

# Rural Telehealth:

## Current and Potential Applications



Terry Hill, MPA  
Executive Director, Rural Health Innovations  
Senior Advisor for Rural Health Leadership and Policy,  
National Rural Health Resource Center



NATIONAL  
RURAL HEALTH  
RESOURCE CENTER

# The Center's Purpose

The National Rural Health Resource Center (The Center) is a nonprofit organization dedicated to sustaining and improving health care in rural communities. As the nation's leading technical assistance and knowledge center in rural health, The Center focuses on five areas:


- Transition to Value and Population Health
- Collaboration and Partnership
- Performance Improvement
- Health Information Technology & Telehealth
- Workforce



# Telehealth Presentation - Agenda

- Background and History
- Key Telehealth Components
- Challenges and Opportunities
- Telebehavioral Health
- Teleemergency Services
- Industrial Telehealth
- New Competitors
- Telehealth Resources
- Key Takeaways





At some point, people will  
access care **how** they want,  
**when** they want, **where** they  
want, for the **price** they want.

*And they'll either get it from  
**you** or from **somebody else**.*





# Telehealth Defined

“Telehealth is defined as the use of electronic information and telecommunication technologies to support long-distance clinical health care, patient and professional health-related education, public health, and health administration. Technologies include video conferencing, the internet, store-and-forward imaging, streaming media, and terrestrial and wireless communications.

-Health Resources & Services Administration (HRSA)



# History of Telehealth

- 1996/2000 - Medicare reimbursement
- 2000s - Relatively widespread university research/service programs
  - Focus on bringing specialty care to rural/underserved areas
- 2010s - Multiple factors converged
  - Broadband became better and more widely available
  - Coding/decoding algorithms improved significantly (internet video standards)
  - Equipment became generic (cheaper and more reliable)
  - Inexpensive and easily managed web-based platforms became available
  - Primary care explored bringing services “in-house,” contracting providers
- 2020 - COVID-19
  - Stay-at-home orders force providers to develop DTC services
  - Regulations and reimbursement policies altered to support this



# Four Domains of Telehealth

- Hospital & Specialty Care
    - Specialists see and manage patients remotely
  - Integrated Primary Care
    - Specialists (often MH) integrate services into primary care environment
  - Remote Monitoring for Transitions and Maintenance
    - Physiological and behavioral monitoring to maintain best function in least restrictive, least expensive, or most preferred environment
- 
- Direct to Consumer Services (Primary/Urgent Care)
    - Convenient access to needed/desired services; popular among younger, busier, and generally healthier patients



# Four Technologies of Telehealth

- **Live Video**
  - Real time (synchronous), interactive
- **Asynchronous Messaging** (Secure Texting)
  - “Store and forward” technologies, text messages, secure email
- **Remote Physiological Monitoring**
  - Physiological devices and behavioral monitoring tools; may be connected to the provider’s office directly or via a third party (vendor)
- **Mobile Health** (mHealth)
  - Cell phones and smartphone-connected devices of various kinds





## COVID Pandemic Impact on Telehealth

- Lifted geographic and site restriction
- Lifted HIPPA and Stark penalties
- Added 135 new reimbursable telehealth services
- Insurers waived patient co-pays
- High patient and provider satisfaction



## Telehealth Usage - 2021 Survey

- 72% usage nationally; 60% in rural
- 72% of physicians had used by 2021
- 22% of physicians had used prior to 2020
- Usage declined in 2022, with hybrid model





# What Is Hybrid Care?

## Standard of Care + Telehealth = Hybrid Care

Hybrid healthcare brings together the best of telehealth and in person treatment.

It relies heavily on technology for video conferencing, patient monitoring, and change management for optimum implementation.





