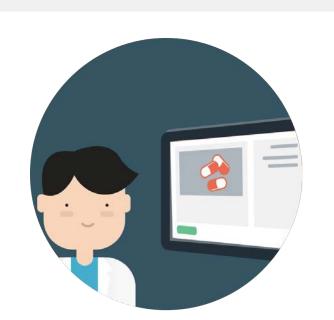
#### Patient Care through Telepharmacy May 2016

**Greg Janes** 

#### Agenda

- Origins of Telepharmacy
- Why now?
- Telepharmacy process
- Regulatory environment
- Future Applications

#### Telepharmacy



**Prescription verification** 



#### **Counseling & Education**

History

### **Origins of Telepharmacy**

- 1942 Australia's Royal Flying Doctor Service
- 2001 U.S. has first state pass telepharmacy regulation
- 2003 Canada begins first telepharmacy service
- 2010 Hong Kong sees first videoconferencing consulting services



#### **US Telepharmacy Timeline**

- 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
- 2012 New generation begins in Iowa







#### North Dakota Telepharmacy

- First to pass regulation
- Rural community pharmacy closing
- NDSU College of Pharmacy study



### NDSU Telepharmacy Study

#### Study from 2002-2008

- 81 pharmacies
  - 53 retail and 28 hospital
- Rate of dispensing errors <1%
  - Compared to national average of ~2%

# • Positive outcomes, mechanisms could be improved

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



## Limitations of Early Technology

- Live video feed restrictions
  - Point-to-point
  - Expensive hardware
  - Heavy broadband need
  - Lack of documentation
  - Scalability
  - Workflow obstacles

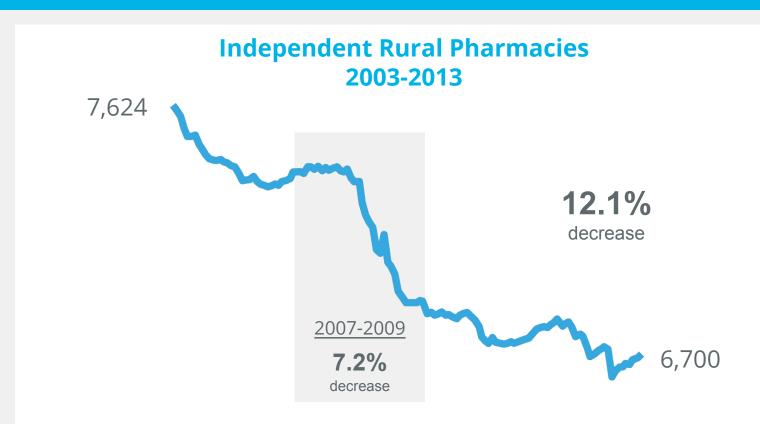






Industry Changes

#### **Pharmacy Closure Trend**



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

#### **Rural Pharmacy Closures**



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 Mar 2003 - Dec 2013

**924** 

independent rural pharmacies closed

**490** 

rural communities lost their only pharmacy

#### **Consequences of Closures**

- Gap in healthcare, fragmentation of care
- Dying Main Street
- Job loss
- Decreased medication adherence

Source: Knowledge, attitudes and beliefs of patients and carers regarding medication adherence: a review of qualitative literature; Dec 2014



#### **Medication Adherence**

- 187MM Americans take 1+ prescriptions<sup>1</sup>
- 50% do not take as prescribed<sup>2</sup>
- \$100+ billion a year in excess hospitalizations<sup>3</sup>
- 31% of new prescriptions go unfilled<sup>4</sup>
- Readmission costs between \$15-25 billion/year.<sup>5</sup>

<sup>1</sup> Osterberg, L., Blaschke, T. (2005). Adherence to medication. N Engl J Med, 353(5), 487-497.

<sup>2</sup> Enhancing Prescription Medicine Adherence: A National Action Plan. National Council on Patient Information and Education (August 2007).

<sup>3</sup> Sokol, M.C., McGuigan, K.A., Verbrugge, R.R., et al. (2005). Impact of medication adherence on hospitalization risk and healthcare cost. Med Care, 43(6), 521-530.

<sup>4</sup> Primary Medication Non-Adherence: Analysis of 195,930 Electronic Prescriptions. Fischer MA, Stedman MR, Lii J, et al J Gen Intern Med. 2010; 25:284-290

<sup>5</sup> PriceWaterhouse Coopers' Health Research Institute. (2008). The Price of Excess: Identifying Waste in Healthcare, 2008.



