Regulatory and Law Conference
Florida Pharmacy Association
September 9, 2017

Telepharmacy: Path to the Telehealth Future

Christopher B. Sullivan, PhD

Introduction to Speaker

Your speaker for this session is:

Christopher B. Sullivan, PhD

Statement of Disclosure:

"I have no vested interest or affiliation with any corporate organization offering financial support of grant money for this continuing education program, or any affiliation with an organization whose philosophy could potentially bias my presentation."

Learning Objectives for This Session

1. Explain how Telepharmacy and Telehealth services are part of a single continuum of telecommunication opportunities
2. Describe the type of communication systems required for Telehealth versus Telepharmacy solutions
3. Identify key Telehealth and Telepharmacy rules and regulations at the state and national levels
4. Compare specific use cases that demonstrate different approaches to Telepharmacy
5. Describe some key business examples for Telepharmacy
6. Summarize how Telepharmacy might change pharmaceutical practices in the future

Baseline Question 1

Are Telehealth and Telepharmacy the same?

A. Yes

B. No

C. Sometimes

D. Maybe

E. Don't Know

Baseline Question 2

Telehealth is limited to two-way video interactions between a doctor and patient.

A. Yes

B. No

C. Sometimes

D. Maybe

E. Don't Know

Baseline Question 3

Telepharmacy is strictly regulated across the United States.

A. Yes

B. No

C. Sometimes

D. Maybe

E. Don't Know

Baseline Question 4

Prescriptions for controlled substances can be dispensed as long as a doctor has met with a patient over a telemedicine connection.

A. Yes

B. No

C. Sometimes

D. Maybe

E. Don't Know

Baseline Question 5

Telemedicine can occur with any electronic telecommunications device.

A. Yes

B. No

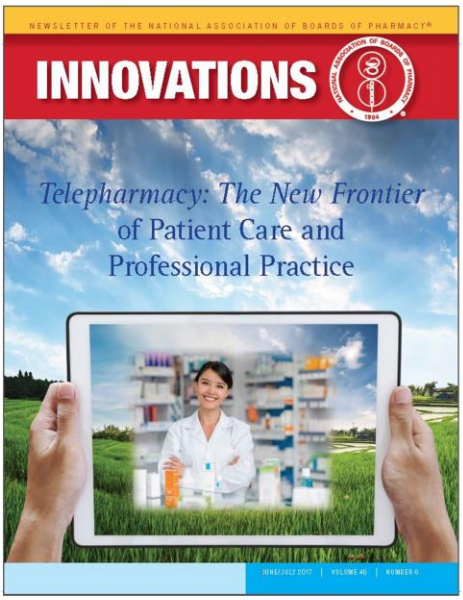
C. Sometimes

D. Maybe

E. Don't Know

Introduction

Telepharmacy: The New Frontier



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NEWSLETTER OF THE NATIONAL ASSOCIATION OF BOARDS OF PHARMACY
Task Force on the Regulation of Telepharmacy Practice met on October 24-25, 2016,
NABP Task Force Recommends Expanding Telepharmacy Regulations

https://nabp.pharmacy/wp-content/uploads/2016/07/Innovations_June_July_Final.pdf

Communication Responsibilities of Pharmacists

Your pharmacist would like to speak with you today...

The importance of your new medication

There are several reasons why it is important for you to take this medication as prescribed.

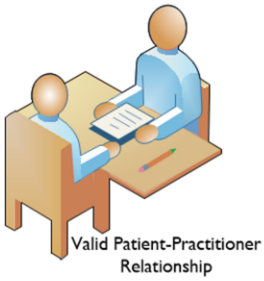
- Taking the medication regularly helps you better manage your health, even if your condition has no symptoms
- Some medications take days or even weeks to achieve their intended effect
- It may take time for your body to adjust to a medication
- Stopping this medication without first consulting with your physician may negatively affect your health

As your Pharmacist, I am here to discuss any questions about your medication and provide direction on how to avoid potential side effects. Please call anytime if I can be of assistance.

Message Center

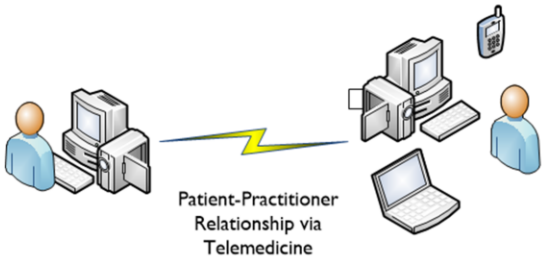
Scanned image of an tag appended to a bag with my prescription in it, courtesy of a large pharmacy company.

Transition from Face-to-Face to Telemedicine



"Telemedicine involves… secure videoconferencing or store and forward technology to provide or support healthcare delivery by replicating a traditional, face-to-face encounter." (FSMB, 2014)

The social expectations of interpersonal communication shift with telehealth to include an electronic interface in a treatment setting



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State and National Boards

MODEL POLICY FOR THE APPROPRIATE USE OF TELEMEDICINE TECHNOLOGIES IN THE PRACTICE OF MEDICINE

Report of the State Medical Boards' Appropriate Regulation of Telemedicine (SMART) Workgroup

Adopted as policy by the Federation of State Medical Boards in April 2014

Section Three. Definitions For the purpose of these guidelines, the following definitions apply: "Telemedicine" means the practice of medicine using electronic communications, information technology or other means between a licensee in one location, and a patient in another location with or without an intervening healthcare provider. Generally, telemedicine is not an audio-only, telephone conversation, e-mail/instant messaging conversation, or fax. It typically involves the application of secure videoconferencing or store and forward technology to provide or support healthcare delivery by replicating the interaction of a traditional, encounter in person between a provider and a patient.7

"Telemedicine Technologies" means technologies and devices enabling secure electronic communications and information exchange between a licensee in one location and a patient in another location with or without an intervening healthcare provider.

https://www.fsmb.org/Media/Default/PDF/FSMB/Advocacy/FSMB_Telemedicine_Poli

cy.pdf

Early Telemedicine

"The busy doctor, fifty years hence, will not be able to visit his patients as he does now. .. on the other hand, his patients cannot always come to him.

This is where the teledactyl and diagnosis by radio comes in."

Telemedicine Predicted in 1925
With video screens and remote control arms, any doctor could make a virtual housecall
By Matt Novak, March 14, 2012

Retrieved from: http://www.smithsonianmag.com/history/telemedicine-predicted-in-1925-124140942

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By Matt Novak
smithsonian.com
March 14, 2012

"The Teledactyl (Tele, far; Dactyl, finger — from the Greek) is a future instrument by which it will be possible for us to "feel at a distance." This idea is not at all impossible, for the instrument can be built today with means available right now. It is simply the well known telautograph, translated into radio terms, with additional refinements. The doctor of the future, by means of this instrument, will be able to feel his patient, as it were, at a distance….The doctor manipulates his controls, which are then manipulated at the patient's room in exactly the same manner. The doctor sees what is going on in the patient's room by means of a television screen."

"The busy doctor, fifty years hence, will not be able to visit his patients as he does now. It takes too much time, and he can only, at best, see a limited number today. Whereas the services of a really big doctor are so important that he should never have to leave his office; on the other hand, his patients cannot always come to him. This is where the teledactyl and diagnosis by radio comes in."

Read more: http://www.smithsonianmag.com/history/telemedicine-predicted-in-1925-124140942/#c5xoik02g2bChBXD.99
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Early Telemedicine – The Teledactyl

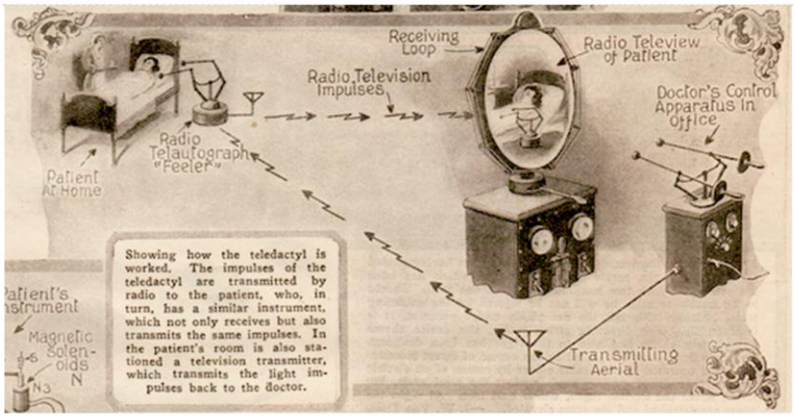

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Diagram of a Telemedicine Project

Children's Healthcare of Atlanta

- 48 telepresence conference rooms
- 13 rooms provide wireless Avizia dual screen mobile carts
- Multipoint videoconferencing available for three or more sites to meet
- Secure connectivity for outside-facing videoconference systems
- Telepresence-enabled WebEx meetings
- **The system keeps expanding with new telemedicine capabilities**

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Bryan Larrieu, Director of IS and User Experience
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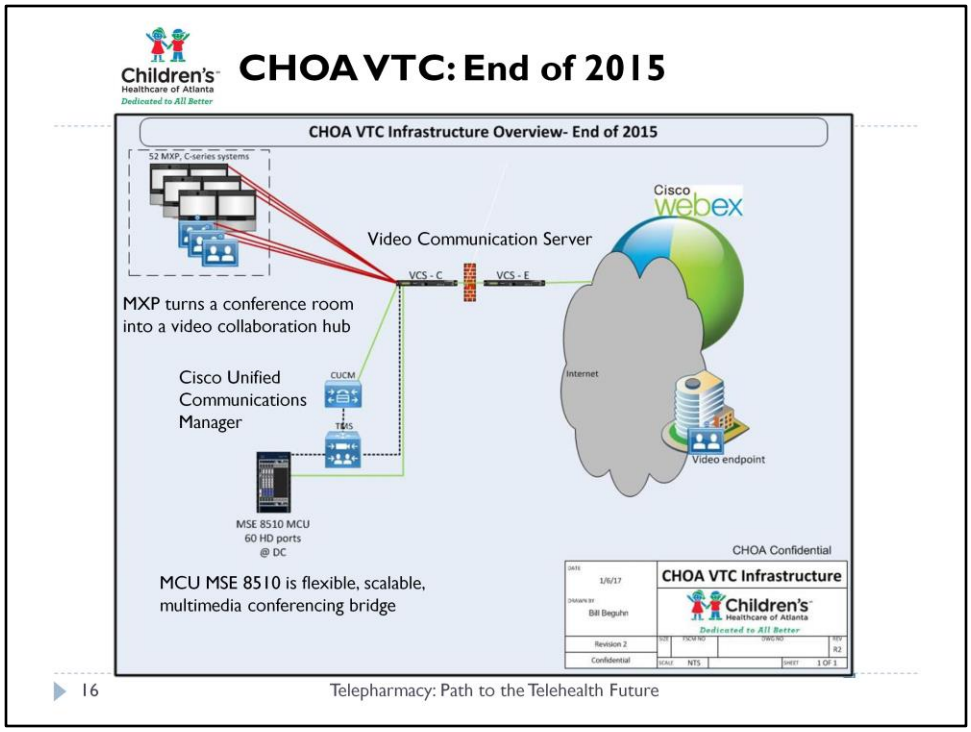

