

North Dakota Telepharmacy Project: An Update

North Dakota Pharmacist Association Convention
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NDSU College of Pharmacy, Nursing, and Allied Sciences

North Dakota Telepharmacy Project

- Overview & update
- Community & hospital telepharmacy models
- Central pharmacy hub site: ePharmacist Direct

Community pharmacy closings: A rural health care crisis

2000-2001:

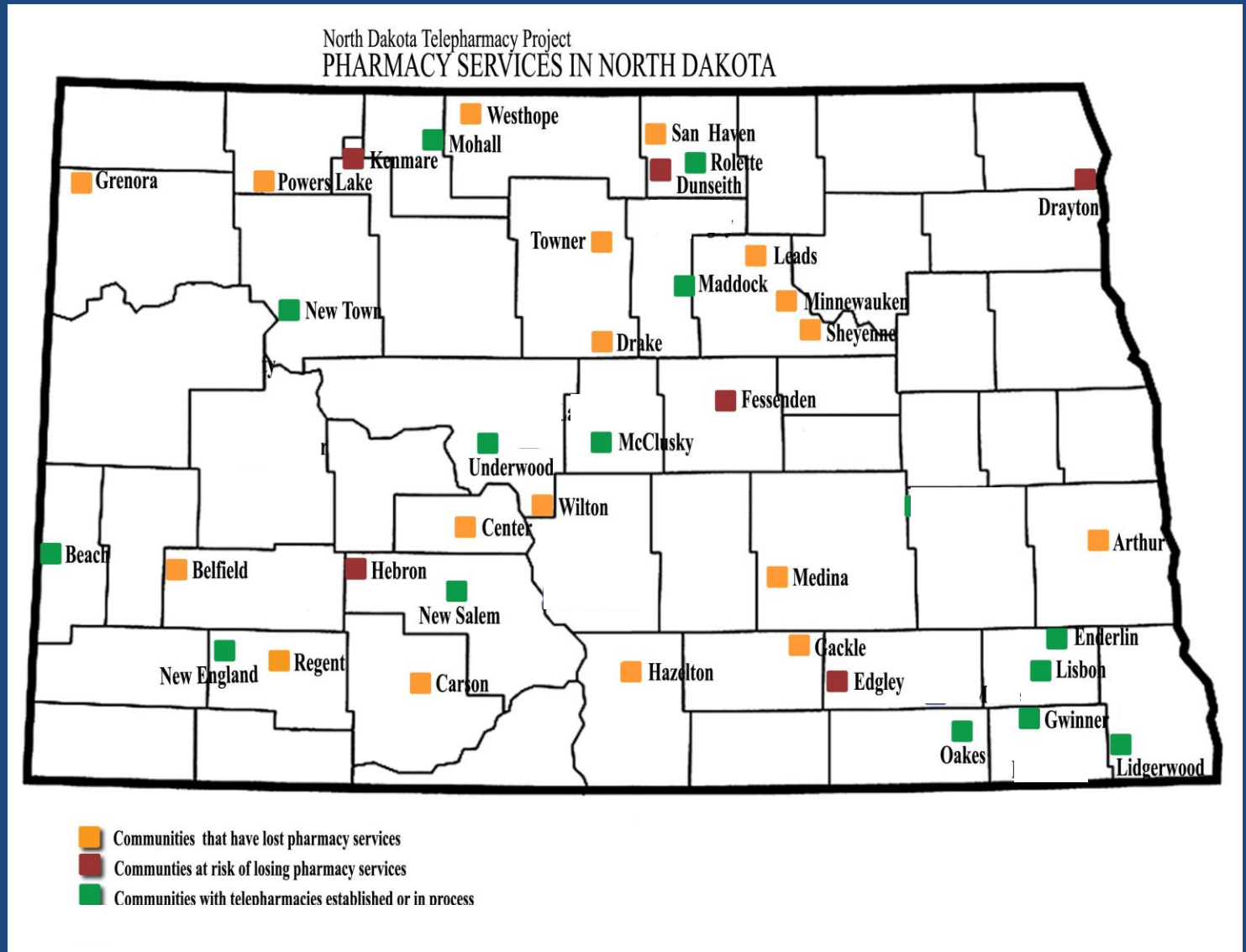
26 closed
12 at risk
State law allows telepharmacy

2002-2003:

NDTP created to restore & retain
Temporary rules
1st HRSA grant

2003-2004:

Permanent rules
12 restored or retained
2nd HRSA grant



Telepharmacy Rules

- ⦿ Allow a pharmacist to supervise a pharmacy technician at a remote site to process medications
- ⦿ Mandatory verification and approval of each prescription/order by pharmacist
- ⦿ Mandatory educational counseling (retail)
- ⦿ Required monthly inspections
- ⦿ Remote site visits

Pharmacist Responsibilities

- ⦿ Performs final check of technician product preparation
- ⦿ Performs medication profile review
- ⦿ Performs final order/prescription verification and approval and releases medication
- ⦿ Provides professional consultations to patients, nurses, and physicians
- ⦿ Remote site visits

Pharmacy Technician Responsibilities

- ⦿ Obtains medication order/prescription
- ⦿ Enters medication order/prescription into computer
- ⦿ Performs product selection, preparation, packaging, and labeling
- ⦿ Provides digital images of medication order/prescription, drug, and label for verification and approval by pharmacist

Grant: Office for the Advancement of Telehealth/ORHP/HRSA/DHHS

Technology

- Standard PC's and computer monitors
- Audio/video equipment for videoconferencing
- Networking equipment for virtual private network
- XGA resolution document imaging camera
- Rx software and audio video link run in parallel
- Connectivity
- Installation

