

# REMOTE MEDICATION ORDER ENTRY: THE HENDRY REGIONAL MEDICAL CENTER (HRMC) EXPERIENCE



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# OBJECTIVES



- Describe the remote medication order entry model used at Hendry Regional Medical Center
- Describe the technology needs for an effective remote medication order entry system
- Identify value realized from a remote medication order entry system in a hospital.



# HOSPITAL BACKGROUND

- **Hendry Regional Medical Center (HRMC) facility designated as a Critical Access Hospital (2005)**
- **Located in South Central Florida at the Northern entrance to the Everglades in the City of Clewiston**
- **Major agricultural area – vegetables, sugar cane, citrus**
- **60 miles from closest major referral facility**

# HOSPITAL FACILITY CHARACTERISTICS

- **Acute care with approximately 1000 admissions annually**
- **Average daily census – 10 patients**
- **Services include medical, surgical, emergency, outpatient, inpatient, intensive care, hospice**
- **Patient population consists primarily of elderly adults**

# HOSPITAL CHARACTERISTICS

- **Hospital plus 8 Clinics**
- **Hospitalist Coverage**
- **2 Inpatient units (Med/Surg & CCU)**
- **Inpatient medication distribution system: cart-less supported by Automated Distribution System**

Omnicell

HRER\_CCU CCU

11 10 20  
2/2/06



Welcome! Please Enter:

User ID:

About  
This  
Omni

Quick  
Reference  
Guide

Change  
Speaker  
Volume

Please enter your user ID and Password if required. Press the Enter key when you are finished typing a user ID or password.



Print  
Card

Reports

Resolve  
Discrep

Inventory  
Monitor

User  
Manual

Admin  
Manual

EXIT







The barcode and product are scanned at the ADM before restocking.

# PHARMACEUTICAL SERVICES

- **Unit Dose**
- **IV Admixtures,**
- **Computerized MARs,**
- **Clinical Pharmacy Services**
- **Pharmacists on site 8:00 AM to 4:30 PM daily**
- **1.75 Pharmacist FTE**
- **1.25 Pharmacy technicians FTE**
- **Remote medication order entry services plus on-call pharmacist after hours.**



# DESCRIPTION OF HRMC REMOTE MEDICATION ORDER ENTRY MODEL

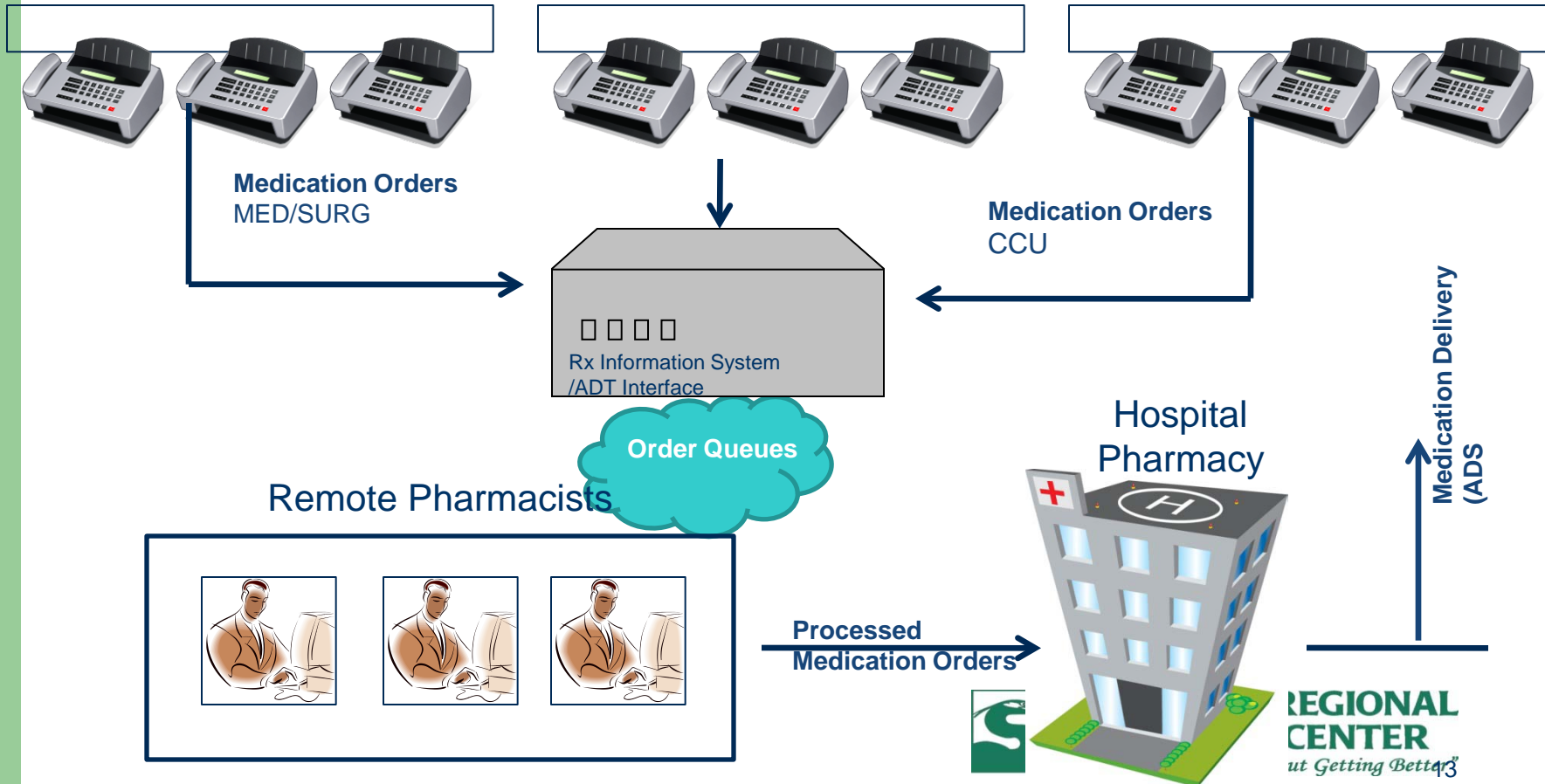
- The system provides state licensed pharmacists who perform comprehensive medication order review and processing from a location away from the hospital when the onsite pharmacy is closed.
- The medication orders are transmitted electronically from the hospital patient care units to remote locations where the pharmacists are stationed.
- The orders are entered into the pharmacy computer system and/or electronic medical record.
- This allows the nursing staff at the hospital to have access to the medication in the automated dispensing system once the orders are processed.