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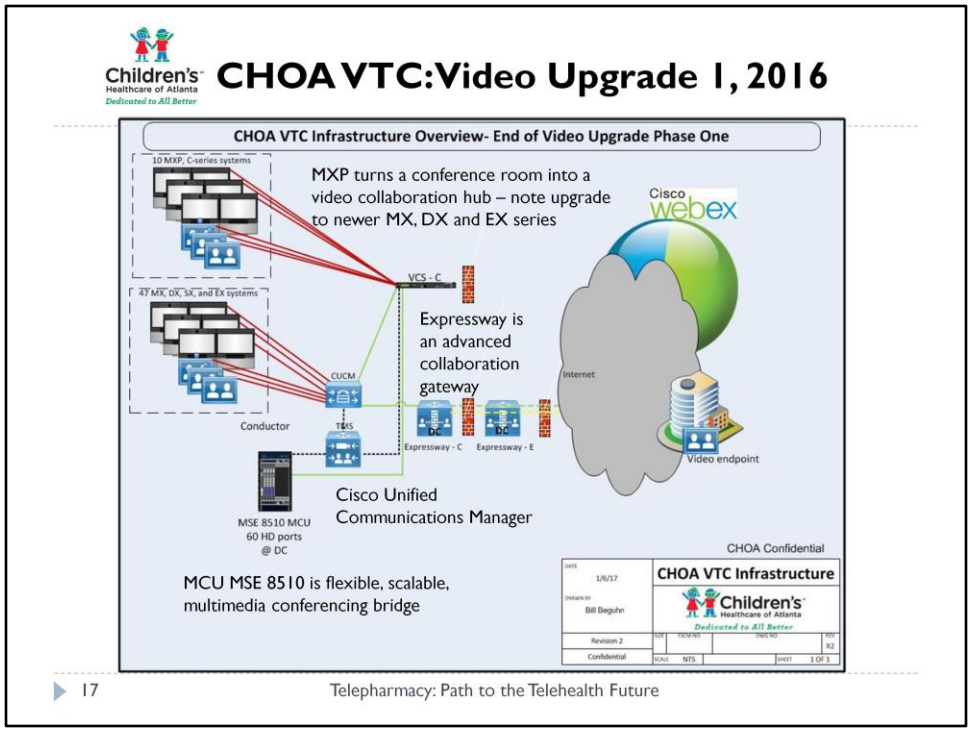

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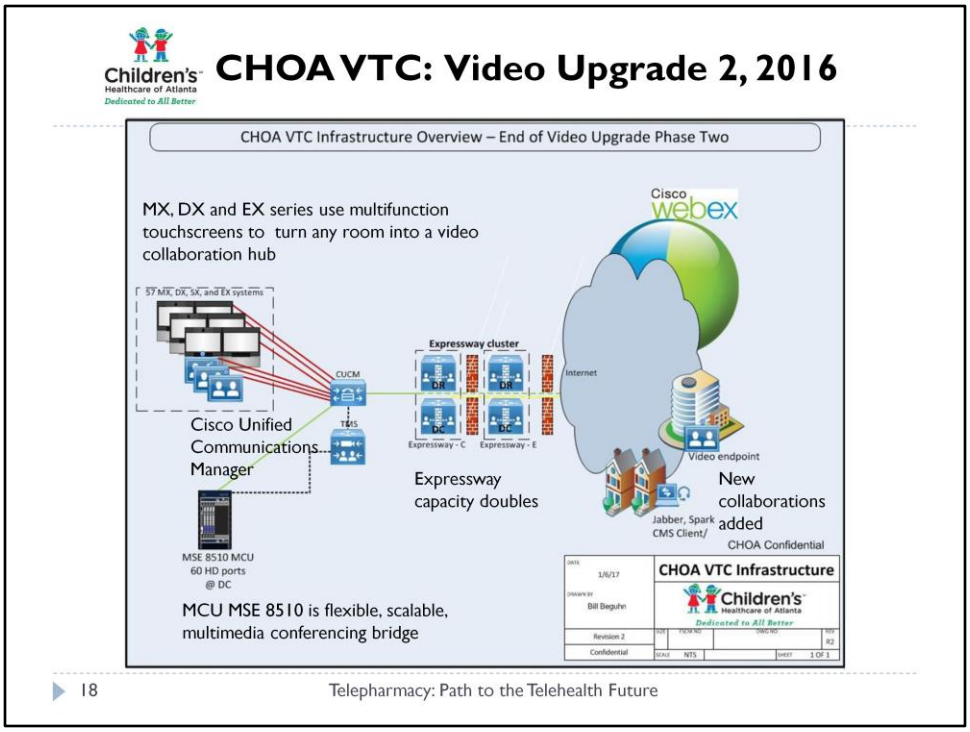

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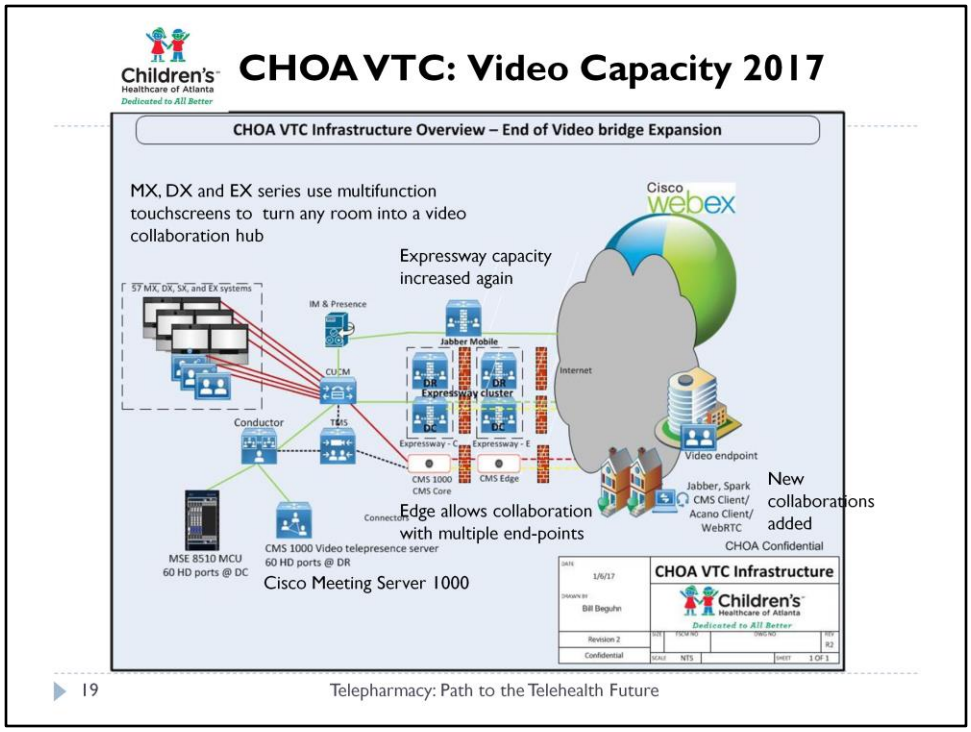

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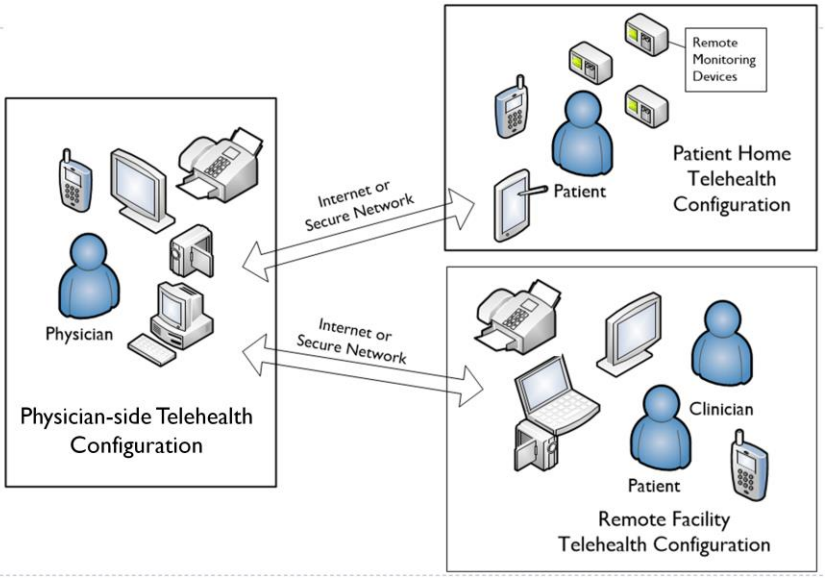
Telehealth Technical Details



Physician Office – Telehealth Technology

http://www.intechopen.com/books/telemedicine/telemedicine-reducing-trauma-in-evaluating-abuse

Organizations Aim to Standardize Telehealth Practices
By Cori Turner and Megan Phillips on June 9, 2014
Posted in Children's Hospitals and Pediatric Providers, Hospitals & Health Systems, Physicians, Post-Acute Care & Nursing Facilities, Technology & Information Systems
http://www.intechopen.com/books/telemedicine/telemedicine-reducing-trauma-in-evaluating-abuse

Clinical Facility Telehealth Equipment

- Telemedicine Hardware and Software – AMD Global Telemedicine

See: http://www.amdtelemedicine.com/corporate/index.html

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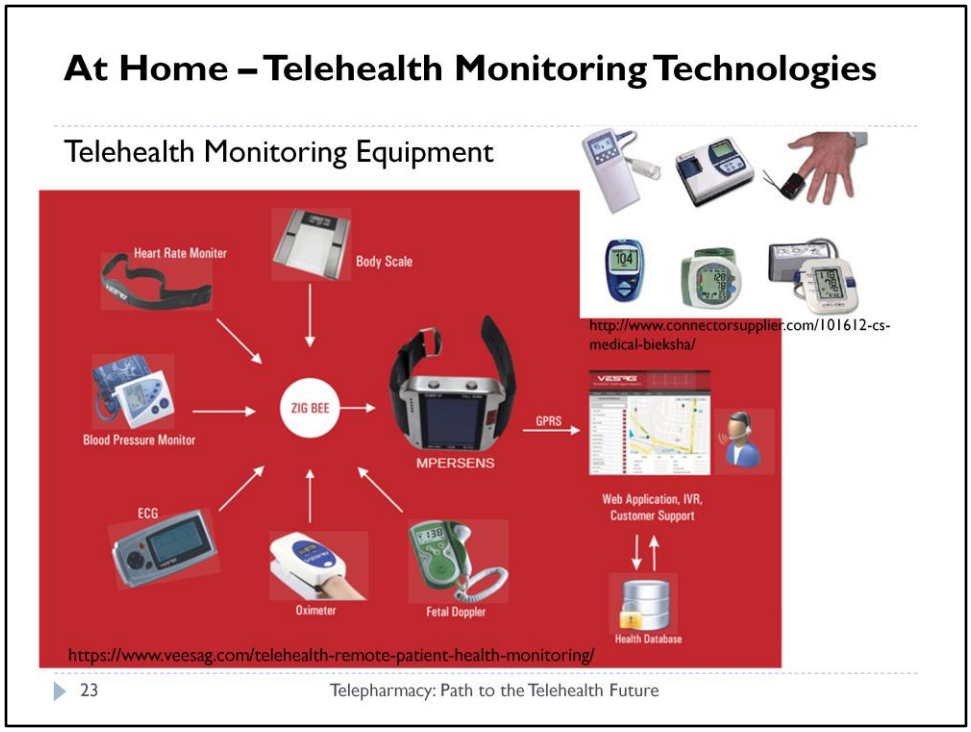
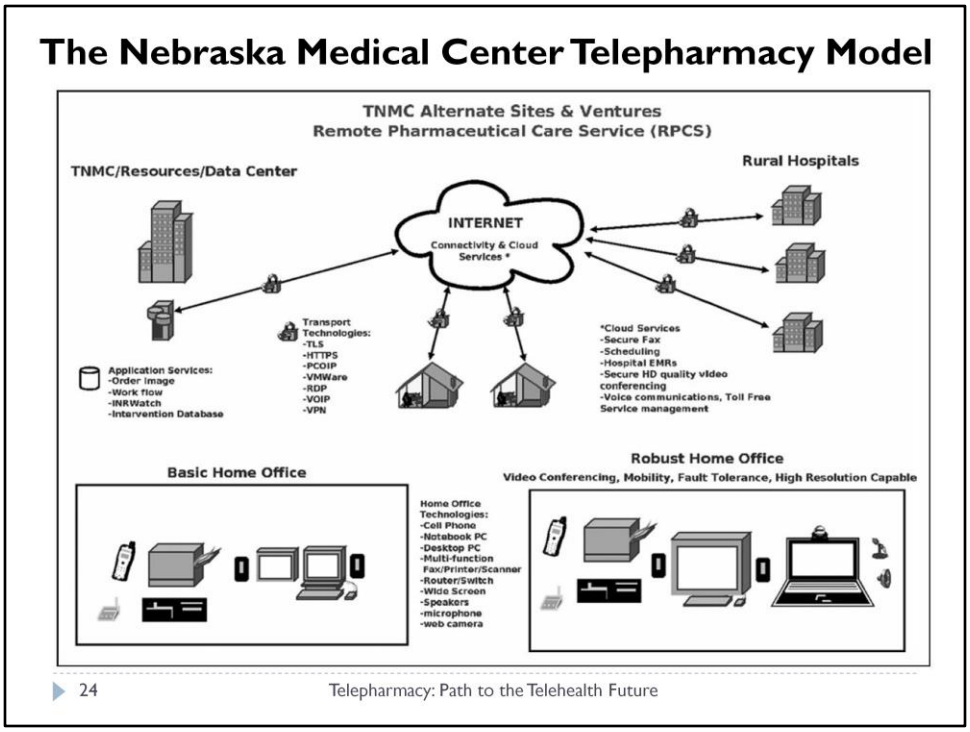


http://www.connectorsupplier.com/101612-cs-medical-bieksha/
Patient Care in the Medical Market
by Jenny Bieksha on October 16, 2012
By Jenny Bieksha, Bishop & Associates
October 16, 2012
http://connectorsupplier.com/images/uploads/101612-CS-Medical-Bieksha-img4.jpg

https://www.veesag.com/telehealth-remote-patient-health-monitoring/
TELEHEALTH REMOTE PATIENT HEALTH MONITORING
VEESAG provides pre-emptive health monitoring using proprietary Telehealth technologies developed for remote patient monitoring or remote health monitoring in conjunction with other medical devices.
https://www.veesag.com/wp-content/uploads/2016/08/Telehealth-Remote-Health-Patient_Monitoring.png



