in 1980. Joel Allison is the chief operating officer and deputy chief executive officer of BHCS.

Organization: BHCS is under the governing authority of Baylor University in Waco, Texas, which, in turn, is supported by the Baptist General Convention of Texas. BHCS is based in Dallas.

Total for all Community Medical Centers: 2,062 licensed beds, 995 Active medical staff. Total for all Contract Affiliations: 978 licensed beds, 746 Active medical staff

Locations: The main administration offices are at 3500 Gaston Avenue, Dallas, Texas. Baylor University Medical Center is the flagship hospital with 25 other hospital facilities expanding throughout North Texas and into Oklahoma

THE SYSTEM APPLICATION

Baylor hospitals bargain collectively for the best pharmaceutical prices. They negotiate about 20 large medication contracts per year. The hospitals are located in different cities across Texas. In the past, paper copies of the contract were mailed to the Pharmaceutical Director of each hospital or their appointed representative for review. The contract committee members would then meet to discuss and approve pending contracts. They can afford to meet only once each month in Dallas. If issues are still unresolved at the end of a meeting for a given contract, approval is delayed another month.

Instead of waiting to attend a monthly meeting to resolve all contract issues,

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Pharmaceutical Directors now review and discuss contracts on-line. Baylor's network provides 24x7 availability, so the Directors can perform their reviews at their convenience. Many issues can be resolved before the face-to-face meeting and, thus, fewer meetings are required.

A typical contract review process might proceed as follows:

- A small group of analysts prepare an economic impact report on the contract. This contract analysis also provides the history of similar contracts with Baylor and the major areas of contention with the vendor. The results of the analysis are stored and maintained in a SQL Server database so that the analysis is easy to access and reuse for future contract negotiations.
 - 1) The paper contract is converted to HTML so that it can be browsed from remote locations via the Internet.
 - 2) The contract negotiation process is initiated in Metro. All decision-makers are notified that there is a new contract to review.
 - 3) Decision-makers log onto the system to review the contract and the analysis. They given 30 days to input their assessments. Any reviewer can start an on-line group discussion about a given issue.
 - 4) If necessary, the contract is reviewed at the next face-to-face group meeting to resolve outstanding issues.
 - 5) As soon as all members of the committee have electronically OK'd the contract via Metro, the contract is considered approved and the Materials Management Director is authorized to sign the contract. The signed contract is then submitted to the vendor. The plans call for vendors to eventually be included in the Metro workflow, so that the final step will automatically submit the contract to the vendor.

THE KEY MOTIVATIONS BEHIND THE SYSTEM

Reduced Cycle Times for Contract Negotiations

It can take up to six months for all the participating hospitals to reach agreement on a given contract. By coordinating specification reviews across the Internet, Baylor hopes to condense the meeting agenda so that they can reach consensus after one or two meetings.

Cost Reductions

By reducing the cycle time for contract negotiations, the economic benefits of new contracts are accelerated. Also, the time required for all the pharmacy directors to travel to meetings is reduced.

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Facilitate Growth

As Baylor continues to grow through acquisition, BHCS is challenged to provide standard business process management applications that promote cooperation and assimilate new users regardless of their hardware platform or location.

THE CURRENT SYSTEM CONFIGURATION

Workflow Software: ActionWorks Metro

- **Client Platform(s):** Netscape Navigator 2.0 on Windows® 3.1PCs and some Windows 95 PCs
- **Server Platform(s):** Netscape Commerce Server 1.0
SQL Server 6.0
Microsoft NT 3.51
Compaq Proliant 4500 with a Pentium 166 CPU and 64MB RAM.
- **Other components:** Allaire's Cold Fusion and Cold Forum where used to access and manage the discussion database and contract database stored in SQL Server.RAID disk technology.
- Number of users currently on the system: 21
- Number of users planned: Additional applications are to be implemented, eventually targeting over 3,000 Baylor employees.

IMPACT TO THE COMPANY

What cost savings or increased revenues have been realized since the system was first installed?

By closing best-price contracts sooner, Baylor will accelerate savings on medication. The contract negotiation process can be reduced by 1 to 5 months, but an average reduction of negotiation time is approximately 2 months. Each contract can save the Health Care System up to \$36,000 annually, or \$3,000 per month, once negotiated. Therefore, the savings for one contract is \$3,000 x 2 months = \$6,000 per year. The system negotiates about 20 contracts per year. So by implementing this on-line negotiation, BHCS estimates that it will save about \$120,000 per year, for pharmacy contracts alone. Once this implementation is expanded to other types of contracts, more hard-dollar value will be realized.

