

# Using Telepharmacy to Serve Patients in Underserved Areas

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Adam Chesler is an employee with Cardinal Health. The conflict of interest was resolved by peer review of the slide content.

Jason Reading declares no conflicts of interest or financial interest in any product or service mentioned in this program, including grants, employment, gifts, stock holdings, and honoraria.

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# Learning Objectives



## Pharmacist and Pharmacy Technician Objectives:

1. Discuss the use of advanced technician roles to grow and improve patient care in telepharmacy.
2. Discuss methods of expanding the service model of telepharmacy based on scheduling of rotating pharmacists and services that can be provided to a community to expand care.
3. Discuss the barriers to the adoption of the telepharmacy model.

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# Why telepharmacy?



1. Utilize technology to improve patient adherence
2. Enable access to a pharmacist in rural communities
3. Increase pharmacist outreach in urban areas

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# The four types of telepharmacy



## INPATIENT



Remote order entry review



IV admixture

## OUTPATIENT



Retail telepharmacy



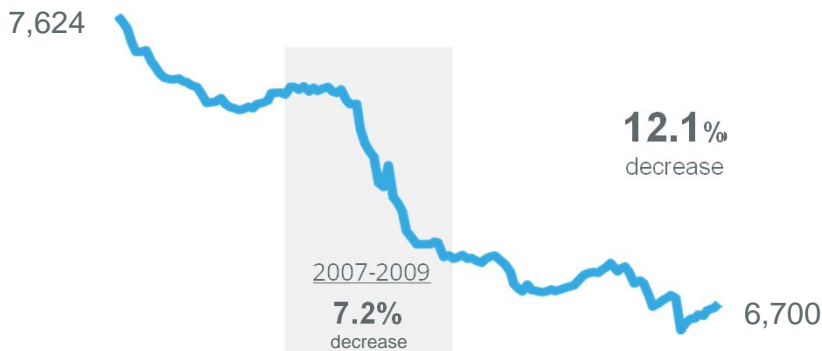
Remote counseling

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# Need for alternative delivery



## Independent Rural Pharmacies 2003-2013



**924**  
independent rural  
pharmacies closed

**490**  
rural communities  
lost their only  
pharmacy

Source: Update: Independently Owned Pharmacy Closures in Rural America, 2003-2013; RUPRI Center for Rural Health Policy Analysis, Rural Policy Brief June 2014; Fred Ullrich, BA; Keith J. Mueller, PhD

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# Telepharmacy historical timeline



- 1942 Australia's Royal Flying Doctor Service
- 2001 North Dakota first state to allow
- 2001 Community Health Association in Spokane, WA launches program
- 2002 NDSU study begins
- 2003 Alaska Native Medical Center program
- 2006 U.S. Navy begins telepharmacy



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# North Dakota telepharmacy case study



Study conducted from  
2002 - 2008



Medication dispensing  
error rate for  
telepharmacies

**<1%**

Compared to a national  
average of: ~1.7%

Result: Positive outcomes, mechanisms could be improved

Information of the North  
Dakota Telepharmacy  
Program provided by  
North Dakota State  
University School of  
Pharmacy

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Source: The North Dakota Experience: Achieving High-Performance Health Care Through Rural Innovation And Cooperation. May 2008