# EMPLOYING TECHNOLOGY TO IMPROVE MEDICATION MANAGEMENT PROCESSES

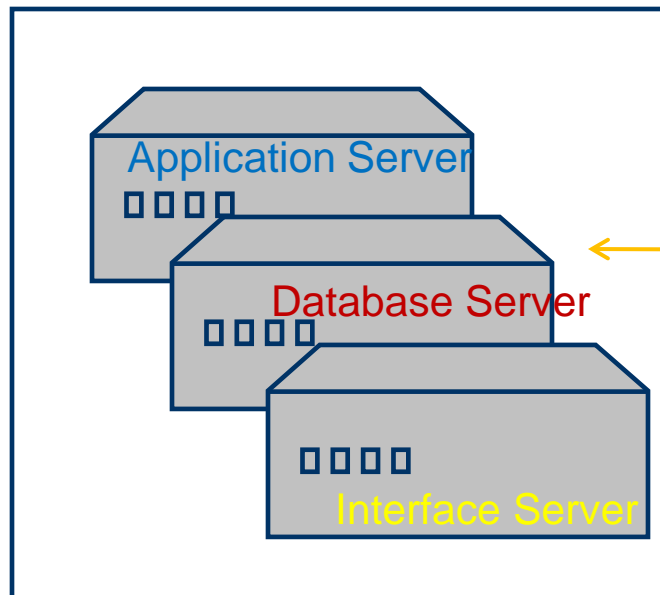
- Remote Medication Order Entry system is made possible through the application of new technology giving pharmacists the ability to access pharmacy systems remotely via a secure VPN from work centers, other hospital pharmacies or at “work-from-home” locations.
- Remote pharmacists have access to the same systems available to the onsite pharmacists (e.g. lab data and drug information resource),

# REMOTE MEDICATION ORDER ENTRY

## Medication Order Flow



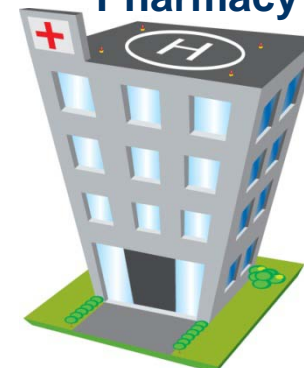
# Information System Requirements for Remote Medication Order Entry



Remote pharmacists



Hospital Pharmacy



**RY REGIONAL  
CAL CENTER**

*"Where It's All About Getting Better"*

**Pharmacists use a dual monitor PC to access the order image and the pharmacy information system at the same time**





# ORDER TYPES and COVERAGE

- In general, remote medication order entry systems are designed to handle various medication order types.