Present

#### Technology as a Disruptor



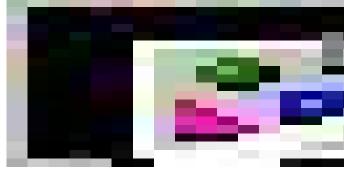




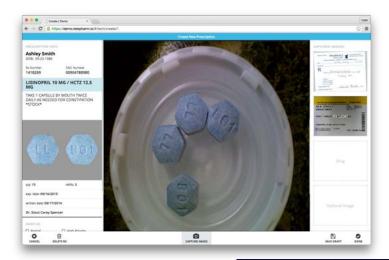
#### Hardware-based solutions







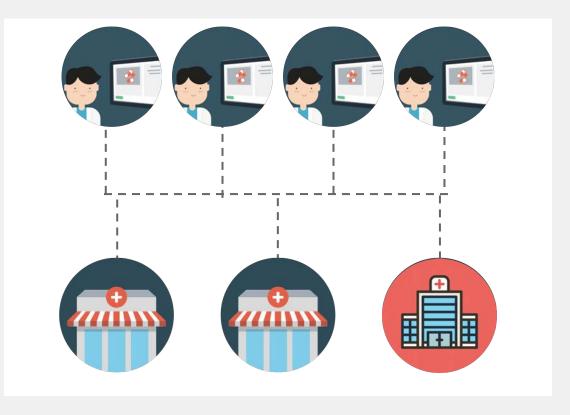
#### **Software Solutions**





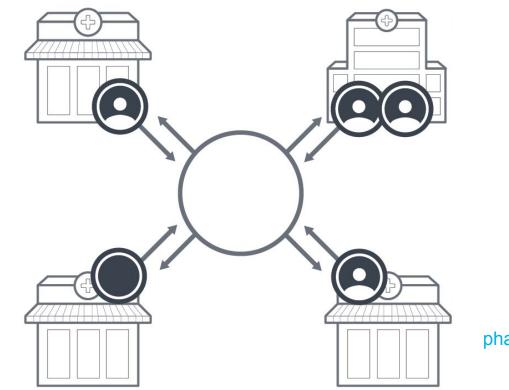


#### **Technology Enables Advancement**



#### **Dynamic Workflow**

Pharmacists can share the workload between sites



Prescriptions filled directly in rural hospitals

Specialists available in all locations including rural areas Patient care is enhanced and pharmacists are more available











#### **Benefits of Telepharmacy**



Provides access to a healthcare provider



Prevents traveling long distances

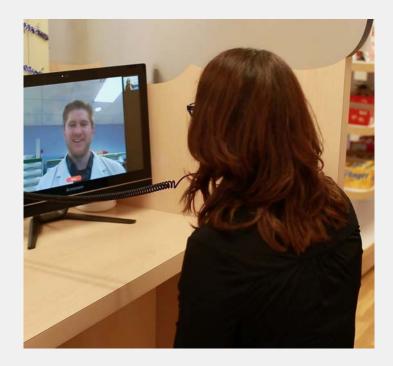


Reduces dispensing errors

#### Integrated Health Care

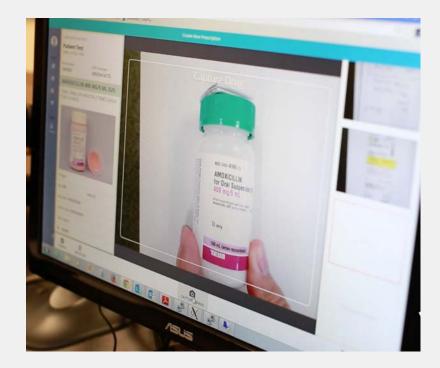
- Retrieve medications easily at the same location
- Only 5% did not fill their initial prescriptions
- Better integration = better adherence

Source: New Prescription Medication Gaps: A Comprehensive Measure of Adherence to New Prescriptions. Andrew J. Karter, Melissa M. Parker, Howard H. Moffet, Ameena T. Ahmed, Julie A. Schmittdiel, Joe V. Selby (October 2009).



#### **Common Questions**

- Fill accuracy
- Staff & location safety
- Potential for diversion
- Internet outage protocol
- Retail, Long Term Care, Health Systems



#### Local Pharmacy Provides

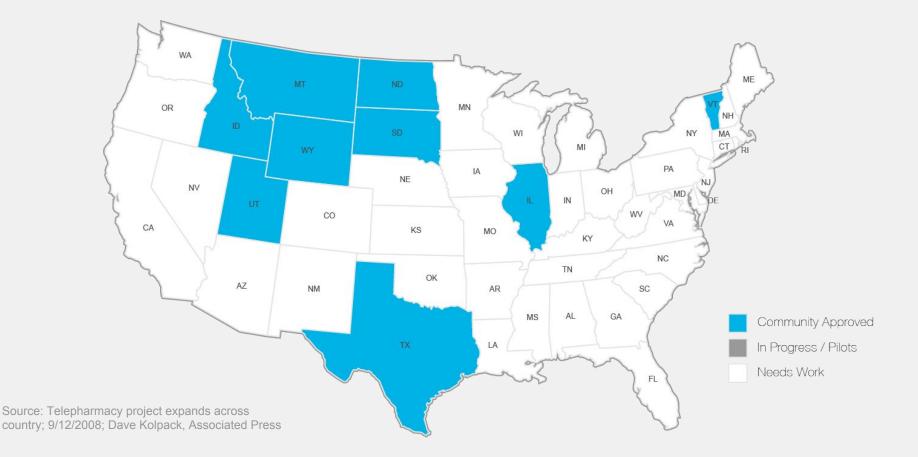
- Full primary care
- Business on Main St
- Local jobs
- Increased medication
  adherence
- \$640,000 economic impact