A Retrospective Evaluation of Remote Pharmacist Interventions in a Telepharmacy Service Model Using a Conceptual Framework

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College of Pharmacy, Department of Pharmacy Practice, University of Nebraska Medical Center, Omaha, Nebraska.

Lori J. Murante, PharmD
Alternate Site Pharmacies & Clinical Decision Support, The Nebraska Medical Center, Omaha, Nebraska.

Lisa M. Moffett, PharmD
Remote Pharmaceutical Care, Drug Information Service, The Nebraska Medical Center, Omaha, Nebraska.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4188381/

Abstract
Objectives: This retrospective cross-sectional study evaluated a telepharmacy service model using a conceptual framework to compare documented remote pharmacist

interventions by year, hospital, and remote pharmacist and across rural hospitals with or without an onsite rural hospital pharmacist.

Materials and Methods: Documented remote pharmacist interventions for patients at eight rural hospitals in the Midwestern United States during prospective prescription order review/entry from 2008 to 2011 were extracted from RxFusion database (a home-grown system, i.e., internally developed program at The Nebraska Medical Center (TNMC) for capturing remote pharmacist documented intervention data).

The study authors conceptualized an analytical framework, mapping the 37 classes of remote pharmacist interventions to three broader-level definitions: (a) intervention, eight categories (interaction/potential interaction, contraindication, adverse effects, anticoagulation monitoring, drug product selection, drug regimen, summary, and recommendation), (b) patient medication management, two categories (therapy review and action), and (c) health system-centered medication use process, four categories (prescribing, transcribing and documenting, administering, and monitoring). Frequencies of intervention levels were compared by year, hospital, remote pharmacist, and hospital pharmacy status (with a remote pharmacist and on-site pharmacist or with a remote pharmacist only) using chi squared test and univariate logistic regression analyses, as appropriate.

Results: For 450,000 prescription orders 19,222 remote pharmacist interventions were documented. Frequency of interventions significantly increased each year (36% in 2009, 55% in 2010, and 7% in 2011) versus the baseline year (2008, 3%) when service started. The frequency of interventions also differed significantly across the eight hospitals and 16 remote pharmacists for the three defined intervention levels and categories. Remote pharmacist interventions at hospitals with an on-site and remote pharmacist (n = 12,141) versus those with a remote pharmacist alone (n = 7,081) were significantly more likely to be (1) patient-centered, (2) related to ‘‘actionable’’ medication management recommendations (unadjusted odds ratio [OR]= 1.12), and (3) related to the ‘‘transcribing’’ (OR = 1.47) and ‘‘prescribing’’ (OR = 1.40) steps of the health system-centered medication use process level (all $p < 0.01$).

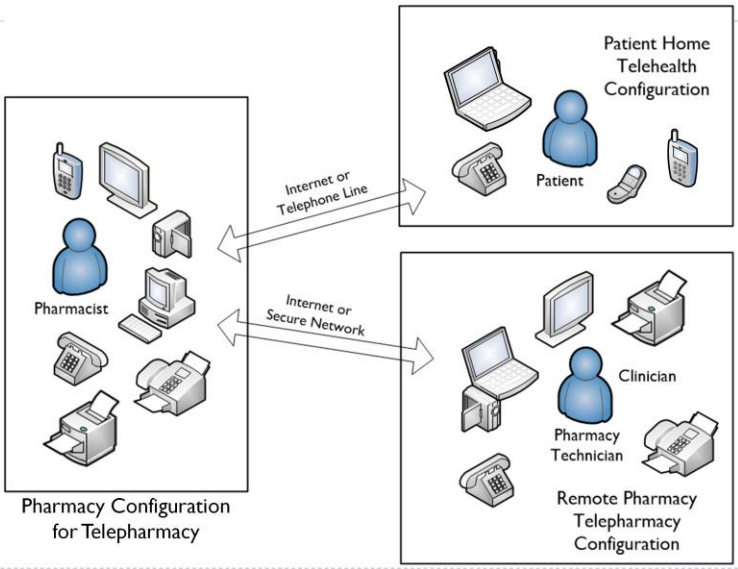
Conclusions: This is one of the first studies to demonstrate the patient- and health system-centered nature of pharmaceutical care delivered via a telepharmacy service model by evaluating documented remote pharmacist interventions with an analytical framework.

Technical Infrastructure of the Nebraska Medical Center’s Telepharmacy Service Model

Technology represented in the telepharmacy model, aside from computers and related equipment:

- EMR - Electronic medical record
- HD - High definition video
- TLS - Transport Layer Security over the Internet
- HTTPS - Hypertext transfer protocol secure (https://)
- PCOIP or PC-over-IP - Cloud-based virtual workplace
- VMWare - Virtualization and cloud computing software
- RDP - Remote desktop protocol
- VOIP - Voice over Internet protocol
- VPN - Virtual private network

Telepharmacy Technical Details



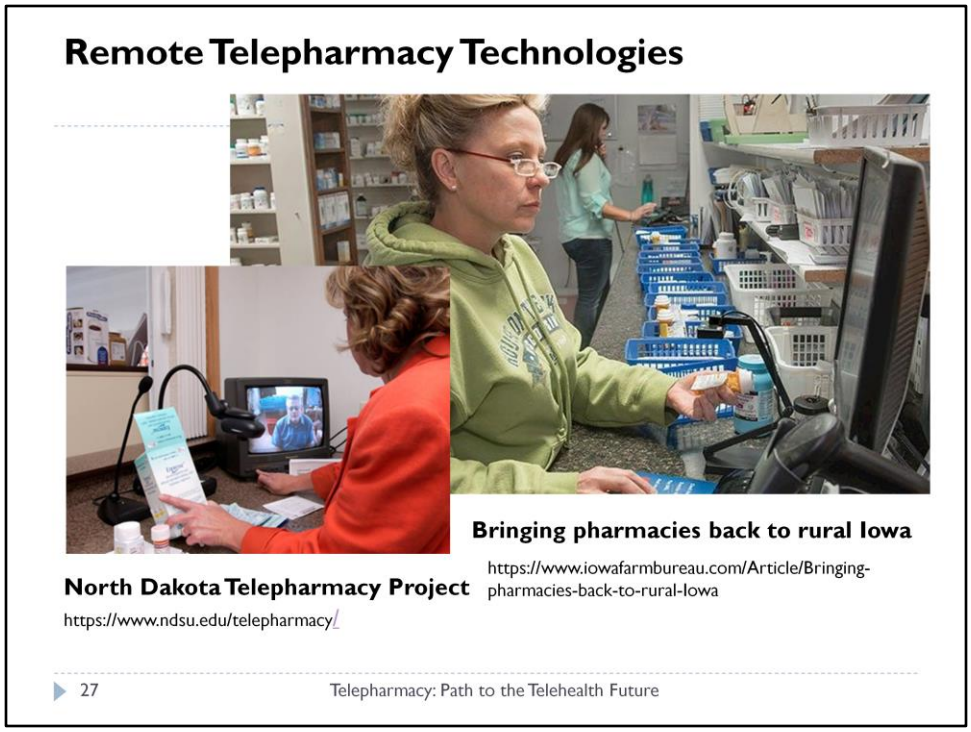
Example of Telepharmacy Vendor Products

Telepharmacy technologies used for remote pharmacy support

- Pharmacist Remote Inspection and Verification
- Patient Remote Counseling and Patient Education
- Technician Remote Pharmacy Management

See: http://www.scriptpro.com/About/Company-Information/

http://www.scriptpro.com/About/Company-Information



Bringing pharmacies back to rural Iowa
By Teresa Bjork
2/25/2016
The Brooklyn Pharmacy is part of a state pilot project to test a new-generation of telepharmacies in rural Iowa.

Iowa City-based company Telepharm helped launch the pilot project in a handful of eastern Iowa communities in 2012 to demonstrate how its software could help bring pharmacies back to rural towns.
https://www.iowafarmbureau.com/Article/Bringing-pharmacies-back-to-rural-Iowa
https://www.iowafarmbureau.com/Article/Live/titleImage?articleid=70031

Welcome to Telepharmacy
"Telepharmacy is working well in North Dakota. It is a great way to restore and retain pharmacy services for many remote rural communities throughout the state. Telepharmacy services produce the same quality as the traditional mode of delivery and provide some value-added features that are not found in traditional pharmacy practice."

Dr. Charles D. Peterson
Dean, Professor, and Principal Investigator/Director
ND Telepharmacy Project

NDSU College of Health Professions
https://www.ndsu.edu/telepharmacy/
https://www.ndsu.edu/fileadmin/_migrated/pics/Telepharmacypic..jpg

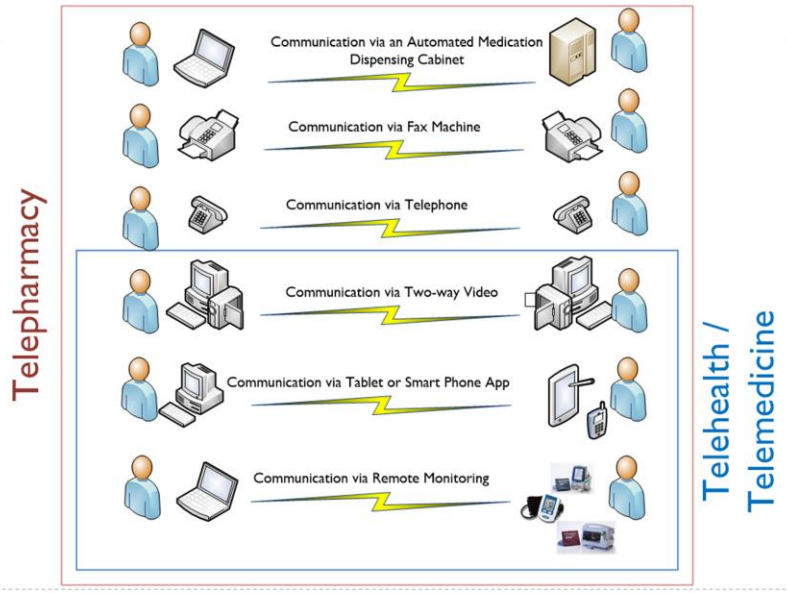
Telepharmacy Technology in the Home

Phoning it in: Telepharmacy connects rural patients

http://magicvalley.com/news/local/phoning-it-in-telepharmacy-connects-rural-patients/article_2d27e4d6-efc3-5059-9dc9-23ef84dfe8b9.html

Phoning it in: Telepharmacy connects rural patients
JULIE WOOTTON jwootton@magicvalley.com
Jan 19, 2017
SHOSHONE — For the first time in 15 years, Shoshone residents don't have to travel to another town to get their prescription medications.
Shoshone Pharmacy opened Dec. 22 on South Apple Street. But it's not your average pharmacy.
The owner says it's the first telepharmacy in Idaho to open from the ground up — meaning it's not affiliated with an existing hospital or clinic. It allows an off-site pharmacist to approve orders remotely and do consultations with patients using live video conferencing.
http://magicvalley.com/news/local/phoning-it-in-telepharmacy-connects-rural-patients/article_2d27e4d6-efc3-5059-9dc9-23ef84dfe8b9.html

Technical Scope of Telepharmacy vs Telehealth



Definition and Scope of Telehealth, Telemedicine and Telepharmacy

Definition of Telemedicine

The American Telemedicine Association

- "…telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status."