Personnel

- Pharmacy technician (retail)
- Nurse cross training (hospital)

Remodeling

Travel



Cost of Technology

- \$11,000 Audio/Video Equipment for teleconferencing
- \$1,100 PC Computer
- \$ 800 2 LCD Monitors
- \$ 1,200 XGA Resolution Document Imaging Camera
- \$ 200 Networking Equipment for VPN
- \$ 200 Networking Equipment for Wireless
- \$ 350 Cabling & USP Power Supply
- \$ 1,700 Connectivity for 1 year
- \$ 750 Equipment Installation

\$17,300 TOTAL COST/site

(Add \$5,000 for Hospital Mobile Cart)



Community
Telepharmacy

Hospital
Telepharmacy



ENDERLIN PHARMACY





Drug inventory



Verification of prescription by pharmacist

Document camera



MeritCare
Enderlin

FOR: [Redacted] AGE: [Redacted]
ADDRESS: [Redacted] DATE: 8/18/04

Rx

*Cipro 500 mg + (90)
bid x 5 days*

[Redacted] P.A.C.
[Redacted] M.D.

DEA NO. [Redacted]

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IN ORDER TO REQUIRE THAT A BRAND NAME PRODUCT BE DISPENSED, THE PRACTITIONER MUST HANDWRITE THE WORDS "BRAND NECESSARY".

KNO 03 Jan. 0/0 Rev. 3/02

ENDERLIN PHARMACY

Rx# [Redacted]
Patient Name [Redacted]
CIPROFLOXACIN HCL 500MG TAB
TAKE ONE TABLET TWO TIMES A DAY
FOR 5 DAYS

Quantity 10
No Refills
RPh: [Redacted]

Date Filled: 08/18/04



Mandatory patient consultation



**North Dakota
Telepharmacy
Model: Hospital**

Hospital Telepharmacy Models

- Community pharmacist delivers pharmacy services to rural hospital
- Hospital telepharmacy network – rural hospitals share pharmacist staffing
- Hospital pharmacist delivers services from home
- Mobile telepharmacy cart
- Central pharmacy hub site provides clinical pharmacy services to rural hospitals

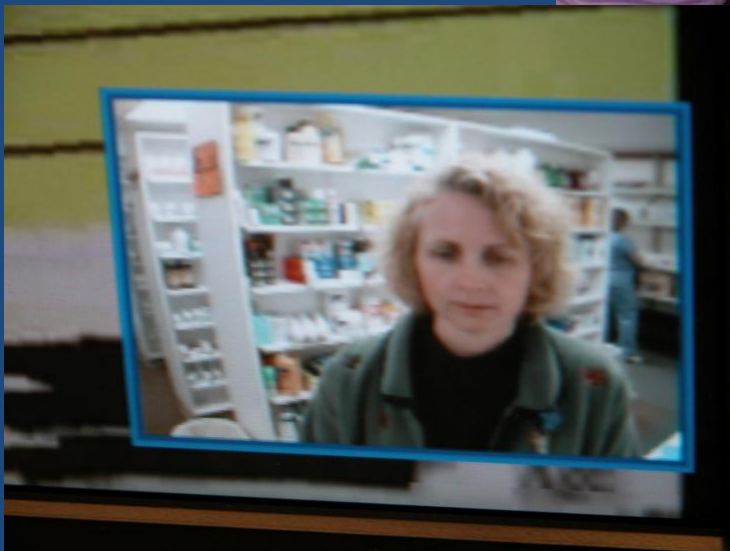


Order entry



Verification of order entry at desktop workstation

Verification of drug, label & order at mobile cart workstation





Pharmacist consultation at nurses' station

Central Hospital Pharmacy Hub Site Model



- Central pharmacy hub in Fargo with fast, secure electronic connectivity
- Review and verify physician orders
- Remote order entry
- Facilitate medication adjustments and interventions
- Observe medication preparation
- Monitor the “Five Rights”
- Facilitate standardization of medication protocols

Remote Pharmacist Consultation Services

- For nurses, pharmacy technicians, and physicians
- For patients at their bedside



Benefits of Hospital Telepharmacy

- ◎ **Quality and safety** (1999 IOM Report)
 - 3.13 medication errors for every 1,000 orders written
 - 1.81 of these are significant medication errors
 - Pharmacists' clinical expertise and service for the hospital
- ◎ **Quality of life and job satisfaction**
 - Increased recruitment and retention of pharmacists & technicians
- ◎ **Regulatory requirements**
 - The Joint Commission - pharmacy areas accessible only to pharmacy personnel
 - The Joint Commission, Institute of Medicine and CMS - challenge hospitals to improve patient safety
 - If possible, 24/7 pharmacist review of medication orders

Assessment and Quality Assurance Research

⦿ **Economic Outcomes**

- Cost Analysis Study
- Determine Financial Viability of Telepharmacies

⦿ **Clinical Outcomes**

- Medication Dispensing Error Study
- Compare Error Rates Between Telepharmacy & Traditional Pharmacy Services

⦿ **Humanistic Outcomes**

- Patient Satisfaction Study
- Determine Level of Customer Satisfaction with Telepharmacy Services

Medication Error Study Findings

- National studies in community pharmacies: average error rate of 2%
- North Dakota telepharmacies: error rates are less than 1%
- After 45 months: a lower overall medication error rate and a slight difference between telepharmacies and the comparison group

Telepharmacy References

- Is There a Successful Business Case for Telepharmacy? *Telemedicine & e-Health* 2008;14:235-244.
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www.ndsu.edu/telepharmacy

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