# North Dakota telepharmacy case study

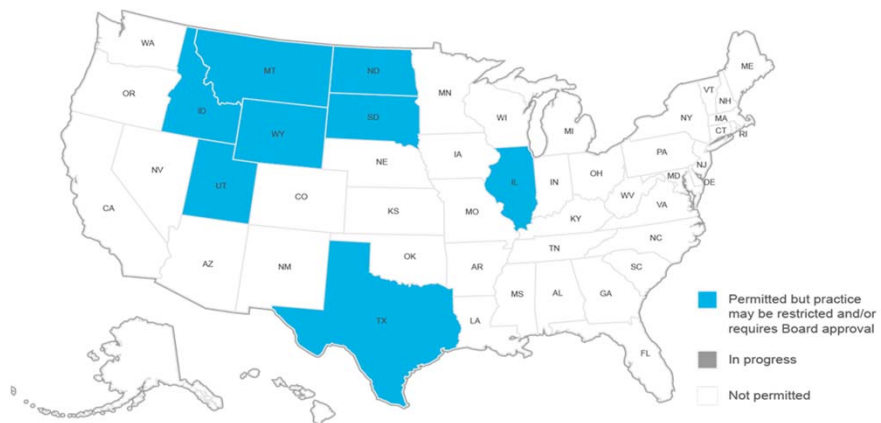


Information of the North Dakota Telepharmacy Program provided by North Dakota State University School of Pharmacy

Source: The North Dakota Experience: Achieving High-Performance Health Care Through Rural Innovation And Cooperation. May 2008

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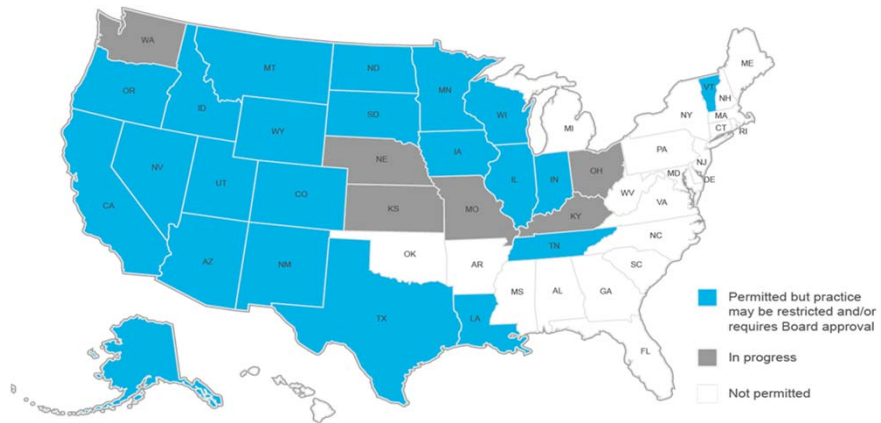
# Telepharmacy regulations, 2008



Source: Telepharmacy project expands across country; 9/12/2008; Dave Kolpack, Associated Press

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# Telepharmacy regulations, 2018



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# How big is the adherence problem?



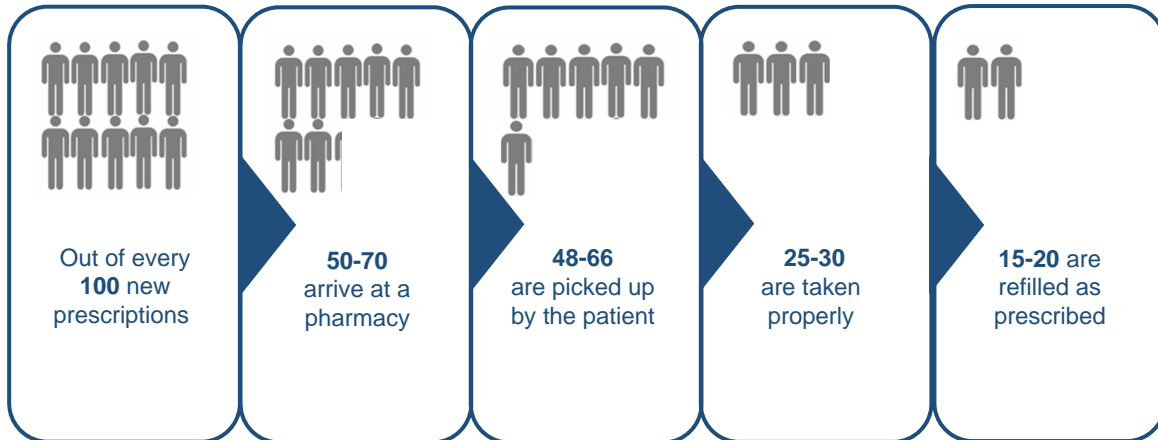
Sources: Osterberg, L., Blaschke, T. (2005). Adherence to medication. N Engl J Med, 353(5), 487-497; Thinking Outside the Pillbox, A System-wide Approach to Improving Patient Medication Adherence for Chronic Disease; A NEHI Research Brief – August 2009