The World Health Organization

- Telemedicine often associated with "service delivery by physicians…"
- Telehealth refers to services "provided by health professionals in general…"
- For WHO telemedicine and telehealth are synonymous and used interchangeably.

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National Associations

The American Telemedicine Association - What is Telemedicine?

…telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status.

http://www.americantelemed.org/about-telemedicine/what-is-telemedicine#.VGTJIck_c7k

What is Telemedicine?

Formally defined, telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status. Telemedicine includes a growing variety of applications and services using two-way video, email, smart phones, wireless tools and other forms of telecommunications technology

.. Telemedicine is not a separate medical specialty. Products and services related to telemedicine are often part of a larger investment by healthcare institutions in either information technology or the delivery of clinical care… ATA has historically considered telemedicine and telehealth to be interchangeable terms, encompassing a wide definition of remote healthcare. Patient consultations via video conferencing, transmission of still images, e-health including patient portals, remote monitoring of vital signs, continuing medical education, consumer-focused wireless applications and nursing call centers, among other applications, are all considered part of telemedicine and telehealth.

http://www.americantelemed.org/about-telemedicine/what-is-telemedicine#.V-G83mZ4eHs

World Health Organization
TELEMEDICINE Opportunities and developments in Member States
Report on the second global survey on eHealth
Global Observatory for eHealth series - Volume 2
2010
Some distinguish telemedicine from telehealth with the former restricted to service delivery by physicians only, and the latter signifying services provided by health professionals in general, including nurses, pharmacists, and others. However, for the purpose of this report, telemedicine and telehealth are synonymous and used interchangeably.
Four elements are germane to telemedicine:
1. Its purpose is to provide clinical support.
2. It is intended to overcome geographical barriers, connecting users who are not in the same physical location.
3. It involves the use of various types of ICT.
4. Its goal is to improve health outcomes.

http://www.who.int/goe/publications/goe_telemedicine_2010.pdf

Telehealth and Telepharmacy are Synonymous

Figure 1. Telemedicine, ehealth, telehealth, telecare and mhealth.

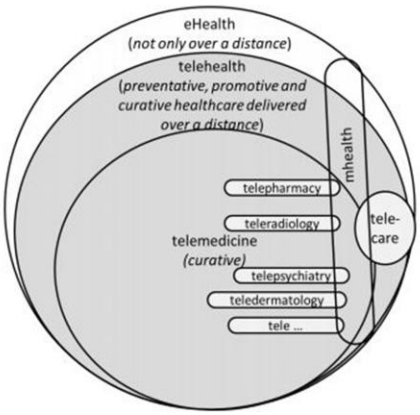

Figure reprinted from A Review of Telehealth Service Implementation Frameworks by van Dyk under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/3.0/)

International Journal of Environmental Research and Public Health
ISSN 1660-4601
www.mdpi.com/journal/ijerph
A Review of Telehealth Service Implementation Frameworks
Liezl van Dyk Industrial Engineering, Faculty of Engineering, North-West University, Potchefstroom Campus, Potchefstroom 2520, South Africa;
E-Mail: liezl.vandyk@nwu.ac.za;

Abstract: Despite the potential of telehealth services to increase the quality and accessibility of healthcare, the success rate of such services has been disappointing. The purpose of this paper is to find and compare existing frameworks for the implementation of telehealth services that can contribute to the success rate of future endeavors. After a thorough discussion of these frameworks, this paper outlines the development methodologies in terms of theoretical background, methodology and validation. Finally, the common themes and formats are identified for consideration in future implementation. It was confirmed that a holistic implementation approach is needed, which includes technology, organizational structures, change management, economic feasibility, societal impacts, perceptions, user-friendliness, evaluation and evidence, legislation, policy and governance. Furthermore, there is some scope for scientifically rigorous framework development and validation approaches.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3945538/pdf/ijerph-11-01279.pdf

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Definition of Telemedicine by Medical Boards

Federation of State Medical Boards, 2014

- "Telemedicine" means the practice of medicine using electronic communications, information technology or other means between a licensee in one location, and a patient in another location

Federation of State Medical Boards, 2014

- Telemedicine is not an audio-only, telephone conversation, e-mail/instant messaging conversation, or fax.

State and National Boards
MODEL POLICY FOR THE APPROPRIATE USE OF TELEMEDICINE TECHNOLOGIES IN THE PRACTICE OF MEDICINE
Report of the State Medical Boards' Appropriate Regulation of Telemedicine (SMART) Workgroup
Adopted as policy by the Federation of State Medical Boards in April 2014

Section Three. Definitions For the purpose of these guidelines, the following definitions apply: "Telemedicine" means the practice of medicine using electronic communications, information technology or other means between a licensee in one location, and a patient in another location with or without an intervening healthcare provider. Generally, telemedicine is not an audio-only, telephone conversation, e-mail/instant messaging conversation, or fax. It typically involves the application of secure videoconferencing or store and forward technology to provide or support healthcare delivery by replicating the interaction of a traditional, encounter in person between a provider and a patient.7
"Telemedicine Technologies" means technologies and devices enabling secure electronic communications and information exchange between a licensee in one location and a patient in another location with or without an intervening healthcare provider.

https://www.fsmb.org/Media/Default/PDF/FSMB/Advocacy/FSMB_Telemedicine_Poli

cy.pdf

Florida Board of Medicine

Florida Administrative Code 64B8-9.0141 Standards for Telemedicine Practice.

(1) "Telemedicine" means the practice of medicine by a licensed Florida physician or physician assistant where patient care, treatment, or services are provided through the use of medical information exchanged from one site to another via electronic communications. Telemedicine shall not include the provision of health care services only through an audio only telephone, email messages, text messages, facsimile transmission, U.S. Mail or other parcel service, or any combination thereof.

(4) Controlled substances shall not be prescribed through the use of telemedicine except for the treatment of psychiatric disorders. This provision does not preclude physicians or physician assistants from ordering controlled substances through the use of telemedicine for patients hospitalized in a facility licensed pursuant to Chapter 395, F.S.

(5) Prescribing medications based solely on an electronic medical questionnaire constitutes the failure to practice medicine with that level of care, skill, and treatment which is recognized by reasonably prudent physicians as being acceptable under similar conditions and circumstances, as well as prescribing legend drugs other than in the course of a physician's professional practice.

(6) Physicians and physician assistants shall not provide treatment recommendations, including issuing a prescription, via electronic or other means, unless the following elements have been met:

(a) A documented patient evaluation, including history and physical examination to establish the diagnosis for which any legend drug is prescribed.

(b) Discussion between the physician or the physician assistant and the patient regarding treatment options and the risks and benefits of treatment.

(c) Maintenance of contemporaneous medical records meeting the requirements of Rule 64B8-9.003, F.A.C.

(7) The practice of medicine by telemedicine does not alter any obligation of the physician or the physician assistant regarding patient confidentiality or recordkeeping.

Florida Board of Medicine - 64B8-9.0141

"Telemedicine" means the practice of medicine by a licensed Florida physician or physician assistant where patient care, treatment, or services are provided through the use of medical information exchanged from one site to another via electronic communications.

Florida Board of Medicine - 64B8-9.0141 Standards for Telemedicine Practice.
https://www.flrules.org/gateway/ruleNo.asp?id=64B8-9.0141

Definition of Telemedicine by FL Medical Board

Florida Board of Medicine, 2016

- "Telemedicine" means the practice of medicine by a licensed Florida physician or physician assistant where patient care, treatment, or services are provided through the use of medical information exchanged from one site to another via electronic communications.

Florida Board of Medicine, 2016

- Telemedicine shall not include the provision of health care services only through an audio only telephone, email messages, text messages, facsimile transmission, U.S. Mail or other parcel service, or any combination thereof.

Florida Board of Medicine
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Florida Board of Medicine - 64B8-9.0141
"Telemedicine" means the practice of medicine by a licensed Florida physician or physician assistant where patient care, treatment, or services are provided through the use of medical information exchanged from one site to another via electronic communications.
Florida Board of Medicine - 64B8-9.0141 Standards for Telemedicine Practice.
https://www.flrules.org/gateway/ruleNo.asp?id=64B8-9.0141

Definition of Telemedicine by CMS

Florida Medicaid - 59G-1.057 Telemedicine

- Florida Medicaid reimburses only for telemedicine services that use interactive telecommunications equipment:
  - Audio/video connectivity with video monitors
  - Two-way, real time, interactive communications
  - Between a patient and a doctor

Medicare

- Medicare reimburses communication between the patient and physician at a distant site using two-way, real time interactive audio and video equipment.
  - The patient's facility must be located in a rural area to qualify for payment.

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Florida Administrative Code
59G-1.057 Telemedicine.
(1) This rule applies to any person or entity prescribing or reviewing a request for Florida Medicaid services and to all providers of Florida Medicaid services that are enrolled in or registered with the Florida Medicaid program.
(2) Definition. Telemedicine – The practice of health care delivery by a practitioner who is located at a site other than the site where a recipient is located for the purposes of evaluation, diagnosis, or treatment.
(3) Who Can Provide. Practitioners licensed within their scope of practice to perform the service.
(4) Coverage. Florida Medicaid reimburses for telemedicine services using interactive telecommunications equipment that includes, at a minimum audio and video equipment permitting two-way, real time, interactive communication between a recipient and a practitioner.
(5) Exclusion. Florida Medicaid does not reimburse for:
(a) Telephone conversations, chart review(s), electronic mail messages, or facsimile transmissions.
(b) Equipment required to provide telemedicine services.
(6) Reimbursement. The following applies to practitioners rendering services in the fee-for-service delivery system:
(a) Florida Medicaid reimburses the practitioner who is providing the evaluation, diagnosis, or treatment recommendation located at a site other than where the

recipient is located.
(b) Providers must include modifier GT on the CMS-1500 claim form, incorporated by reference in Rule 59G-4.001, F.A.C.
Rulemaking Authority 409.919 FS. Law Implemented 409.905 FS. History–New 6-20-16.

https://www.flrules.org/gateway/ruleno.asp?id=59G-1.057

Telemedicine
For purposes of Medicaid, telemedicine seeks to improve a patient's health by permitting two-way, real time interactive communication between the patient, and the physician or practitioner at the distant site. This electronic communication means the use of interactive telecommunications equipment that includes, at a minimum, audio and video equipment.
Telemedicine is viewed as a cost-effective alternative to the more traditional face-to-face way of providing medical care (e.g., face-to-face consultations or examinations between provider and patient) that states can choose to cover under Medicaid. This definition is modeled on Medicare's definition of telehealth services (42 CFR 410.78). Note that the federal Medicaid statute does not recognize telemedicine as a distinct service.
https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Telemedicine.html

Telemedicine
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https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Telemedicine.html

Definition of Telepharmacy

Florida Administrative Code

Practice of Pharmacy

- Does not address Telepharmacy

National Association of Boards of Pharmacy

"Practice of Telepharmacy" means the provision of Pharmacist Care Services by registered Pharmacies and Pharmacists located within US jurisdictions through the use of telecommunications or other technologies to patients or their agents at distances that are located within US jurisdictions.

- The Practice of Telepharmacy does not restrict the pharmacist to interactive, two-way telecommunications.

Model State Pharmacy Act and Model Rules of the National Association of Boards of Pharmacy

August 2016
Section 105. Definitions.