## ***Exceptions:***

- TPN
- PKinetic Dosing
- Anticoagulation Monitoring
  
- Exceptions are based on the additional pharmacist-nurse communication that may be required to finalize these types of orders.

## HOME MEDICATION RECONCILIATION FORM

Review all CURRENT home medications taken at time of admission (including Over The Counter, samples and herbal medications).

If patient indicates information that differs from that listed, make appropriate legible corrections (examples could include different drug strength, dose instructions, or drug selections).

**PHYSICIAN ORDER**  
Circle (Y) to continue  
or (N) to discontinue

Medication-Strength Prescribed By (PRINT ONLY)	Directions			Qty Days Supply	Original Last Fill	# of Fills	Poss. Non Compl.	Last dose time	Indication	Continue on Admit Dischg
	Dose	Route	Freq							
LIPITOR 20MG				30	6/6/05	10				Y / N
					3/7/06					
DIOVAN 160MG				30	6/3/05	8				Y / N
					3/7/06					
METFORMIN HCL 500MG				60	11/1/05	3				Y / N
					1/6/06					
LISINOPRIL 40MG				30	7/25/05	6				Y / N
					12/27/05					
CATAPRES-TTS 3 0.3MG/2				4	6/28/05	6				Y / N
					12/27/05					
METOPROLOL TARTRATE 100MG				30	7/25/05	6				Y / N
					12/23/05					
FOSINOPRIL SODIUM 40MG				30	7/3/05	7				Y / N
					12/23/05					
PREVACID 30MG				30	6/24/05	7				Y / N
					12/21/05					
COUMADIN 5MG				30	6/9/05	4				Y / N
					12/21/05					
DILANTIN 100MG				90	6/13/05	7				Y / N
					12/20/05					
DYAZIDE 37.5-25				30	6/14/05	7				Y / N
					12/13/05					
NIFEDIPINE ER 30MG				30	7/18/05	6				Y / N
					12/12/05					
WARFARIN SODIUM 5MG				30	9/7/05	4				Y / N
					11/29/05					

Did patient/family interview include Over The Counter, samples and herbal medication history and are they entered on HRMC Home Medication Reconciliation list? Circle one: Y / N

Medication list reviewed by: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Admit MD Signature: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Discharge MD Signature: \_\_\_\_\_

Date/Time: \_\_\_\_\_

**\*DISCLAIMER:** Certain information may not be available or accurate in this report, including Over The Counter medications, low cost prescriptions, prescriptions paid for by the patient or non-participating source, or errors, in insurance claims information. Clinicians should independently verify medication history with the patient.

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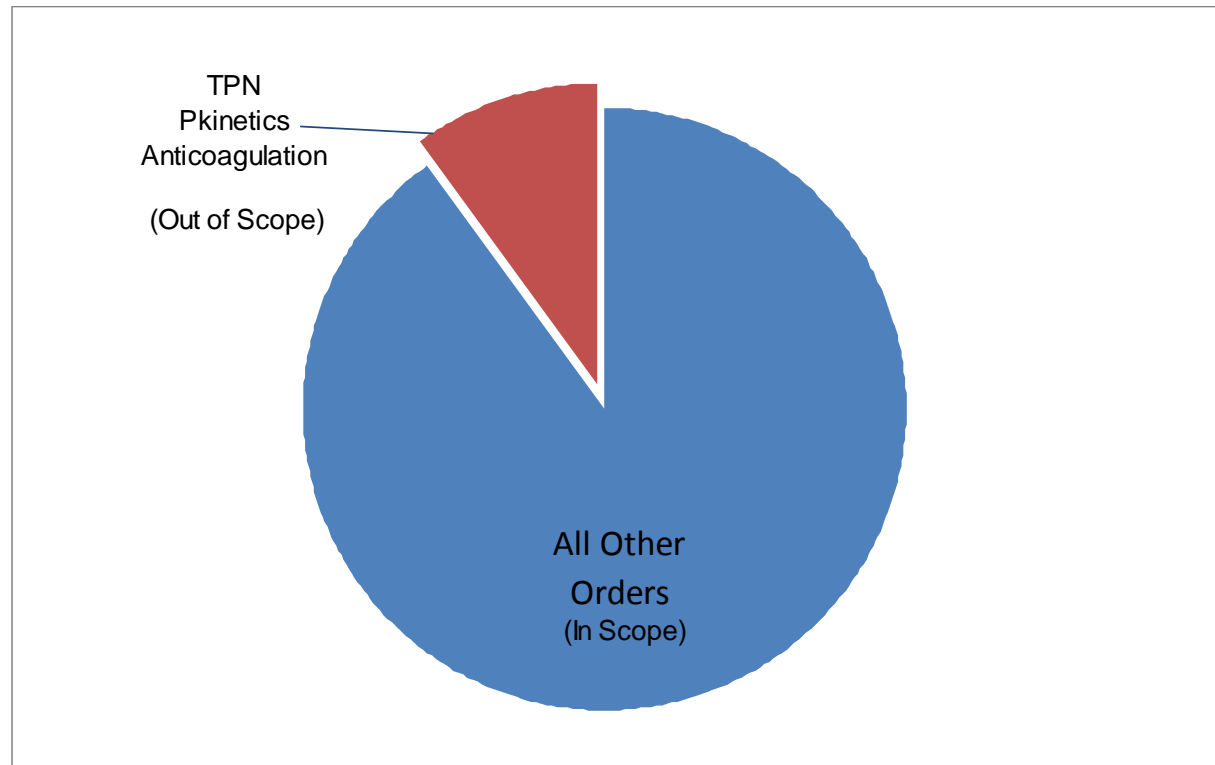
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**HENDRY REGIONAL MEDICAL CENTER  
HOME MEDICATION RECONCILIATION FORM**