# Rural Telehealth Challenges

- **Broadband** availability is often problematic
- Occasional provider or patient **resistance**
- **Payment** uncertainty
- **Liability** and **licensing** issues
- Concerns about **data privacy**
- Payer concern about **potential for fraud**
- **Integrating** telehealth with existing care processes





## Rural Telehealth Challenges (Cont)

- Urban centers are often struggling with telehealth with their own staff and have limited help for rural providers
- Small IT support teams
- Low technology proficiency
- Low adoption of new technology/care models
- Hardware and software are often expensive



# Creating Value Through Telehealth

- **Increases Access to Care & Education**
  - Address shortages in specialty / providers
  - Receive quality of care in rural locations
  - Support clinical education
  - Earlier diagnosis
- **Reduces Cost of Care**
  - Reduce patient readmissions and ED visits
  - Shorter hospital stays
  - Better utilization of resources
  - Fewer transfers
- **Improves Quality**
  - Remote monitoring of patients
  - Increased adherence to care plans and Med Mgmt
  - Easier access to 2<sup>nd</sup> opinion
- **Improves Experience and Satisfaction**
  - More convenient and accessible
  - Reduces travel time and cost
  - Increases capacity





# Suggested Telehealth Measures

- Provider satisfaction
- Patient satisfaction
- Time to care
- Reduction in no-shows
- Reduction in ED visits
- Increased patient access





# Telehealth Solutions Should Be...

- As **comprehensive** as possible
- **Integrated** into existing workflows culture
- **Simple** to purchase, implement and manage
- Scalable and **flexible**
- **Affordable** to purchase and maintain





# Hospital to Clinic to Home



## Hospital

- Inpatient
- Operating Room
  - Supply Chain
- e-ICU
- e-Sitter
- COVID Ward
- Discharge Planning
- Provider & Family Collaboration



## Regional / OP / ASC

- Extend “hospital” expertise beyond hospital walls
  - Reduce need of transport \$\$
- Operating Room
  - Supply Chain
- 23-hour overnight stays
- Discharge Planning
- Provider & Family Collaboration



## Home / Senior Living

- Traditional telehealth
  - Follow Up Visits
  - Wellness Checks
  - e-Sitter
  - COVID Ward
- Home “pharmacy” consults
- Provider & Family Collaboration





# Value-Based Care/Population Health

- Increasing access to care and equity
- Managing chronic diseases
- Patient education
  - Hypertension
  - Diabetes/DSME
- Provider education / ECHO
- In value-payment models (ACOs), telehealth can improve cost, quality, access and satisfaction





# Telehealth in Non-healthcare settings

- Strategies to increase access to care in non-healthcare settings
  - Care transitions and post-acute care
  - Chronic disease management
  - Direct-to-consumer telehealth
  - Caregiver support
  - EMS (pre and during transport)
  - Medication adherence
  - Home-based care for older adults
- Decrease readmission rates using telehealth as follow up tool



# Telebehavioral Health and Hospitals

- Behavioral Health and Psychiatry specialty services that can be provided for a hospital through telehealth to manage patients' health care needs as part of a comprehensive system of care.
  - Can serve as an originating or distance site.
  - Provides access to services not available locally.
  - Can provide mental health services to schools.



# Telebehavioral Health and EMS

- Behavioral Health Emergencies are one of most difficult for rural EMS to manage.
  - Usage of telehealth to link EMS to behavioral health specialists in clinics or in the field.
  - Allowed under Covid PHE home (and potentially other secure/private location).
  - HIPAA still applies.



# Integrating Behavioral Health into Primary Care

- 20 years ago, the Institute of Medicine (IOM) declared primary care and behavioral health to be inseparable (National Research Council 1996).
- People who suffer from a chronic disease are more likely to also suffer from depression and other mental health disorders.
- Physicians and other primary care providers are generally not adequately trained to treat mental health conditions

<sup>1</sup>National Research Council . Primary care: America's health in a new era. The National Academies Press; Washington DC: 1996.

<sup>2</sup>Chapman DP, Perry GS, Strine TW. The vital link between chronic disease and depressive disorders. Prev Chronic Dis 2005;2(1)



## Integrating Behavioral Health into Primary Care (continued)

- Focus is not on just on mental health but also the bio-psychosocial factors relating to physical health.
- Addresses improving patients' overall health and well being.
- Focus is on prevention of disease-related problems.
- Focus is on treatment adherence and better medication management across providers, as a coordinated care team wrapped around the patient.



