

# Case Study

## At a Glance

### Organization

Yuma Regional Medical Center  
Yuma, Arizona

333 beds

250 physicians

25 pharmacy staff members

### Solution Spotlight

- Automation Decision Support™

### Critical Issues

- Identifying the most important business information
- Analyzing reports from individual automation systems—time consuming and resource intensive
- Tracking and predicting inventory trends
- Need for archived reports

### Results

- Attention immediately focused on mission-critical data
- Data from multiple automation systems consolidated into a single, graphical view
- Rapid identification of performance trends for better-informed strategic decisions
- Increased pharmacy productivity
- Improved medication inventory tracking and control
- Maximized use of all automation systems

## Yuma Regional Medical Center Utilizing Enhanced Analytics to Improve Performance Management

### Overview

To analyze critical data from multiple systems, Yuma Regional Medical Center (YRMC), located in Yuma, Arizona, implemented McKesson's Automation Decision Support.

Powered by Horizon Business Insight™, Automation Decision Support consolidates data from multiple automation systems in a single graphical view to focus managers' attention on the most critical data. By using this advanced analytical tool, YRMC is able to monitor performance trends, inventory utilization, product efficiency, narcotic diversion, and order transcription efficiency.

YRMC is a Joint Commission accredited 333-bed acute care hospital that combines modern facilities, state-of-the-art technology, and a compassionate caring environment to provide quality care to Yuma and surrounding communities.

YRMC's campus includes: Women and Children Services; a Level 2 EQ neonatal ICU; and a Pediatric/Women's unit. A Cardiopulmonary Care unit provides the latest in cardiac catheterization. The hospital also includes a Cancer Center and a freestanding Outpatient Surgery Center. YRMC has two fully computerized pharmacies, providing the highest level of quality, accuracy and safety. YRMC uses McKesson's pharmacy distribution services—Supply Management Online (SMO), Fulfill-Rx<sup>sm</sup>, and STAR Pharmacy—to

automate and streamline the ordering and receiving, clinical, and financial processes. In addition, the pharmacy utilizes McKesson's bar-code packaging and pharmacy automation solutions, including ROBOT-Rx®, to automate the drug dispensing process, and MedCarousel®, an automated medication storage, retrieval, and dispensing system. The nursing units are equipped with medication dispensing cabinets.

This advanced technology allows the inpatient and outpatient pharmacy staff to devote more time to clinical patient care, reducing adverse drug events, while providing valuable data that is utilized to make critical decisions to optimize performance and increase productivity.

### Challenges

Prior to implementing Automation Decision Support, YRMC's critical decisions regarding productivity and operational performance were made by comparing separate reports generated from each of the automated systems. Management would analyze the data to predict trends, draw different conclusions, and make decisions.

While this system worked relatively well, YRMC looked for a more efficient and accurate method of analyzing this vital information.

Tom Van Hassel, Director of Pharmacy at YRMC and president of the Arizona State Board of Pharmacy, explained that they were

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**Director of Pharmacy**

**Yuma Regional Medical Center**

using their automation systems for the right reasons; but before Automation Decision Support, they did not have the data from all of the systems pulled together in a single view to quickly validate or confirm decisions they were making.

YRMC had what Van Hassel referred to as “fragmented data”—separate reports from each individual automation system. The information was accurate, but the process of comparing data and trends was very time consuming and resource intensive to obtain the desired output.

Predicting inventory trends and tracking inventory was a huge challenge, especially in the fall and winter months. During this time, the hospital census increases approximately 50 percent, caused by people living in the colder climates traveling to vacation in Yuma and surrounding communities.

“With the inventory swings and changes in workflow we experience during those months, we needed to have tighter control of our inventory. With our old system, it was difficult to look at the ‘fragmented data’ to determine trends and accurately predict inventory levels,” said Van Hassel.

He further explained that having automated processes in a hospital is a true benefit. By design, automation should speed up processes, not slow them down. Prior to Automation Decision Support, the analysis and decision making process was taking too much time.

YRMC needed a system that would drive the clinical, financial and operational performance of their installed automation solutions. And it was imperative that the system would allow YRMC management to gain greater control of the critical data used in the decision making process, quickly and easily identify areas for improvement, and understand the status of the financial and operational performance.

## Answers

When YRMC implemented Automation Decision Support from McKesson, the business intelligence solution exceeded the hospital’s expectations. YRMC was able to immediately access, integrate and aggregate critical data from its multiple automation systems, giving them the data they needed to make better-informed business decisions. The data is managed in a single graphical view, making it very easy to understand and analyze.

“In simple terms, Automation Decision Support allows me to quickly obtain the data, look at it, and use it to make changes and improvements in the pharmacy,” said Van Hassel. “And it allows my pharmacy staff to focus their time on clinical activities on the nursing floors, rather than on daily data-gathering tasks.”

With Automation Decision Support, data is compiled into detailed reports called “Highlights,” which Van Hassel receives on a daily basis.

“I get multiple reports a day. The highlights provide me with the specific, detailed information that I use to make important decisions. The reports are easy to store and simple to use for comparison,” he added.

Through the use of Scorecards, also known as executive dashboards, Van Hassel receives a summary of the information provided in the Highlights. The pharmacy management team is able to quickly view the information in the Scorecards to make effective decisions. If additional details are needed, they refer to the Highlights.