"Practice of Telepharmacy" means the provision of Pharmacist Care Services by registered Pharmacies and Pharmacists located within US jurisdictions through the use of telecommunications or other technologies to patients or their agents at distances that are located within US jurisdictions.

"Practice of Telepharmacy Across State Lines" means the Practice of Telepharmacy when the patient is located within a US jurisdiction and the pharmacist is located in a different US jurisdiction.

"Practitioner" means an individual currently licensed, registered, or otherwise authorized by the appropriate jurisdiction to prescribe and Administer Drugs in the course of professional practice.

"Valid Patient-Practitioner Relationship" means the following have been established:

a Patient has a medical complaint;
a medical history has been taken;
a face-to-face physical examination adequate to establish the medical complaint has been performed by the prescribing practitioner or in the instances of telemedicine through telemedicine practice approved by the appropriate Practitioner Board; and

some logical connection exists between the medical complaint, the medical history, and the physical examination and the Drug prescribed.

Section 105(q6). Comment.
A Valid Patient-Practitioner Relationship includes a relationship with a consulting Practitioner or a Practitioner to which a patient has been referred, or a covering Practitioner, or an appropriate Practitioner-Board-approved telemedicine Practitioner providing that a physical examination had been previously performed by the patient's primary Practitioner.
(c) the prescribing Practitioner is issuing a prescription through a telemedicine practice approved by the appropriate state agency that provides health care delivery, diagnosis, consultation, or treatment by means of audio, video, or data communications. Standard telephone, facsimile transmission, or both, in the absence of other integrated information or data, do not constitute telemedicine practices.
Section 301. Unlawful Practice.
(b) The provision of Pharmacist Care Services to an individual in this State, through the use of telecommunications, the Internet, or other technologies, regardless of the location of the pharmacist, shall constitute the Practice of Pharmacy and shall be subject to regulation.
(1) Licensed Pharmacies located outside this State that provide Pharmacist Care Services to individuals in this State must be licensed within this State under Article V of this Act.
(2) Pharmacists located outside this State who are providing Pharmacist Care Services outside of a licensed Pharmacy to individuals located in this State must register with this State to engage in the nonresident Practice of Pharmacy.
The "Practice of Telepharmacy" is deemed to occur within the jurisdiction in which the patient is located and the jurisdiction(s) in which the pharmacist and, if applicable, pharmacy are located; therefore, such practice will be subject to the Pharmacy practice regulations of all jurisdictions' Boards of Pharmacy.

The definition of "Practitioner" anticipates that those persons other than Pharmacists who are permitted to prescribe and Administer Drugs will be specifically so authorized in other legislation.

NABP recognizes that protection of the public health should extend across State borders. Accordingly, the NABP *Model Act* incorporates the Practice of Telepharmacy Across State Lines within the scope of the "Practice of Pharmacy" and requires an independently practicing pharmacist located outside this State to obtain full licensure for providing Pharmacist Care Services from outside the State to patients within the State.

http://www.fsmb.org/Media/Default/PDF/Publications/FSMB%20Telemedicine%20P

olicy%20News%20Release_042614.pdf

Florida Pharmacy Association Regulatory and Law Conference

Regulatory Oversight of Telehealth and Telepharmacy

Regulatory Environment for Telepharmacy

Regulation of Telehealth and Telepharmacy is uneven across the fifty states.

In an article published in March 2016 in the Pharmacy Times, the authors comment that:

- "…as the scope of pharmacy practice and telecommunication technology continues to evolve, the breadth of telepharmacy services makes them difficult to regulate uniformly."
- "Therefore, when states craft their telepharmacy laws, they often impose varying requirements."

State Regulation of Telepharmacy, Anne Compton-Brown, JD, and Serj Mooradian, JD. Published by Pharmacy Times Wednesday, March 23, 2016. Retrieved from http://www.pharmacytimes.com/news/state-regulation-of-telepharmacy.

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State Regulation of Telepharmacy
Anne Compton-Brown, JD, and Serj Mooradian, JD
Published Online: Wednesday, March 23, 2016
- See more at: http://www.pharmacytimes.com/news/state-regulation-of-telepharmacy

State regulation of telepharmacy varies depending on the market-driven needs within each particular state. This article synthesizes the patchwork of telepharmacy laws to provide an overview of the regulation of telepharmacy in the United States.

However, as the scope of pharmacy practice and telecommunication technology continues to evolve, the breadth of telepharmacy services makes them difficult to regulate uniformly. Therefore, when states craft their telepharmacy laws, they often impose varying requirements. For example, the Connecticut legislature recognized that in practice, telepharmacy can be broader than pharmacy services provided to patients via remote or automated pharmacy locations, thus permitting telepharmacy to be used by hospital pharmacists to review and verify intravenous sterile compounding by remote pharmacy technicians.[7] This is just one example of the flexibility states have to regulate telepharmacy in a manner that aligns with current state telepharmacy and pharmacy practice. State differences in the regulation of telepharmacy also occur with respect to licensing and operational requirements.

Licensing Requirements for Telepharmacy Practice

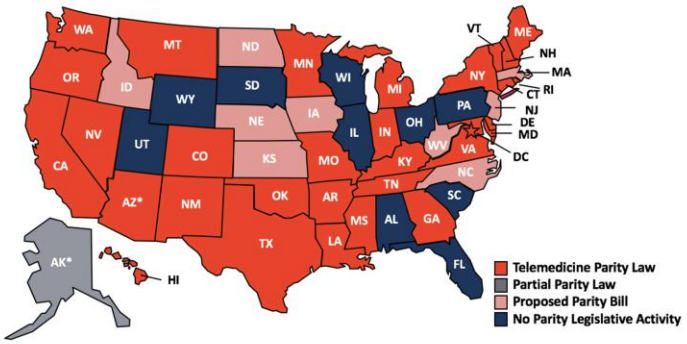
States may impose additional telepharmacy licensing requirements on central and remote pharmacy sites and pharmacists, above and beyond the requirement that those entities and individuals obtain the required state licensure to operate as a pharmacy or practice pharmacy within that state. For example, pharmacies that operate kiosks in Georgia must be licensed as a pharmacy in Georgia, obtain a separate license to install and operate the kiosks from the Georgia Board of Pharmacy, and pay the associated licensing fee.[8] Moreover, such pharmacies may only install and operate kiosks in a Georgia-licensed skilled nursing facility or hospice that does not have an onsite licensed pharmacy.[8] As in Georgia, other states also require such facilities to obtain state board of pharmacy approval for kiosks or remote dispensing sites prior to installing the kiosk or beginning operations.[9]

See more at: http://www.pharmacytimes.com/news/state-regulation-of-telepharmacy

Regulatory Environment for Telehealth

The American Telemedicine Association publishes reports on the state telemedicine regulations, such as parity laws.

States with Parity Laws for Private Insurance Coverage of Telemedicine (2017)



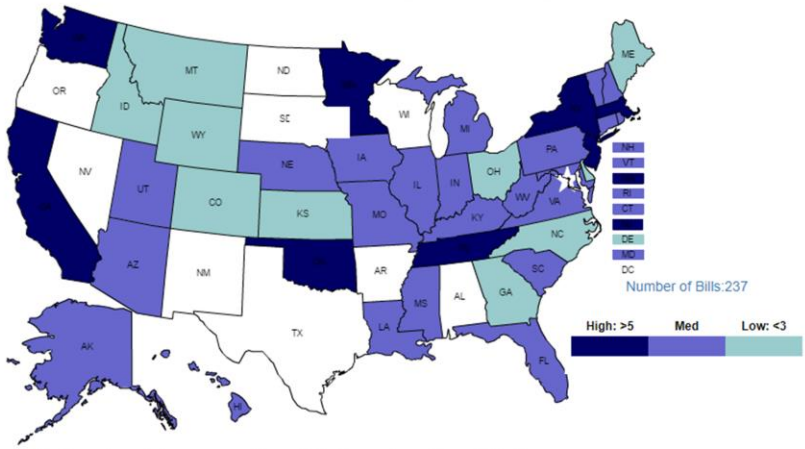
http://www.americantelemed.org/policy-page/state-policy-resource-center

2017 State Telemedicine Legislation Tracking report
http://www.americantelemed.org/policy-page/state-policy-resource-center
ATA's State Policy Resource Center monitors telemedicine state policies, identifies and works to resolve barriers to state-level telemedicine use, and provides policy technical assistance to the ATA members and state policymakers.

Telemedicine Parity map
https://higherlogicdownload.s3.amazonaws.com/AMERICANTELEMED/3c09839a-fffd-46f7-916c-692c11d78933/UploadedImages/Policy/State%20Policy%20Resource%20Center/31317%20parity%20map.jpg

Regulatory Environment for Telehealth

The Federation of State Medical Boards monitors legislation affecting regulation of medicine, such as the number of telemedicine bills introduced in 2016 in all 50 states.



http://services.statescape.com/Search/GetReport.aspx?pageid=legis

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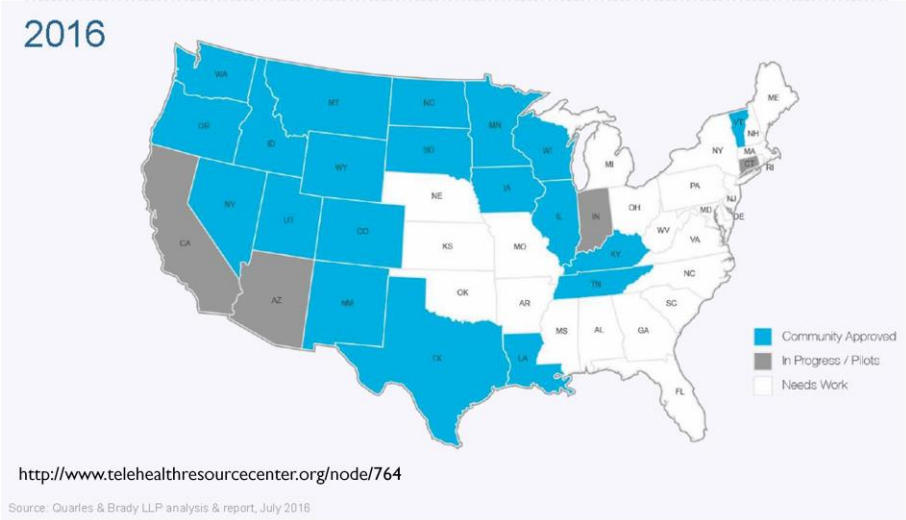
Telemedicine Policies Board by Board

Overview Document Summary:
 Forty-eight (48) state boards, plus the medical boards of District of Columbia, Puerto Rico, and the Virgin Islands, require that physicians engaging in telemedicine are licensed in the state in which the patient is located.
 Fifteen (15) state boards issue a special purpose license, telemedicine license or certificate, or license to practice medicine across state lines to allow for the practice of telemedicine.
 Four (4) state boards require physicians to register if they wish to practice across state lines.
 Twenty-eight (28) states, plus the District of Columbia, require both private insurance companies and Medicaid to cover telemedicine services to the same extent as face-to-face consultations.
 Eighteen (18) states currently require only Medicaid to cover telemedicine services.
 One (1) state requires only private insurance companies to reimburse for services provided through telemedicine

http://www.fsmb.org/Media/Default/PDF/FSMB/Advocacy/GRPOL_Telemedicine_Licensure.pdf
http://services.statescape.com/Search/GetReport.aspx?pageid=legis

States with Telepharmacy Rules and Projects



http://www.telehealthresourcecenter.org/node/764

Source: Quarles & Brady LLP analysis & report, July 2016

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What You Need to Know About Telepharmacy
Greg Janes, Zachary Schladetzky

TelePharm, Cardinal Health
Thursday, December 15, 2016
http://www.telehealthresourcecenter.org/node/764

Model State Pharmacy Act

National Association of Boards of Pharmacy

A "Valid Patient-Practitioner Relationship" exists between a consulting Practitioner or Board-approved telemedicine Practitioner providing that a physical examination was previously performed by the patient's primary Practitioner.