# Telemergency – U of Mississippi Med Center

- Supporting **20 rural hospitals**; since **2003**
- “If the tele-exam and treatment do not replicate an in-person exam its not appropriate.” Dr. Richard Summers
- Medicare and Medicaid **both reimburse** for these services
- Evaluated Results:
  - **25% reduction** in ED staffing costs
  - **20% admissions** that might have been transferred
  - Top ontologies: chest pain, trauma, abdominal pain.
  - Telemergency outcomes and patient satisfaction are on par with the academic health center



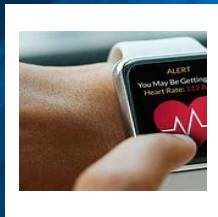


# The Future of Telehealth

## Are These Forms of Healthcare Delivery? **YES!**



Alexa



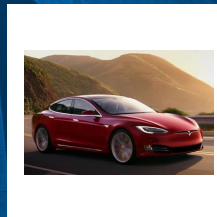
Apple Watch  
with 1-Lead  
EKG



Smart  
Clothes



Groupon  
App



Tesla



Amazon  
Care

**These types of technology are currently delivering some form of healthcare.**

**They will play a role in future healthcare delivery!**

# Who is your next competitor?

## Amazon Care



- Launched pilot program in Seattle
- Extended services to several Washington-based companies
- By the summer of 2022, will expand to other companies and Amazon employees in all 50 states
- Next will be in-person services in several cities
- What is Amazon Care?
  - Virtual medical clinic offering a range of urgent and primary care services including testing, vaccination, prevention care, and prescription requests

1. [Amazon Expanding 3/17/21](#)

# Who is your next competitor?

## Walmart

- Three thousand clinics planned for their stores
- Services include primary care, mental health and dental health
- Plan to employ their own providers
- Plan to provide an extensive set of telehealth services
- Intend to offer health services directly to employers and businesses

*“will offer better, cheaper, integrated healthcare. CVS walk in clinics will become community healthcare hubs where pharmacists will manage patient care and counsel them between primary care visits.”*

(Modern Healthcare, 12/28/18)



**CVS: 94 million Rx customers**

**Aetna: 23 million insured customers**

*“If you’re in healthcare in any way, shape or form, your world is about to change.”*

David Friend, MD, CTO of BDO Center for Healthcare Excellence

## Substitution - New Retail Services



Get a complete medical exam wherever you are with TytoCare TytoHome. This electronic health care device allows you to receive on-demand physical exams via live video chat with a doctor's office using an exam camera and a basal thermometer and otoscope, stethoscope and tongue depressor adapters. This HIPAA-secure TytoCare TytoHome digital device transmits test results to an electronic health record for easy monitoring .

TytoCare - TytoHome Medical Exam Kit - White

Model: G 1.5 SKU: 6332714

★★★★★ 4.8 (13 Customers) | Be the first to ask a question

HSA/FSA eligible



\$299.99 ~~\$500.00/mo.\*~~

suggested payments with  
6-Month Financing  
Show me how »

Add to Cart

Save for Later

Compare

Help

**FREE Shipping:** Get it by Wed, Apr 24

**Want it faster?** More shipping options are available in checkout to 04021.

**Store Pickup:** Order now & Portland will have it ready for pickup by Thu, Apr 25.

**Cardmember Offers**

6 Month Financing

Get 5% Back in Rewards

## Best Buy expands reach into digital health space with Tyto Care partnership

- Handheld device that can examine heart, lungs, ears, throat and abdomen as well as measure body temperature to enable remote diagnosis of acute care situations like ear infections, sore throats, fever, cold, flu, allergies, stomachaches, upper respiratory infections and rashes
  - Information sent to a primary care provider for diagnosis through a telehealth platform
- Acquisition in line with Best Buy 2020 Strategy to enrich human lives through technology by addressing human needs

