

A Cost Study of Virtual Pharmacists at a Rural Hospital in Florida



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Presenter Disclosures

Ronald J. Wiewora, MD, MPH

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose

The Problem

- Rural hospitals must meet the same quality standards as their larger, urban counterparts
- Professional staffing is challenging
- Having a pharmacist review medication orders before any medication is dispensed and administered to patients is recognized by many groups as a best practice (Joint Commission, Leapfrog, AHRQ) and helps reduce medication error



Settings where virtual pharmacists have been utilized

- Smaller hospitals that are part of larger chains
- Naval Hospitals
- Rural Hospitals
- Intensive Care Units in smaller hospitals



Guidelines have been developed for the use of virtual pharmacists

- American Society of Health-System Pharmacists (ASHP)
- Remote Medication Order Processing
- Models of Service
 - Contracted Services for Coverage
 - Supplemental Workload Balancing



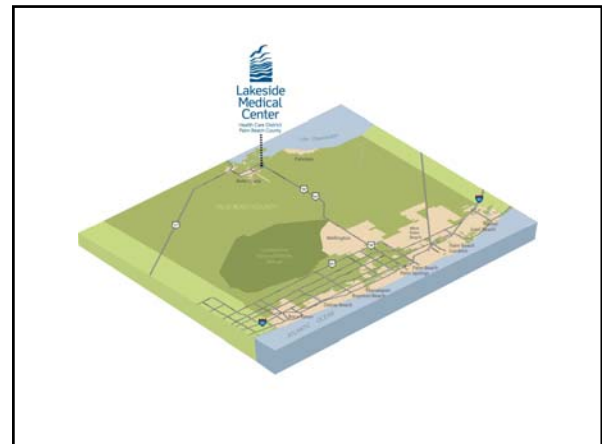
ASHP Guidelines

- Quality Assurance
 - Review of patient's profile
 - Clarification of medication orders
 - Quality assurance and medication error reporting systems
 - Handoff communication
- Access to drug information sources
- Training and orientation
- Technical specifications and standards
- Confidentiality, Privacy and Security
- Regulatory Issues
- Communication and problem resolution



Case study at Lakeside Medical Center

- 70 bed, licensed acute care, Joint Commission accredited with
 - 3,019 Annual Admissions
 - 13,165 Outpatient Registrations
 - 22,799 Emergency Room Visits
 - 1,423 Surgeries
 - 619 Babies Delivered
- Closest acute care facility is 30 miles to the east
- Operated by Health Care District of Palm Beach County



Challenges

- Unable to provide 24 hour coverage in the pharmacy
- LMC is the only hospital in the Health Care District, no larger institution to draw support from
- No willing partner hospitals in the area



More Challenges

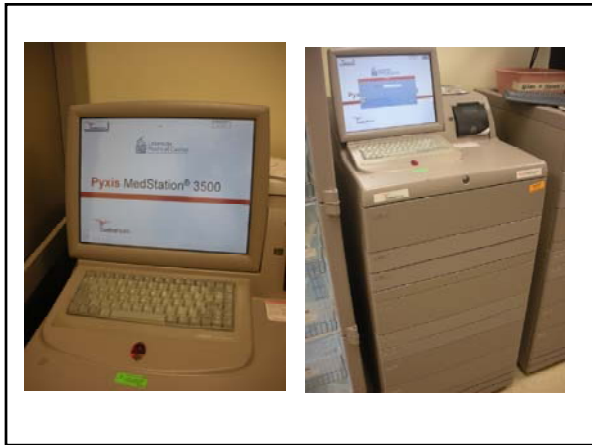
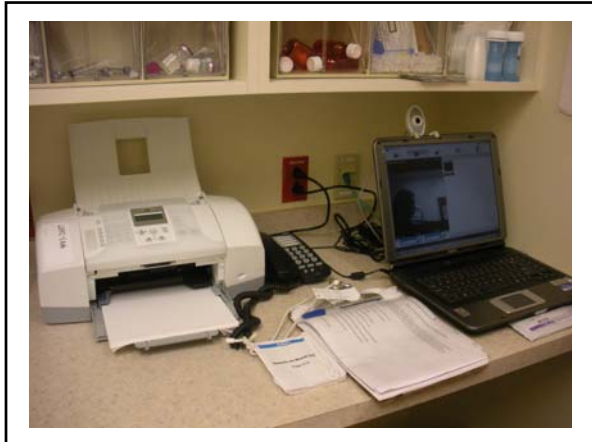
- LMC has pharmacy coverage for 12 hours daily, 8AM to 8PM
- A minimum of two additional FTEs would be needed to provide 24 hour coverage
- Cost of this coverage would be \$280,080



How the process works



- Orders are faxed to remote pharmacists
- Remote pharmacist has access to EHR and enters orders into system
- Pharmacist reviews patient profile and provides any order clarification
- Orders are tied into the automated dispensing system where medications are found







Work load

- Work volume is measured by lines of orders
- Previous year's volume was 36,471 lines
- If the work were done by on-site pharmacists, the cost would be \$7.68 per line



Virtual Pharmacies

- Lakeside requested bids from vendors willing to provide virtual pharmacy services
- Infrastructure already in place
 - Electronic Record
 - Dispensing Device
 - Webcam
- Lowest bid was \$4.25/line

Cost analysis

	On Site Staff	Virtual Staff
Estimated Volume	36,471	36,471
Cost	\$280,080	\$155,002
Cost per line	\$7.68/line	\$4.25/line

Lessons Learned

- Solution is heavily dependent on technology
- Doesn't allow easy interaction with physicians, nurses and other staff
- Doesn't allow for after hours compounding



Lessons Learned

- Provides staff with additional resources after hours
- Virtual pharmacists provide a cost-effective solution to provide round the clock pharmacy coverage in a rural hospital setting