- The prescribing Practitioner is issuing a prescription through a telemedicine practice approved by the appropriate state agency by means of audio, video, or data communications.
- Standard telephone, facsimile transmission, or both, in the absence of other integrated information or data, do not constitute telemedicine practices.

https://nabp.pharmacy/publications-reports/resource-documents/model-pharmacy-act-rules/

Model State Pharmacy Act and Model Rules of the National Association of Boards of Pharmacy August 2016

Section 105(q6). Comment.
A Valid Patient-Practitioner Relationship includes a relationship with a consulting Practitioner or a Practitioner to which a patient has been referred, or a covering Practitioner, or an appropriate Practitioner-Board-approved telemedicine Practitioner providing that a physical examination had been previously performed by the patient's primary Practitioner.

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https://nabp.pharmacy/publications-reports/resource-documents/model-pharmacy-act-rules/

National Association of Boards of Pharmacy

Task Force Recommends Expanding Telepharmacy Regulations:

- Add a new section for telepharmacy to the Model Act
- Define telepharmacy to recognize that it is the practice of pharmacy both within and across state lines.
- Define telepharmacy technologies broadly, encompassing future technological developments.
- Address restrictive telepharmacy regulations based on geographical or distance-related parameters
- Exempt the requirement of a face-to-face examination in instances of third-party prescribing of certain drugs.

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Telepharmacy: The New Frontier of Patient Care and Professional Practice
NEWSLETTER OF THE NATIONAL ASSOCIATION OF BOARDS OF PHARMACY ®
JUNE/JULY 2017 VOLUME 46 NUMBER 6
https://nabp.pharmacy/wp-content/uploads/2016/07/Innovations_June_July_Final.pdf

Task Force Recommends Expanding Telepharmacy Regulations
Patients in both rural and urban settings can benefit from telepharmacy services, which can provide patients with quality health care that they may not otherwise receive or have difficulty accessing, concluded the Task Force on the Regulation of Telepharmacy Practice.

The task force met to discuss telepharmacy practice models and existing regulations of telepharmacy practices. The task force members made two recommendations, including amending language in *The Model State Pharmacy Act and Model Rules of the National Association of Boards of Pharmacy (Model Act)*, and further collaborating with the boards of pharmacy regarding telepharmacy services between pharmacies and medical clinics or other facilities.

Florida Restriction on Prescription of Controlled Substances via Telemedicine

Florida Board of Medicine, 2016

- Controlled substances shall not be prescribed through the use of telemedicine except for the treatment of psychiatric disorders.
- This provision does not preclude physicians from ordering controlled substances through the use of telemedicine for patients hospitalized in a licensed facility.
- Physicians must not issue a prescription, via electronic or other means, unless a documented patient evaluation exists to establish the diagnosis for which any drug is prescribed.

Florida Board of Medicine
64B8-9.0141 Standards for Telemedicine Practice.
(1) "Telemedicine" means the practice of medicine by a licensed Florida physician or physician assistant where patient care, treatment, or services are provided through the use of medical information exchanged from one site to another via electronic communications. Telemedicine shall not include the provision of health care services only through an audio only telephone, email messages, text messages, facsimile transmission, U.S. Mail or other parcel service, or any combination thereof.
(4) Controlled substances shall not be prescribed through the use of telemedicine except for the treatment of psychiatric disorders. This provision does not preclude physicians or physician assistants from ordering controlled substances through the use of telemedicine for patients hospitalized in a facility licensed pursuant to Chapter 395, F.S.
(5) Prescribing medications based solely on an electronic medical questionnaire constitutes the failure to practice medicine with that level of care, skill, and treatment which is recognized by reasonably prudent physicians as being acceptable under similar conditions and circumstances, as well as prescribing legend drugs other than in the course of a physician's professional practice.
(6) Physicians and physician assistants shall not provide treatment recommendations, including issuing a prescription, via electronic or other means, unless the following elements have been met:
(a) A documented patient evaluation, including history and physical examination to

establish the diagnosis for which any legend drug is prescribed.
(b) Discussion between the physician or the physician assistant and the patient regarding treatment options and the risks and benefits of treatment.
(c) Maintenance of contemporaneous medical records meeting the requirements of Rule 64B8-9.003, F.A.C.
(7) The practice of medicine by telemedicine does not alter any obligation of the physician or the physician assistant regarding patient confidentiality or recordkeeping.

Florida Board of Medicine - 64B8-9.0141
"Telemedicine" means the practice of medicine by a licensed Florida physician or physician assistant where patient care, treatment, or services are provided through the use of medical information exchanged from one site to another via electronic communications.
Florida Board of Medicine - 64B8-9.0141 Standards for Telemedicine Practice.
https://www.flrules.org/gateway/ruleNo.asp?id=64B8-9.0141

Federal Regulation: Ryan Haight Online Pharmacy Consumer Protection Act of 2008

Sec. 2. Requirement of a Valid Prescription for Controlled Substances Dispensed by Means of the Internet

- "No controlled substance that is a prescription drug… may be delivered, distributed, or dispensed by means of the Internet without a valid prescription."
- A "valid prescription" is a prescription written by a medical practitioner for a "legitimate medical purpose."
- The prescription can written only following at least one in-person medical evaluation, in "the physical presence of the practitioner."

H. R. 6353
Ryan Haight Online Pharmacy Consumer Protection Act of 2008.
SEC. 2. REQUIREMENT OF A VALID PRESCRIPTION FOR CONTROLLED SUBSTANCES DISPENSED BY MEANS OF THE INTERNET.
''(1) No controlled substance that is a prescription drug as determined under the Federal Food, Drug, and Cosmetic Act may be delivered, distributed, or dispensed by means of the Internet without a valid prescription.
''(2) As used in this subsection:
''(A) The term 'valid prescription' means a prescription that is issued for a legitimate medical purpose in the usual course of professional practice by—
''(i) a practitioner who has conducted at least 1 in-person medical evaluation of the patient; or ''(ii) a covering practitioner.
''(B)(i) The term 'in-person medical evaluation' means a medical evaluation that is conducted with the patient in the physical presence of the practitioner, without regard to whether portions of the evaluation are conducted by other health professionals.

''(54) The term 'practice of telemedicine' means, for purposes of this title, the practice of medicine in accordance with applicable Federal and State laws by a practitioner (other than a pharmacist) who is at a location remote from the patient and is communicating with the patient, or health care professional who is treating the patient, using a telecommunications system referred to in section 1834(m) of the

Social Security Act, which practice—
‘‘(A) is being conducted—
‘‘(i) while the patient is being treated by, and physically located in, a hospital or clinic registered under section 303(f); and
‘‘(ii) by a practitioner—
‘‘(I) acting in the usual course of professional practice;
‘‘(II) acting in accordance with applicable State law; and
‘‘(III) registered under section 303(f) in the State in which the patient is located,

https://www.govtrack.us/congress/bills/110/hr6353/text

Federal Regulation: Ryan Haight Online Pharmacy Consumer Protection Act of 2008

Telemedicine Requirements

The term 'practice of telemedicine' means… the practice of medicine in accordance with applicable Federal and State laws by a practitioner (other than a pharmacist) who:

- Is at a location remote from the patient
- Is communicating with the patient or with a health care professional who is treating the patient
- Is using a telecommunications system physically located in a hospital or clinic registered with the DEA
- Is working in the usual course of his or her professional practice, according to state law

H. R. 6353
Ryan Haight Online Pharmacy Consumer Protection Act of 2008.
SEC. 2. REQUIREMENT OF A VALID PRESCRIPTION FOR CONTROLLED SUBSTANCES DISPENSED BY MEANS OF THE INTERNET.
''(1) No controlled substance that is a prescription drug as determined under the Federal Food, Drug, and Cosmetic Act may be delivered, distributed, or dispensed by means of the Internet without a valid prescription.
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‘‘(I) acting in the usual course of professional practice;
‘‘(II) acting in accordance with applicable State law; and
‘‘(III) registered under section 303(f) in the State in which the patient is located,

https://www.govtrack.us/congress/bills/110/hr6353/text

HIPAA Security Rule

§ 164.312 Technical safeguards

Standard: Transmission security.

Implement technical security measures to prevent unauthorized access to Electronic Protected Health Information (ePHI) transmitted over an electronic communications network.

Encryption - Addressable

Encrypt ePHI whenever appropriate

- Under the HIPAA Omnibus Rule, ePHI that is **not encrypted** is considered "Unsecure" and liable for penalties if breached
- **Encrypted** ePHI is "Secure" and not liable for penalties if breached

U.S. Department of Health and Human Services
Office for Civil Rights
2006
HIPAA Administrative Simplification Regulation Text, 45 CFR Parts 160, 162, and 164 (2006)
http://www.hhs.gov/ocr/privacy/hipaa/administrative/privacyrule/adminsimpregtext.pdf

§ 164.312 Technical safeguards
(e)(1) **Standard**: Transmission security. Implement technical security measures to guard against unauthorized access to electronic protected health information that is being transmitted over an electronic communications network.
(2) **Implementation specifications**:

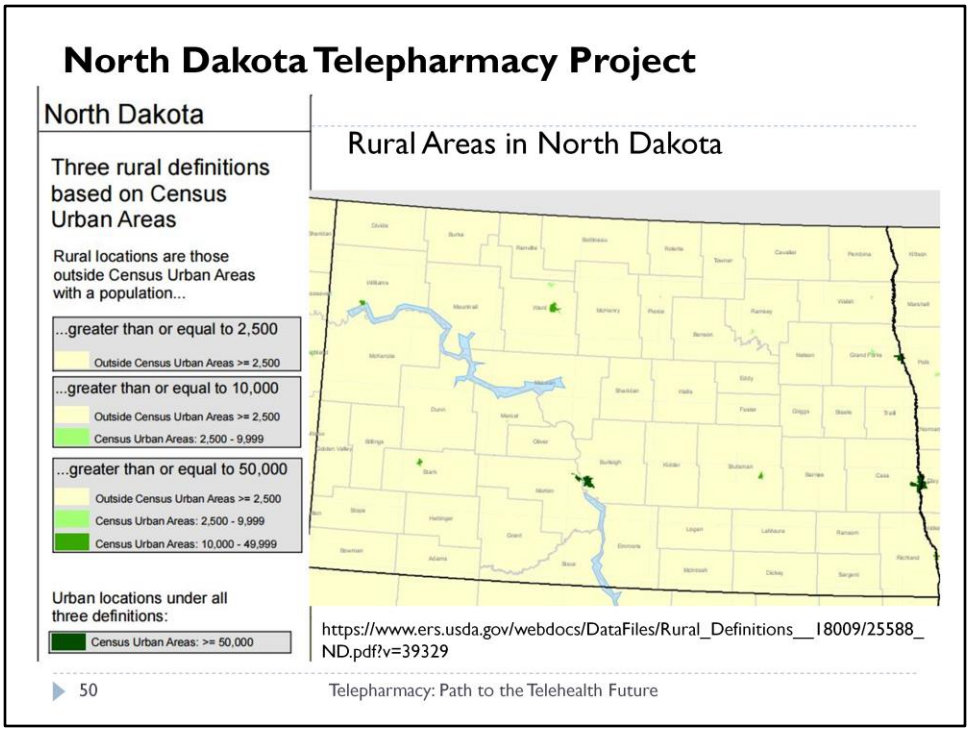
(i) *Integrity controls* (Addressable). Implement security measures to ensure that electronically transmitted electronic protected health information is not improperly modified without detection until disposed of.
(ii) *Encryption* (Addressable). Implement a mechanism to encrypt electronic protected health information whenever deemed appropriate.