Source: Rural Economic Technical Assistance Center (RETAC) in Macomb, IL; Economic impacts of a pharmacy for Deiterich, Illinois, June 2015

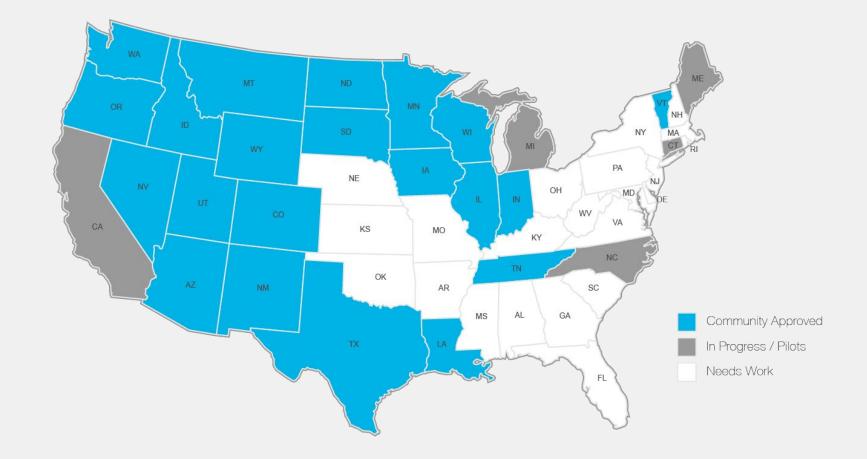


Regulatory

#### 2008 Regulatory Environment



#### **Current Regulatory Environment**



#### NRTRC State Regulatory

State	Allowed	Administrative Rule	Notes
AK	Yes	<u>52.423</u>	Ten mile radius
ID	Yes	<u>710</u>	Requires approval, currently updating
MT	Yes	24.174.1302	Twenty mile radius
OR	Yes	855-041-4200	Individual approval by the Board
UT	Yes	<u>58.17b.301</u>	Rural hospitals or clinics
WA	Waiver	WAC 182-531-1730	Need a waiver from the Board
WY	Yes	<u>14-1</u>	Twenty-five mile radius



#### **Alaska Statistics**

- **65,389** residents in pharmacy deserts
- 44 pharmacy deserts

• 32 at-risk communities



#### **Idaho Statistics**

- 24,148 residents in pharmacy deserts
- 28 pharmacy deserts

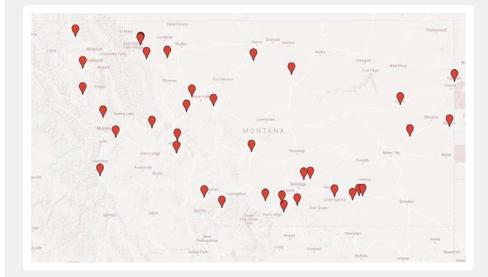
• 25 at-risk communities



#### **Montana Statistics**

- **33,969** residents in pharmacy deserts
- **35** pharmacy deserts

• 61 at-risk communities



#### **Oregon Statistics**

- **41,078** residents in pharmacy deserts
- **31** pharmacy deserts

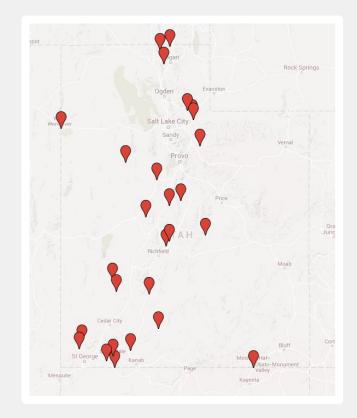
• 44 at-risk communities



#### **Utah Statistics**

- **25,799** residents in pharmacy deserts
- 27 pharmacy deserts

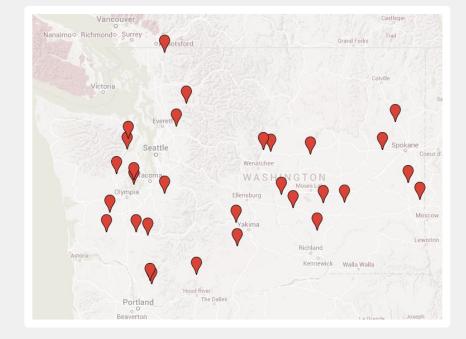
• 26 at-risk communities



#### Washington Statistics

- **33,761** residents in pharmacy deserts
- **30** pharmacy deserts

• 62 at-risk communities



### Wyoming Statistics

- **12,649** residents in pharmacy deserts
- 15 pharmacy deserts

• 14 at-risk communities



#### **Future Applications**

- "Health Hub" for rural communities
- Access to pharmacists from anywhere
  - Direct connection to patient rooms
  - At hospital discharge
  - On your cell phone
- 24 hour pharmacist coverage
- Pharmacist relief



# **Questions?**

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For updates and more info, sign up for our newsletter!