



## Solution Overview

The solution was a near-real-time, web-based MAR (Medical Administration Records) portal that could integrate with the legacy pharmacy software through a data staging system.

To access the data stored in the legacy pharmacy software, there were some interesting challenges and solutions. The legacy pharmacy software provided a rudimentary ODBC driver for running reports. Our plan was to query the data using this ODBC driver and store it in a normalized, optimized Microsoft SQL Server database for use by the Online MAR System. It was decided that refreshing the data in the online database every 5 minutes would be sufficient to meet the users' requirements.

To accomplish this, SSIS packages were created to extract the data using the legacy pharmacy software's ODBC driver, and push only new or changed data into the online repository database for use by the MAR portal.

With accurate, near-real-time data at their fingertips, pharmacists working in healthcare facilities across the Northwest could use the Payless Online MAR system to print medical administration records, log medication changes and order medication refills. Additionally, healthcare facility administrators can use the online MAR System to create pricing worksheets to calculate medication costs for new patients.

## Features

The Payless online MAR system included:

### HIPAA Compliance

In order to be HIPAA compliant, the Payless Online MAR system uses encrypted VPN between the data repository and the legacy pharmacy management software. Between the independent healthcare facility and the Online MAR system is an encrypted SSL connection. Additionally, the Microsoft SQL Server database runs on a hardened private network.

### MAR Printing

The Medical Administration Record is the core feature of the Online MAR system. If there is an error or an adjustment to be made for a patient, the healthcare facility pharmacist can immediately reprint an updated MAR, instead of waiting for the updates to be mailed. The MAR administration form is customizable by facility, enabling some facilities to run in landscape, while others in portrait mode.

### Online Message Center

Rather than sending medical information insecurely over e-mail, the Online MAR System has a built-in message center. When a message needs to be sent to a Payless Online MAR user, it is stored in this message center. A notification to check their message queue is then e-mailed to the user.

### Secured Document Library

Payless Drug maintains documents related to each health care facility. As documents are added to Payless Drug's corporate document management system, they are automatically listed in the related facility's document library. This provides immediate access and eliminates duplicate and inaccurate documents.

### Pricing

One of the difficult tasks for independent healthcare facilities is determining how much a new patient's drug therapy will cost. A pricing module was created to provide this capability. As new patients are considered, the facility administrator can create a drug pricing worksheet. This worksheet enables the facility administrator to calculate the true cost of service based on current medication prices and provide a more accurate estimate to their customers.

## Benefits

Some of the benefits that will be realized from implementing the Payless MAR system include:

- Near real time access to critical data increased performance and customer satisfaction
- Electronic reordering and returns processing and online access to pharmacist and nursing consulting reports led to increased efficiencies and lowered costs
- More accurate tracking of costs decreased excess inventory, increasing profitability
- Immediate access to electronic drug information (warnings, updates, etc.) reduced potential medication problems

## Technical Platform

- Microsoft .NET Framework 3.5
- ASP/C#.NET
- Microsoft SQL Server 2007
- Microsoft SQL Server Integration Services
- Linked Servers
- Encrypted VPN and SSL technology

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## For More Information

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