Examples of Telepharmacy Projects

Telepharmacy Applications

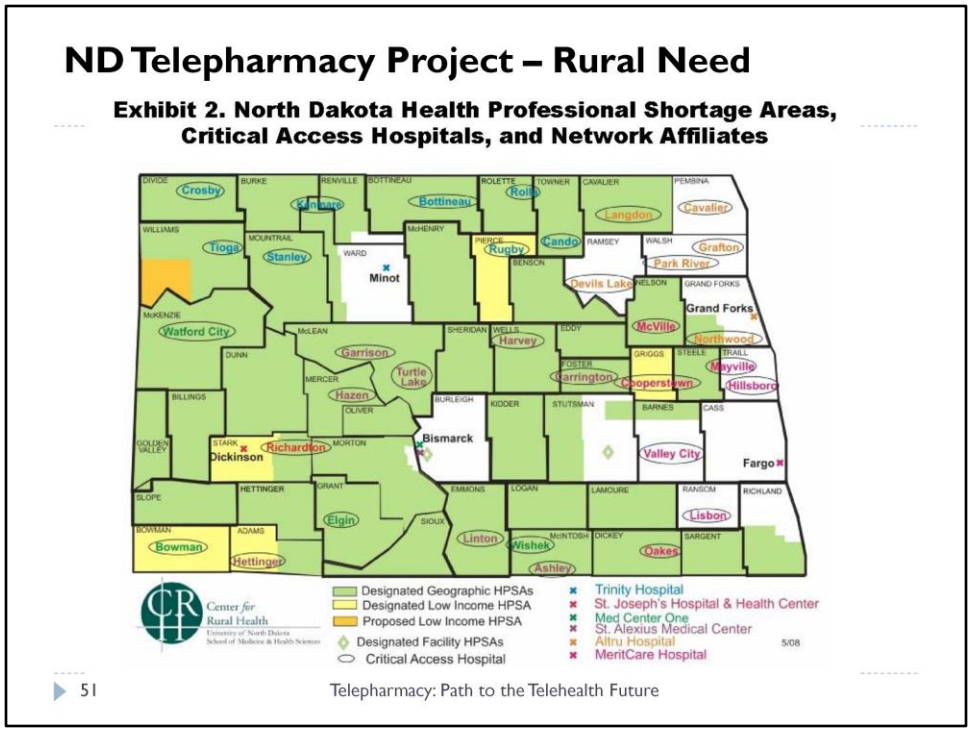
There are numerous Telepharmacy services employed for remote pharmacy activities in rural areas:

- Electronically supervising remote technicians who are providing full-service pharmacy dispensing
- Conducting remote consultations with another pharmacist
- New pharmacist mentoring and consultation
- Patient assessment and counseling and Medication Therapy Management (MTM)
- Reviewing new medication orders transmitted by fax or electronically and remotely releasing medication from an automated medication dispensing cabinet



North Dakota Rural Map Map

https://www.ers.usda.gov/webdocs/DataFiles/Rural_Definitions__18009/25588_ND.pdf?v=39329



THE NORTH DAKOTA EXPERIENCE: ACHIEVING HIGH-PERFORMANCE HEALTH CARE THROUGH RURAL INNOVATION AND COOPERATION

Douglas McCarthy, Rachel Nuzum, Stephanie Mika, Jennifer Wrenn, and Mary Wakefield

The Commonwealth Fund, May 2008

http://www.commonwealthfund.org/publications/fund-reports/2008/may/the-north-dakota-experience--achieving-high-performance-health-care-through-rural-innovation-and-coo

ABSTRACT: Resource constraints and the desire to preserve the local economy have made necessity the mother of invention in North Dakota, driving health care providers and policymakers to try new approaches to care and to institute better practices relatively quickly. Collaboration to support primary care and the concept of a medical home, organization of care through cooperative networks of providers, and innovative use of technology to meet patient needs and hold down costs are examples of how North Dakota is able to provide its citizens with accessible, quality, and efficient health care despite the challenges of a rural setting. Rural communities have a unique context of community trust and interdependence, a social capital that allows them to innovate in meeting patients' needs. A strong sense of mission, vigilance to process and outcomes, and enhanced communication and collaboration among health care providers are key to improvements made in North Dakota health care.

http://www.commonwealthfund.org/usr_doc/1130_McCarthy_North_Dakota_experience.pdf?section=4039

ND Telepharmacy Project – Initial Drivers

- In 2001the North Dakota State Board of Pharmacy established Pilot Telepharmacy Rules to restore and retain pharmacy services in medically underserved remote rural communities
- In September of 2002, the NDSU College of Pharmacy received a HRSA grant to implement a state-wide telepharmacy program to prevent rural pharmacies from closing
- In June 2003 the North Dakota State Board of Pharmacy established permanent rules allowing telepharmacy to be practiced on a broader scale in North Dakota

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History and Progress of HRSA/OAT Telepharmacy Funding

Early History of Telepharmacy

In 2001, in response to an escalation of rural community pharmacy closings in the state, the North Dakota State Board of Pharmacy established Pilot Telepharmacy Rules to explore the feasibility of using telepharmacy to restore and retain pharmacy services in medically underserved remote rural communities of North Dakota.
In September of 2002, the NDSU College of Pharmacy received a federal grant from the Office for the Advancement of Telehealth (OAT), Division of Health Resources and Services Administration, Department of Health and Human Services, to implement a state-wide telepharmacy program to save rural pharmacies from closing and to test the new telepharmacy pilot rules established by the Board of Pharmacy. In FY'2002, a total of ten North Dakota rural communities were involved in the first year of the federal OAT grant. Four central pharmacy sites in Killdeer, Watford City, Rugby, and Forman, North Dakota, were established to serve six remote telepharmacy sites in Beach, New England, New Town, Rolette, Maddock, and Gwinner, North Dakota.

To date there are eighty-one pharmacies involved in the North Dakota Telepharmacy Project, twenty-five central pharmacy sites and fifty-six remote telepharmacy sites. Of the eighty-one pharmacies involved, fifty-three are retail pharmacies and twenty-eight are hospital pharmacies. Thirty-eight (73%) of North Dakota's fifty-three counties are involved in the project and two in Minnesota. Approximately 80,000

rural citizens have had pharmacy services restored, retained or established through the North Dakota Telepharmacy Project since its inception. The project has restored valuable access to health care in remote medically underserved areas of the state and has added approximately $26.5 million in economic development to the local rural economy.

https://www.ndsu.edu/telepharmacy/history/

ND Telepharmacy Project – Pharmacy Rules

The North Dakota Telepharmacy rules allow for the following:

- Retail pharmacies can operate in remote areas of the state without a licensed pharmacist being physically present
- A licensed pharmacist supervises a registered pharmacy technician at a remote telepharmacy site:
  - The pharmacy and remote site are connected by a computer, video, and audio links
  - A registered pharmacy technician is physically present at the remote site
  - The pharmacist compares medications via the video link, checking the label checked for accuracy
  - The pharmacist can counsel the patient on prescriptions using the video and audio links

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TELEPHARMACY
By: Kevin E. McCarthy, Principal Analyst
November 25, 2013

North Dakota

In 2001, North Dakota became the first state to pass regulations allowing retail pharmacies to operate without requiring a pharmacist to be physically present. In response to an increasing number of rural community pharmacy closings, the state Board of Pharmacy established pilot telepharmacy rules to explore the feasibility of using telepharmacy to restore and retain pharmacy services in medically underserved remote rural communities.

In September of 2002, the state College of Pharmacy received a federal grant to implement a statewide program to save rural pharmacies from closing and to test the new telepharmacy pilot rules. Ten rural communities were involved in the first year of the grant. The next year, state agencies and grants established the North Dakota Telepharmacy Project, which now supports more than 50 remote retail and hospital pharmacy sites throughout North Dakota. In this program, a licensed pharmacist at a central site communicates with remote site pharmacy technicians and patients through videoconferencing.

In 2003, due to the success of the pilot project, the state Board of Pharmacy established permanent rules allowing telepharmacy to be practiced on a broader scale (N.D. § 61-02-08-01 et seq.). The permanent rules allow (1) a retail pharmacy to

open and operate in certain remote rural areas of the state without a licensed pharmacist being physically present in the store and (2) a pharmacist to supervise a registered pharmacy technician at a remote telepharmacy site using telepharmacy technology to dispense prescriptions to patients, provide drug utilization review, and counsel patients. Among other things, the rules require that:

1. the pharmacy and remote site be connected by a computer, video, and audio links;
2. a registered pharmacy technician be present at the remote site;
3. the pharmacist compare the stock bottle, drug dispensed, and its strength via the video link, with the entire label checked for accuracy; and
4. the pharmacist must counsel the patient or his or her agent on all new prescriptions and refills using the video and audio links.

The project has expanded over time and there are 81 pharmacies currently involved (25 central pharmacies and 56 remote sites). Of the pharmacies, 53 are retail pharmacies and 28 are hospital pharmacies. Thirty-eight (73%) of the state's counties are involved in the project, as well as two counties in Minnesota. Since the project began, approximately 80,000 rural residents have had pharmacy services restored, retained, or established through the project. According to the project's website, it has restored access to health care in remote, medically underserved areas and added approximately $26.5 million in economic development to the local rural economy.

https://www.cga.ct.gov/2013/rpt/2013-R-0423.htm

ND Telepharmacy Project – Technician Education

North Dakota State College of Science Certified Pharmacy Technicians Program offers three pharmacy technician training program options:

- One and two year Associate in Applied Science degrees.
  - Both of these include an internship of eight weeks in community and hospital pharmacies.
- Pharmacist-Assisted Technician Self-Instructional Modules (PATSIM) are ASHP-accredited for pharmacy technicians .
- A Grandfathered technician who registered in 1994 but did not complete a formal training programs in North Dakota.

All pharmacy technicians are registered with the North Dakota Board of Pharmacy.

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Assessment of Pharmacy Technicians' Salary, Benefits, and Responsibilities in North Dakota

David M Scott, PhD and Diane Halvorson
J Pharm Technology, Volume 23, May/June 2007
http://journals.sagepub.com/doi/abs/10.1177/875512250702300304

Background: While the number of pharmacist workforce studies being published is growing, few studies report accurate information concerning the wages, benefits, and responsibilities of pharmacy technicians.
Objective: To evaluate the wages, benefits, and responsibilities of pharmacy technicians in North Dakota.
Methods: A mail survey for pharmacy technicians was modified based on the Wage and Benefit Survey for pharmacists used in the Upper Midwest Pharmacists Workforce Study. A list of responsibilities was added to this survey to represent technicians' responsibilities in North Dakota. A survey packet then was mailed to the 456 pharmacy technicians registered in North Dakota. A follow-up postcard and a second survey were mailed to nonrespondents at 4 and 8 weeks, respectively.
Results: Overall, 256 (56.1%) completed surveys were available for analysis. Pharmacy technicians reported that they worked in a primary employment setting (n = 228) an average of 36.8 hours per week and received an average of 2.3 weeks of vacation. The average hourly rate was $12.34 ($7.00–25.48) and the gross 2004 salary (excluding benefits) was $21,627 ($880–41,600). Hospitals had the highest average

hourly pay rate ($12.40), followed by independent ($12.35) and chain ($12.01) pharmacies. Grandfathered technicians (those registered in 1994 when the registration requirement was passed in North Dakota) received the highest average hourly pay rate at $13.11, followed by 1 year, 2 year, and Pharmacist-Assisted Technician Self- Instructional Modules (PATSIM) graduates. The hourly rate for grandfathered pharmacy technicians who have since become certified ($13.30) was highest. Differences between certified and noncertified groups were $0.10 more for 1 year graduates and $0.20 for PATSIM graduates; the difference between grandfathered technicians and 2 year graduates was $0.30. Commonly reported benefits included paid vacation (80%), health insurance for the employee (67%), sick leave (56%), and tax-sheltered plans (54%). Other benefits received were discounts on purchases (61%) and discounts on prescription drugs (54%). Among the most frequently cited distributive functions that technicians perform in their work setting included retrieving products from stock, followed by working with inventory, checking in and putting away medications, filling routine stock supplies, and affixing prescription labels to containers.

Conclusions: Pharmacy technician wages, benefits, and responsibilities in North Dakota are reflective of levels of training, experience, and certification status. While similar assessments have been conducted on pharmacists in other states, there is a need for similar data on pharmacy technicians.

J Pharm Technol 2007;23:148-57.