Source: Fierce Healthcare, April 17, 2019

# Dollar General-A New Competitor

- 17,000 stores – 65% rural (health deserts)
- Intend to be a “Health Destination”
- Plans to build an affordable set of health services
- Destination for telemedicine (On-site Kiosk)
- Also plans to compete with pharmacies by selling low-end health products and giving shots



# Industry-Based Telehealth

## Types of Services



**PRIMARY CARE**

**URGENT CARE**

**FAMILY CARE**



**CHRONIC CARE**

**REMOTE PATIENT  
MONITORING**



**SPECIALTY CARE**

**PEDIATRICS**

**BEHAVIORAL  
HEALTH**



**OCCUPATIONAL  
MEDICINE**

**INJURY BASED  
CARE**

**CARE  
COORDINATION**



**ONSITE CARE  
CLINICS**

**VIRTUAL CARE  
CLINICS**



# Employee-Based Telehealth Trends

**8 out of in 10 large employers** see virtual care and telehealth solutions playing **a significant role in healthcare delivery**  
([Business Group on Health](#))

## \$300

**saved on average per employee a year and \$1000 per family of four** with the use of telemedicine  
([AMA](#))

## 64%

**of employers provided telehealth-based care** to their employees prior to COVID  
([Business Group on Health](#))

## Market Growth

- **By 2024, all employers will offer** minor and acute telehealth services
- **Telebehavioral health** could grow 91 to 96% by 2023
- **Virtual care for musculoskeletal management** could grow **29% in 2022** and **39% by 2023**
- Employers are also expanding other virtual services including the **delivery of health coaching** and **emotional well-being support**

([Business Group on Health](#))

## 76%

**of employers are expanding virtual care solutions and 71% are accelerating telehealth and virtual care** offerings  
([Willis Towers Watson \(WTW\) survey](#))

## 70%

**of US employees** state they are **likely to use their employer based virtual healthcare services**. Many employers (43%) are planning to **extend services to include chronic condition management and remote monitoring**  
([Human Resource](#))





# Industry-Based Telehealth

Why should you offer your services to industries?



## EMPLOYEE BENEFITS OF INDUSTRY BASED TELEHEALTH

- Quick access to care
- Improved resources for health education
- Convenience
- Improved employee satisfaction



## EMPLOYER BENEFITS OF INDUSTRY BASED TELEHEALTH

- Reduced health care cost
- **Improved overutilization of resources**
- **Reduction in employee absenteeism**
- **Improved employee productivity**



## HEALTH SYSTEM BENEFITS OF INDUSTRY BASED TELEHEALTH

- Expanded market shares
- **Increased utilization of providers**
- **Higher patient satisfaction**
- **Increased access of patients**



## TECHNOLOGY AVAILABLE

- Two-way audio video interaction platforms
- Zoom, Facetime, etc.
- Verbal/Audio (synchronous) only communication
- Asynchronous (store and forward) platforms



## BARRIERS

- **Access to technology, e.g., mobile devices, smart phone, and/or internet access**
- Digital literacy, e.g., lack of technology skills
- Language
- Impaired patient hearing or vision



# Industry-Based Telehealth

## Estimating the Return on Investment (ROI)

### **COST SAVINGS<sup>1</sup>**

Will the telehealth program yield cost savings, such as through delivering care in a lower cost setting?

### **NEW PATIENT VOLUME<sup>1</sup>**

Will the telehealth program increase patient volume?

### **PATIENT RETENTION<sup>1</sup>**

Will the telehealth program result in higher retention rates?

### **STAFFING<sup>1</sup>**

What are the staffing requirements for the program? Does the program automate existing tasks to reduce professional costs?

### **REIMBURSEMENT<sup>1</sup>**

Under which type of payer model will telehealth services be reimbursable? Will the telehealth program bring in other forms of direct revenue?

### **COST OF TECHNOLOGY<sup>1</sup>**

What are the hardware and software costs to implement the program?

### **PROGRAM MANAGEMENT<sup>1</sup>**

What are the programmatic costs to design, implement and operate the service?