In the pharmacy, Van Hassel established a Scorecard (see *Chart 1*) so he can regularly review five key indicators:

- ROBOT-Rx efficiency averages
- Medication return percentages
- Expenses
- Pharmacy inventory cost
- Pharmacy inventory quality

## Chart 1

Measure	Actual	Target	Achievement
<b>Dispensing Efficiency</b>			
Average ROBOT-Rx Efficiency % <sup>1</sup>	94.85%	95.00	99.84 ✓
%Pharmacy Medication Returns <sup>2</sup>	26.58	30.00	112.88% ✓
<b>Financial Metrics</b>			
Expenses <sup>2</sup>	9,867,476	10,157,467	102.94% ⚠
<b>Inventory Control</b>			
Pharmacy Inventory Cost <sup>2</sup>	599,912.66	750,000.00	125.02% ✓
Pharmacy Inventory Quality <sup>2</sup>	155,033	1,000,000	645.02% ✓

Using national benchmarks and/or his experience, Van Hassel sets reasonable target percentages for each key indicator. If a percentage falls below the benchmark, he can easily identify the problem area and drill down to a more specific report to find out the reason for the change or discrepancy.

On average, YRMC's ROBOT-Rx runs at 95 percent. If Van Hassel sees the percentage drop below 92 percent efficiency, he knows right away that he needs to find out the reason for the decrease. He then uses the Highlights to drill down to the specifics and can immediately take the appropriate steps to remedy the situation.

"What I love about Automation Decision Support is that I control it. I control the data that goes in, I control what shows on the reports, and I can quickly modify the information. I don't have to rely on anyone else," said Van Hassel.

Automation Decision Support also allows Van Hassel to accurately predict and control inventory throughout the year. By reviewing past inventory level trends, he is able to make better-informed decisions, especially when YRMC experiences census and inventory swings in the fall and winter. The closest hospital is 180 miles away—borrowing medications is not an option.

Automation Decision Support tracks perpetual inventory so Van Hassel is able to know his daily inventory levels. The system shows stock-out situations, determines order efficiency, and monitors all items that may be problematic.

"With the benefit of perpetual inventory, I am able to look at my inventory in different ways. I can find out what percentage of my medications are stored in the ROBOT-Rx verses MedCarousel and medication dispensing cabinets. I can also drill down to specific medications and determine if it makes more sense to move them from one area to another."

Van Hassel's instinct told him that he should remove Tylenol from ROBOT-Rx and MedCarousel and stock them in the medication dispensing cabinets on the nursing floors. When he drilled into the detailed Highlights, he found that his intuition was right. The number of restock and quantity was extremely high.

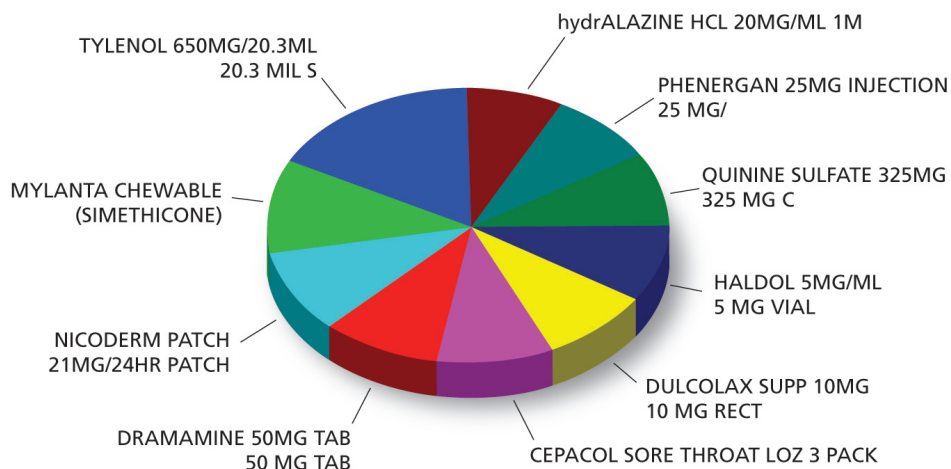
"It was nice to see that the data and my intuition went hand in hand. It was great to have that validation."

"As the old saying goes, a picture is worth a thousand words, and with Automation Decision Support, this holds true. I am able to look at the information in many different ways

"As the old saying goes, a picture is worth a thousand words, and with Automation Decision Support, this holds true..."

## Chart 2

### Restocks by Medication (elements 1 to 10)



“Automation Decision Support is a turn-key product that is very simple to use. This powerful graphic tool gives YRMC the ability to get data about what’s going on today, and also allows us to look back at past trends to determine the direction we should go in the future...”

to prove or disprove something that may appear in a report. I can quickly change the view to determine if what I see in one report is, in fact, what’s really going on. I also have the ability to drill down to specific details to see if a change is a one time occurrence or if there’s a trend behind the change,” explained Van Hassel.

For example, he does not like to reorder the same medication more than four times a month. Automation Decision Support allows him to identify items ordered more frequently to determine if the par levels are set correctly, or if there is another reason for the recurring orders.

The information from multiple automation systems can be displayed in many different graphical views, including tables, bar graphs and three-dimensional pie charts (see *Chart 2*). By simply clicking on a field, the character of a report can be changed. There is no programming involved—the different formats are built into the system. The different views allow YRMC to identify information very quickly for comparison.

Van Hassel explained that it’s nice to be able to show pictures of data in multiple views to physicians or YRMC executives in support of his predictions and decisions.

“Numbers are very important to key decision makers, and using bar graphs or pie charts really make the numbers stand out. I use this tool a lot to help prove my case when recommending changes or improvements,” he added.

All reports generated with Automation Decision Support are easily archived for future reference.

“Automation Decision Support is a turn-key product that is very simple to use. This powerful graphic tool gives YRMC the ability to get data about what’s going on today, and also allows us to look back at past trends to determine the direction we should go in the future,” concluded Van Hassel. “And at the end of the day, we are able to make better-informed decisions, control costs, improve productivity, and ultimately provide better patient care.”

## MCKESSON

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