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# “The Leaky Bucket”



According to IMS Health:



Source: IMS Health Data, March 2011

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# Frequent interactions with patients



Patients visit their pharmacist more than any other healthcare provider

Provider	# visits
Primary care physician	4
Other healthcare providers	9
Pharmacist	35



Source: Pharmacists as Influencers of Patient Adherence, August 21, 2014, Joseph Moose, PharmD, and Ashley Branham, PharmD, BCACP

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## Patients desire convenience



**95%**

patients filled initial prescriptions  
when offered at doctor's office

Source: New Prescription Medication Gaps: A Comprehensive Measure of Adherence to New Prescriptions; Harvard Business Review Vol 44 | Num 5 | Oct 2009.

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## Economics of telepharmacy



### NORTH DAKOTA

Results of the 6-year study with 81 locations:

**\$26.5 million**  
in economic development

**80-100**  
new jobs created

### ILLINOIS

Estimate for one pharmacy based on financial data:

**\$640,000**  
annual economic impact



Source: North Dakota Telepharmacy Project <https://www.ndsu.edu/telepharmacy/>; Rural Economic Technical Assistance Center (RETAC) in Macomb, IL; Economic impacts of a pharmacy for Deiterich, Illinois, June 2015

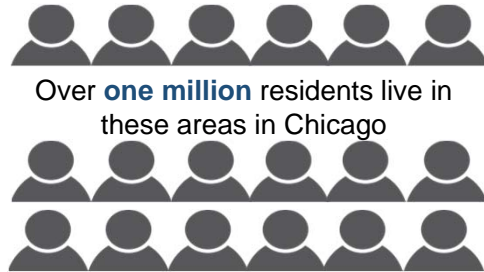
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## Access challenges in urban areas



University of Illinois Chicago did a study looking at “pharmacy deserts” in Chicago:



Source: Source: 'Pharmacy Deserts' Are Prevalent In Chicago's Predominantly Minority Communities, Raising Medication Access Concerns, Dima M. Qato, Martha L. Daviglius, Jocelyn Wilder, Todd Lee, Danya Qato and Bruce Lambert.

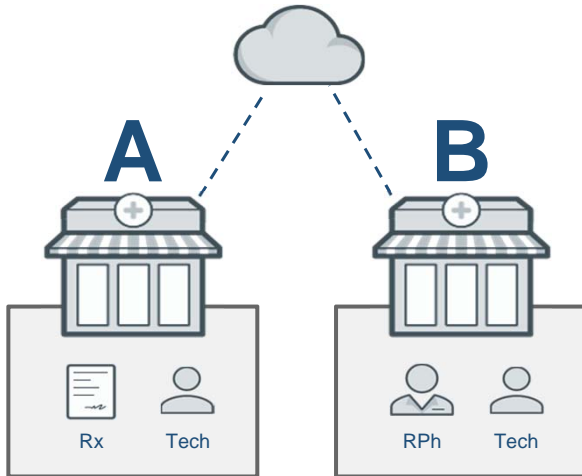
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## Common Questions

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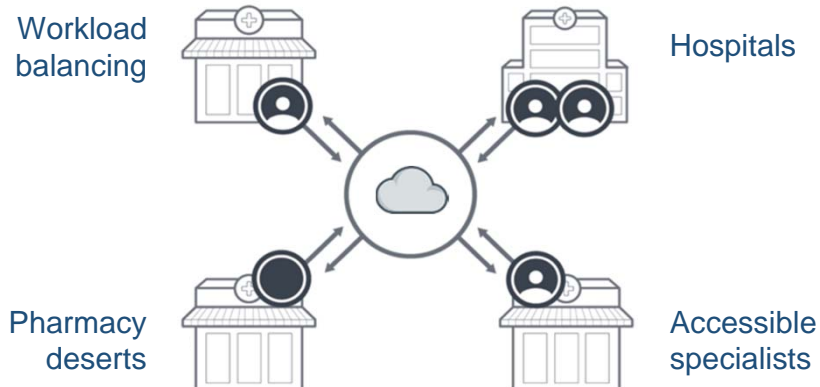
# Telepharmacy workflow