Since the project's implementation in September 1996, seven contracts have been successfully negotiated. The actual dollar savings are currently being analyzed.

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PRODUCTIVITY IMPROVEMENTS

Reduced Cycle Times

- Medication specification negotiations are expected to be reduced on average from three months down to three weeks.

Fewer, More Productive Meetings are Required

- The pharmacy directors had been meeting every month, prior and during the initial implementation of this system. In January 1997, the decision was made to reduce these meetings to every other month, due to the increased productivity brought about by using the system.
- All of the easy contract negotiation issues are now resolved online between meetings. Meetings are now focused on only the most controversial issues, which makes decision makers feel better about the time it takes them to travel to Dallas and attend the meetings.

Reduced the number of phone calls needed to achieve consensus

- The online discussion facility will reduce the number of phone calls required for decision-makers to coordinate between meetings. They are free to communicate with others as their busy schedules allow.

Contract Negotiation History is available on-line to support future negotiations

- BHCS negotiators have ready access to past negotiations so that they are better prepared.

COMPETITIVE ADVANTAGE GAINED

Workflow solutions deployed on Intranets have been proven to work in the business environment to solve business problems at BHCS. Intranets are useful for more than just publishing information. BHCS now has the experience to prudently expand into new applications.

BAYLOR HEALTH CARE SYSTEMS

THE IMPLEMENTATION PROCESS AND METHODOLOGY

Workflow Software Selection Process

“We wanted to address business processes and not just be involved in a technology project. The business process had to be at the design center. Metro and the Web satisfied this requirement.”—Bob Pickton, CIO BHCS

Several packages were evaluated under the BHCS' category of “groupware for the Web.” Metro was selected because:

- Metro is cost effective. Users are only required to have access to a Web browser, which is likely to be installed for many other purposes.
- Metro supports private Intranet and/or the public Internet. Current Intranet requirements are met while creating the infrastructure for future Internet applications.
- Metro uses industry standards, such as Windows NT and Internet platforms, keeping Baylor's long-term strategy of open platforms.
- Metro applications can be developed and deployed quickly and easily.
- Metro uses robust customer satisfaction objects that bring both structure and flexibility to the online approval process.
- In addition to the process-mapping tool, Metro provides the ability to generate an application, deploy the workflow application, and subsequently gather measurements regarding the workflow process in production.

Baylor's Method for Automating Business Processes

- The process selected for automation was a process that had already been reengineered as part of Baylor Health Care Systems' business process redesign activities. BHCS has been involved in reengineering processes since 1994.

The Development Team

The development team consisted of the following people:

- **Project Manager and Technical Contact:**
MaryLynne Henry
Project Manager
Baylor Information Services (BIS)
- **Project Consultant:**
Integrated Healthcare Solutions

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- **Project Sponsor:**
 Bob Pickton
 Chief Information Officer
 Baylor Health Care System

Implementation Milestones

July 2	Action Technologies conducted two days of on-site training and consulting to define the business process, which was encoded in a Process Builder for Metro map.
July 11	IHS and Baylor meet for the first time.
July 17	IHS assigned one consultant to develop the HTML forms. The consultant was already familiar with HTML, Metro and the healthcare industry.
August 2	Metro application prototype is presented to a user focus group.
August 3	Pilot testing begins and IHS implements successive refinements as user feedback is captured. IHS develops updates remotely in Atlanta and uploads them to Dallas electronically.
August 28	A two-hour training class is held for end users. The Metro application goes live with four contracts on-line.

THE OVERALL TECHNOLOGICAL AND BUSINESS INNOVATION

Overall technological innovation

Secure Web Browsers displaced paper/FAXed correspondence, voicemail and meetings as the medium for consensus building.

Overall business innovation

The technical issues, though significant, are being resolved with this fast-moving technology. However, it was the cultural change that proved to be most significant. Negotiation participants had to make the leap from paper contracts and analysis documents to electronic Web documents. They also had to make the transition from long decision cycles to the shorter deadlines recorded in their Metro WorkBox.

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FUTURE METRO APPLICATIONS BEING CONSIDERED

- Baylor expects to expand the use of the contract negotiation system to other purchasing processes, such as medical equipment acquisition, where their collective bargaining power earn volume discounts such as purchasing medical equipment.
- Baylor plans to use Metro to deploy Health Care System-Wide Policies and Procedures review process.
- Eventually, Physician offices will be connected to Baylor's on-line business processes.