[1. Estimating the ROI of Telehealth](#)



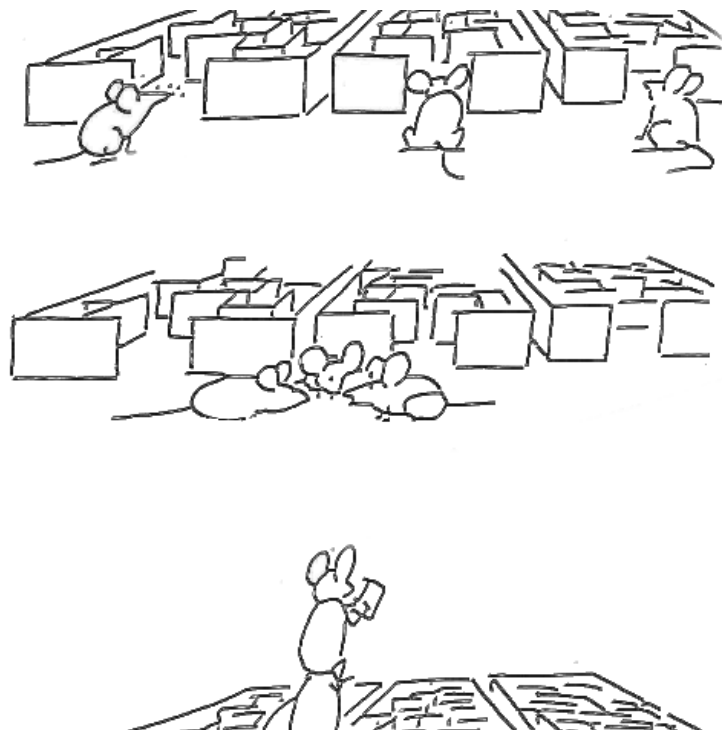
# Key Session Takeaways

- Consumers will access care **how, when, where** and for the **price they want** – from you or **someone else**
- Care delivery comes in **many different forms and in many different settings**
- Your next **competitor could be Amazon Care, Walmart and Dollar General**
- Employers are **looking to grow their virtual care** beyond primary care services to include chronic condition management, behavioral health and occupational health
- Rural **behavioral health solutions** will come primarily through telehealth
- Telehealth will increasingly become a major strategy for **rural workforce problems**
- Telehealth will shortly be **reimbursed by virtually all the major payers**, due to its cost effectiveness and patient satisfaction
- Healthcare organizations should begin now **to plan how** they can provide a range of telehealth services and **who they will partner with** in their communities



# Population Health has Many Partners







*"Even if you're on the right track,  
you'll get run over if you just sit there."  
(Will Rogers)*



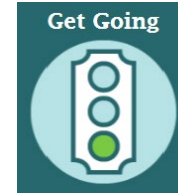
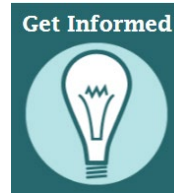
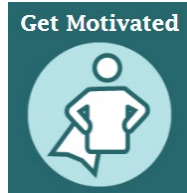
# Telehealth Resources

- Telehealth Training  
[www.nrtrc.org](http://www.nrtrc.org) Professional Development
- National Consortium of Telehealth Resource Centers (NCTRC)  
[www.telehealthresourcecenter.org](http://www.telehealthresourcecenter.org)
- Center for Connected Health Policy (CCHP)  
[www.cchp.org](http://www.cchp.org)
- National Telehealth Technology Assessment Center (TTAC)  
[www.telehealthtechnology.org](http://www.telehealthtechnology.org)





- Designed to help rural hospitals, clinic, rural health networks and state-level organization



- Online readiness assessment and connections to tools and resources
- Learn how to conduct population health analytics with access to a web-based database for acquiring health data specific to your location
- <https://www.ruralcenter.org/population-health-portal>





# Thank You

## Terry Hill

Contact Information

Senior Advisor for Rural Health Leadership and Policy,  
National Rural Health Resource Center

218-349-4954

[thill@ruralcenter.org](mailto:thill@ruralcenter.org)