- 1 New prescription arrives at **Pharmacy A**
- 2 **Technician A** fills, taking images of the process
- 3 **Pharmacist B** reviews images to verify fill is accurate
- 4 Patient picks up Rx at **Pharmacy A** and **Pharmacist B** counsels

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# Endless opportunities



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## FAQ



Fill Accuracy

Safety  
(staff & location)

Diversion

Internet outage

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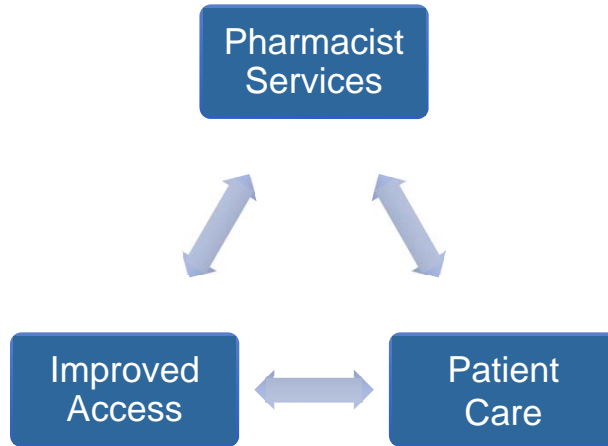


## A Telepharmacy Story

Jason Reading, PharmD

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# Why I decided to do telepharmacy?



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## Exterior



Shoshone Telepharmacy, December 2016

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# Interior



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# How did we do it



Hiring

Main Challenges

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# Marketing Approach



Marketing

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# Challenges



How are stores performing now?

How did it affect other pharmacies?

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# Benefits of Telepharmacy



What went well?

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# What did I learn



What didn't go well?

What would I do differently?

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## What is next?



What are the next steps?

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## CE Question #1



Which of these is not a type of “telepharmacy”?

- A. Remote Order Entry
- B. Remote Dispensing
- C. Remote Consultation
- D. Internet Pharmacy

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## CE Question #2

Whdskdup df | lv ehfrp lqj  
dvv suhydohqw lq Dp hulfd1

- A.True
- B.False
- C.Answering this question is a slippery slope
- D.I can neither confirm or deny this

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## CE Question #3

Z klfk riwkh irørz lqj  
khdok fduh surylghuv kdvd  
wkh p rvwsdwlhqw frqwdfwB

- A.Pharmacist
- B.Primary Care Physician
- C.Dentist
- D.Veterinarian

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## CE Question #4

Dydkledn gdwł iurp wkh  
lp sdnp hqwdwlrq ri  
whdnskdup df| lq Q ruwk  
G dnrwd vkrz hg wkh  
fuhdwlrq ri qhz mevl

- A. Yes, it created over 80 new jobs
- B. Yes, but all the jobs went to China
- C. No, no new jobs were created
- D. No, it actually took away jobs

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## CE Question #5

Z klfk jurxs z rxog eh  
frqvlghuhg wr kdyh dffhvv  
lvvxhvB

- A. Seniors
- B. Low vehicle ownership
- C. Both
- D. Neither

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## CE Question #6

Z klfk riwkh irørz lqj duh  
z d|vwr lqfuhdvh  
skdup dflwshvhqfhB

- A. Telepharmacy in warfarin clinics
- B. Telepharmacy to allow HIV medications at discharge
- C. Telepharmacy to allow overnight coverage at rural hospitals/clinics
- D. All of the above

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