ALLERGIES

# ORDER TYPES & EXCEPTIONS



# MEDICATION ORDER MANAGEMENT

- Remote pharmacy staff process approximately 20 percent of total daily orders including new, changed and discontinued orders
- Pharmacists prompt nursing staff for clarification of unclear or inappropriate orders
- Pharmacists provide recommendations for order changes where necessary

# VALUE REALIZED FROM REMOTE MEDICATION ORDER ENTRY

- A means to address the current lack of pharmacist manpower; pharmacy recruitment incentive
- Greater pharmacist efficiency; increase in productivity; allow re-deployment of hospital-based pharmacists' time to patient-focused activities
- Nursing has direct access to a hospital-trained Pharmacist 24/7
- Availability of a printed and accurate MAR for new patients admitted after hours



# VALUE REALIZED FROM REMOTE MEDICATION ORDER ENTRY

- **Clinical checks are performed against current medication profile, eliminating therapeutic duplication, and verifying drug appropriateness for orders generated after hours**
- **Reduction in medication errors**
- **Overall Improvement in patient safety**

# VALUE REALIZED FROM REMOTE MEDICATION ORDER ENTRY

- **More opportunities for nursing staff to function in nursing roles by eliminating performance of pharmacy functions**
- **Provide patients with available technology solutions, such as bedside scanning, that have been identified as methods of enhancing medication safety.**

# VALUE REALIZED FROM REMOTE MEDICATION ORDER ENTRY

## Compliance with Medication Management Standards and CoP

### MM 4

- **Medication Orders are clear and accurate**
  - Multiple PRN meds with the same indications
  - Range orders

### MM 05

- **Pharmacist reviews all medication orders or prescriptions**

### MM 08

- **The hospital evaluates the effectiveness of its medication management system; use of technology to improve system**

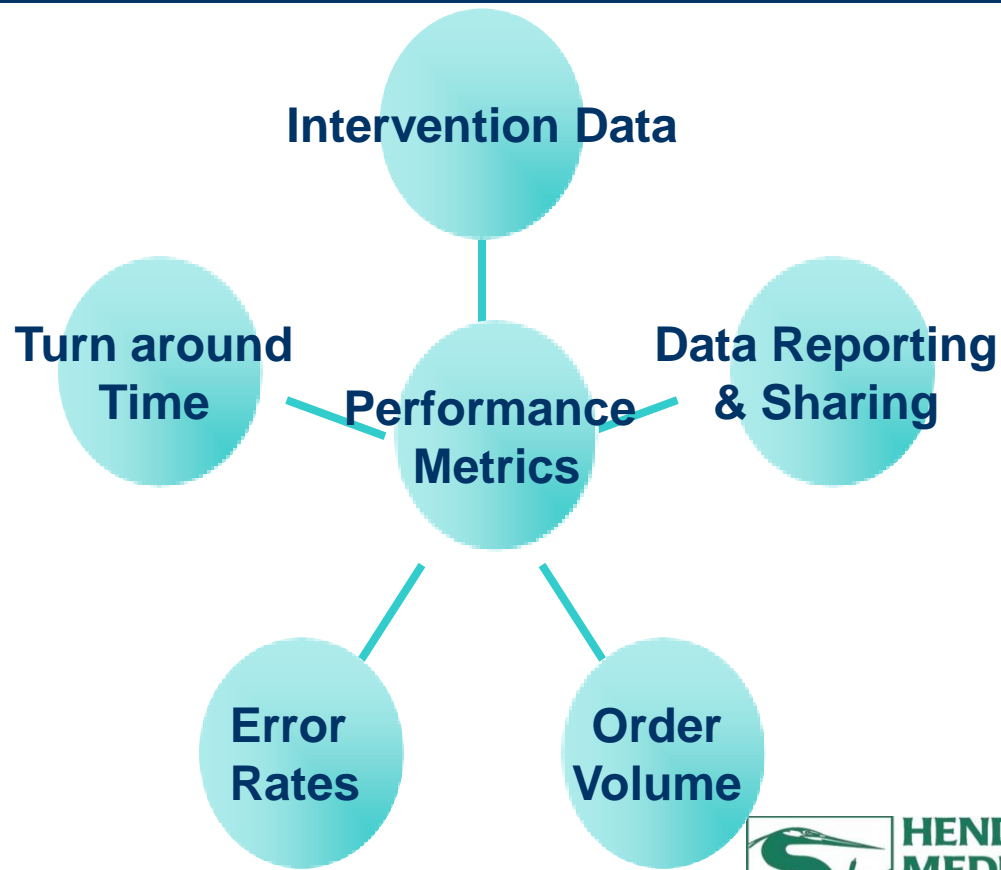
# KEYS TO A SUCCESSFUL REMOTE MEDICATION ORDER ENTRY SYSTEM

## COMMUNICATION AND COLLABORATION

# MANAGING THE COMMUNICATION CHALLENGE

- ☆ Policies and procedures, performance metrics, system and process updates;
  - ☆ **ONGOING COMMUNICATION STRATEGIES**
- ☆ Conference Calls
- ☆ Standing Meetings
- ☆ Phone Calls
- ☆ Daily Computer Logs
- ☆ Site Visits

# TRACKING PERFORMANCE



# MINIMUM CRITERIA FOR SELECTION OF REMOTE MEDICATION ORDER VENDOR

- Board of Pharmacy approval
- Flexibility
- Experience with pharmacy order entry system
- Established policies and procedures
- Information technology (IT) requirements
- Hospital-trained/competent/consistent staff
- Service Agreement
- Reasonable cost

# IMPORTANT SYSTEM CONSIDERATIONS

- Hours of operation
- On-call responsibilities
- Changes in nursing workload and/or workflow
- Reliability of communication systems
- Staffing
- Order types coverage
- Transparency of services
- Expectation of order processing time
- Competency verification
- Performance monitoring

# NEXT STEPS TO STENGTHEN SAFE MEDICATION PRACTICES

- **Planning implementation of bedside barcode scanning for medication administration**
- **eHMR with CPOE implementation scheduled for June-September 2011**
- **Expansion of ER/OR/OutPt space and the addition of more automated dispensing cabinets in these areas**
- **Expansion of evidence-based practices through continued use of therapy protocols**

# References /Resources

- ***ISMP Medication Safety Alert: Remote Order Entry: Innovative Practice to Reduce Distractions and offer 24-hour Pharmacy Service. April 12, 2002***
- ***Providing Nighttime Pharmaceutical Services through Telepharmacy, Keeys,CA, et.al. Am J Health-Syst Pharm.2002: 59: 716-721***
- ***Florida Board of Pharmacy Rule. 64B16-28.606 Remote Medication Order Processing for Class II Institutional Pharmacies.***
- ***ASHP Guidelines on Remote Medication Order Processing Am J Health-Syst Pharm. 2010; 67:672-7.***
- ***Sikri S, Sansgiry S, Sanborn M, Flinn M. Effect of a remote order scanning system on processing medication orders. American Journal of Health-System Pharmacy. Aug. 1, 2006:1438-1441***

# Remote Medication Order Entry Vendors

- Cardinal Rxe-source
- EPharmPro LLC
- PipelineRx
- Remote Pharmacy Staffing
- NightWatch Pharmacy Services
- PRN- Systems Connect
- Rx Remote Solutions
- TelNet-Rx
- Envision Telepharmacy
- Advanced Pharmacy Staffing, Inc

**THE END**

The image features the words "THE END" in a bold, three-dimensional, purple font. The letters are blocky and cast long, dark shadows onto the ground below. The background is a dark gray surface with several light gray lines that create a strong sense of perspective, receding towards the horizon. The overall composition is minimalist and graphic.