ND Telepharmacy Project - Remote Technicians

Technician Responsibilities

- Retrieve product from stock
- Count solid dosage forms
- Fill routine stock supplies
- Pour liquid dosage forms
- Receive written prescription from patient
- Input prescriptions into computer
- Affix prescription label to a container
- Request refill authorization from the prescriber
- Obtain patient medication history information
- Order from wholesaler to maintain adequate stock
- Work with inventory, checking in and filing medication order
- Responsible for outdated drug products

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Assessment of Pharmacy Technicians' Salary, Benefits, and Responsibilities in North Dakota
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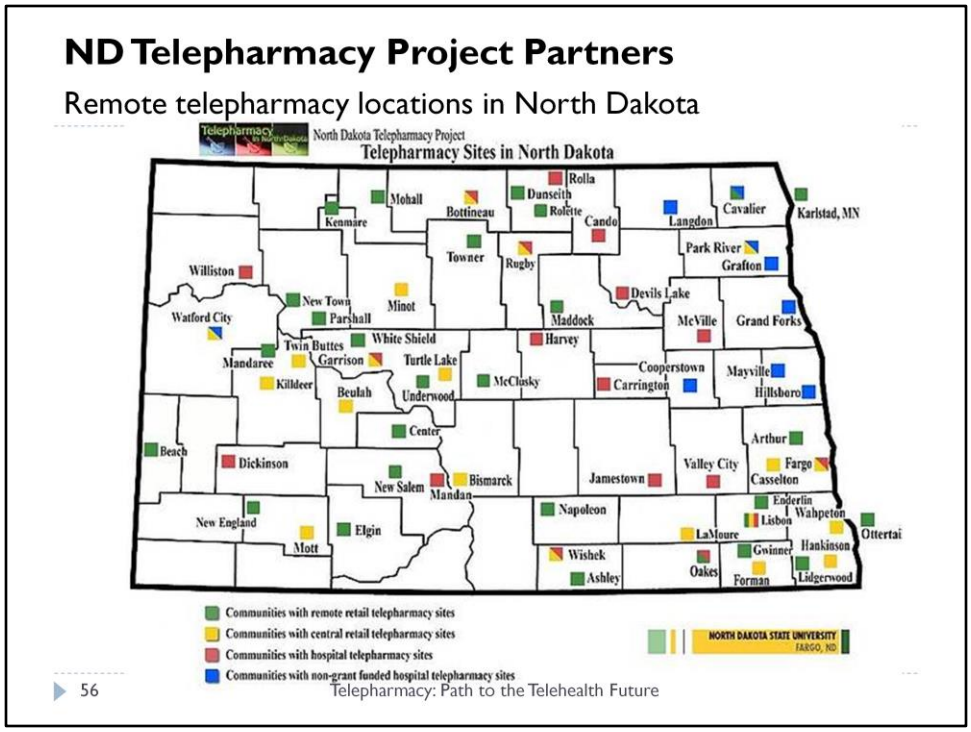

Telepharmacy Map

https://www.ndsu.edu/telepharmacy/telepharmacy_map/

https://www.ndsu.edu/fileadmin/_migrated/pics/Telepharmacypic..jpg

ND Telepharmacy Project - Outcomes

The North Dakota Telepharmacy Project current status:

- 81 pharmacies involved in the project
- Partnering pharmacies include central, remote, retail and hospital pharmacy sites
- 38 counties covered in North Dakota
  - 2 in Minnesota
- 80,000 rural citizens affected
- $26.5 million in economic development
- 80-100 new jobs added
- Overall medication error rate at 1% versus 1.7% nationally
- North Dakota telepharmacy permits have increased with no decline in traditional pharmacy locations

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What is telepharmacy?

Through the use of state-of-the-art telecommunications technology, pharmacists are able to provide pharmaceutical care to patients at a distance. Telepharmacy expands access to quality health care to communities nationwide, primarily in rural, medically-underserved areas.

Through the North Dakota Telepharmacy Project, a licensed pharmacist at a central pharmacy site supervises a registered pharmacy technician at a remote telepharmacy site through the use of video conferencing technology. The technician prepares the prescription drug for dispensing by the pharmacist. The pharmacist communicates face-to-face in real time with the technician and the patient through audio and video computer links. The North Dakota Telepharmacy Project is a collaboration of the NDSU College of Pharmacy, Nursing, and Allied Sciences, the North Dakota Board of Pharmacy, and the North Dakota Pharmacists Association. North Dakota was the first state to pass administrative rules allowing retail pharmacies to operate in certain remote areas without requiring a pharmacist to be present.

To date there are eighty-one pharmacies involved in the North Dakota Telepharmacy Project, twenty-five central pharmacy sites and fifty-six remote telepharmacy sites. Of the eighty-one pharmacies involved, fifty-three are retail pharmacies and twenty-eight are hospital pharmacies. Thirty-eight counties (73%) in North Dakota are involved in the project and two in Minnesota. (See the North Dakota Pharmacy Services Map link for details).

Approximately 80,000 rural citizens have had their pharmacy services restored, retained, or established through the North Dakota Telepharmacy Project since its inception. The project has restored valuable access to health care in remote medically underserved areas of the state and has added approximately $26.5 million in economic development to the local rural economy including adding 80-100 new jobs.
Licensed pharmacists provide traditional pharmacy services, including drug utilization review, prescription verification, and patient counseling to a remote site via telepharmacy technology. Retaining the active role of the pharmacist helps assure the delivery of safe, high quality pharmacy services that can be at risk when the pharmacist is left out as in the case of internet and mail-order pharmacies.
Telepharmacy sites in North Dakota are full service pharmacies that have complete drug inventories, including over-the-counter and prescription drugs as well as health and beauty aids and other general store merchandise.

https://www.ndsu.edu/telepharmacy/

Do remote community telepharmacies have higher medication error rates than traditional community pharmacies? Evidence from the North Dakota Telepharmacy Project.
Friesner DL , Scott DM, Rathke AM, Peterson CD, Anderson HC.
J Am Pharm Assoc (2003). 2011 SepOct;51(5):58090.
https://www.ncbi.nlm.nih.gov/pubmed/21896455

Conclusion: This study reported a lower overall rate (1.0%) and a slight difference in medication
dispensing error rates between remote telepharmacy sites (1.3%) and comparison sites (0.8%).
Both rates are comparable with nationally reported levels (1.7% error rate for 50 pharmacies).

Telepharmacy in a Rural Alberta Community Cancer Network

Telepharmacy services initiated in the absence of a pharmacist in rural cancer centers.

- Pharmacy technicians at two remote community cancer centers connected with pharmacists at a coordinating center
  - A video camera let the pharmacist observe preparation of drugs based on checklists
  - Intravenous preparations were compounded for 47 cancer patients over the course of 109 treatment visits

- The project estimates it avoided about 27,000 miles of patient travel for treatment

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Telepharmacy in a rural Alberta Community Cancer Network

Gordon HL, Hoeber M, Schneider A.

J Oncol Pharm Pract. 2012 Sep;18(3):366-76. doi: 10.1177/1078155211431858. Epub 2012 Feb 29.

http://www.ncbi.nlm.nih.gov/pubmed/22378811

Abstract

Telepharmacy services were developed and adopted to compensate for the absence of a pharmacist in rural Cancer Centers. Preparation included the formation of an advisory committee, development of a training and certification process, establishing new policies and operating procedures, collecting utilization data and a survey of patient and user satisfaction. Pharmacy technicians at two remote community cancer centers were connected by telehealth with pharmacists at one of the two coordinating centers to oversee the compounding of intravenous (I.V.) chemotherapy and provide clinical review of physician orders. In 8 months of telepharmacy use, 247 intravenous preparations were compounded for 47 cancer patients during 109 treatment visits. Approximately 45,000 km (27,000 miles) of patient travel were averted. Pharmacy staff estimates requires an average of 10 additional minutes to process and compound each chemotherapy preparation. Nurses estimate an average of 27.5 additional minutes required to coordinate information for each patient order.

Deployment of Telemedicine/Telehealth Technologies in Rural Alaska

Five different telemedicine technologies used to provide primary care services to patients throughout the Anchorage Service Unit

- Alaska Federal Health Care Access Network (AFHCAN) Telemedicine Cart
  - Mobile telemedicine workstation equipped with diagnostic devices to collect clinical data
- Video Teleconferencing (VTC) Cart
- *Medication Dispensing Unit*
  - *Automated medication dispensing machine*
- Home Health-Monitoring Unit
- Teleradiology Image Capturing System

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Availability and Deployment of Telemedicine/Telehealth Technologies in Rural Alaska

Mr. Burhan Khan, Ms. Vanessa Y. Hiratsuka, MPH, Dr. Denise Dillard, PhD, Dr. Renee Robinson, PharmD, MPH, and Dr. Marjorie Mau, MD

HHS Public Access Author manuscript Fed Pract. Author manuscript; available in PMC 2015 December 23.

Published in final edited form as: Fed Pract. 2012 December ; 29(12): 19–21.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4689206/

Abstract

Telemedicine technologies are important lifelines for patients in rural areas. This study found 5 different telemedicine technologies used by patients throughout the Anchorage Service Unit and sheds light on the diverse internal and external teams involved in these services.

RESULTS

There were 5 different telemedicine technologies used to provide primary care services to patients throughout the Anchorage Service Unit:

http://img.medicalexpo.com/images_me/photo-g/100260-8146413.jpg

Baptist Health South Florida - Telehealth

BHSF telehealth programs include:

- eICU LifeGuard covering 147 ICU and step-down beds
  - Telehealth equipment linked to remote monitoring site
  - Computers programmed for each patient's medical needs
  - Tele-ICU intensivist can talk with both patient and nurse in the ICU using video and two-way audio

Other Programs Include:

- Home health programs and remote monitoring
- Telepsych on cruise lines
- ePrimary care
- Virtual Urgent Care
- eSitter program
- ePharmacy services

https://baptisthealth.net/en/health-services/eicu-lifeguard/pages/default.aspx

What is eICU LifeGuard?
When you or your loved one is in critical condition, nothing can replace the personal care given by the doctors and nurses in the intensive care unit (ICU). An important member of the ICU team is an intensivist, a doctor who specializes in the treatment of critically ill patients. Because an intensivist is involved with the care of all ICU patients, it has been impossible for that doctor to be at every patient's bedside all of the time, until now.

The equipment used to monitor a patient's condition is linked to the remote monitoring site, where computers are specifically programmed for each patient's medical needs. Computer software monitors vital signs, shows lab results and X-rays, and details a patient's medical history. The data makes a "virtual" medical chart, providing a complete picture of a patient's condition as it changes — minute by minute — without pages and pages of documents to flip through.

When needed, the LifeGuard intensivist and critical care nurses talk with a patient and bedside nurse using video and two-way audio and medical information equipment installed in Baptist Health's critical care rooms. The eICU LifeGuard system can help doctors determine the best course of treatment. A real-time video can be turned on as needed to zoom in on a patient for a closer assessment. The lens is so

powerful that it can be used to examine a patient's pupils. For privacy, a bell sounds in the room to let the patient and staff know when the video camera is on.

With Baptist Health's eICU LifeGuard, you have the comfort of knowing that nurses and doctors in the ICU are backed by highly trained critical care professionals working tirelessly behind the scenes to ensure the best possible care.

eICU LifeGuard means:

Improved patient safety: Electronic monitoring can detect small, subtle changes in a patient's condition. Physicians and nurses at the command center alert the ICU team in the hospital immediately so that they can intervene and proactively treat problems before serious complications develop.

Improved patient recovery: Studies have documented a 27 percent reduction in deaths and a 14 percent reduction in the length of stay for ICU patients monitored electronically. Fewer complications means better outcomes.

Improved patient care: eICU LifeGuard is a safety net for critically ill patients.
The technology allows specialists to continuously monitor and manage ICU patients.

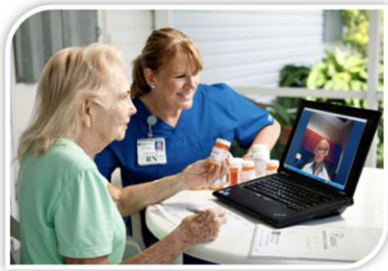
Baptist Hospital South Florida Telepharmacy

ePharmacy Scenario

A home health nurse feels a patient should talk to a pharmacist about medications that she is prescribed.

- The nurse contacts Baptist South Telepharmacy to discuss the patient's medications with a pharmacist over a video connection
- The patient and home health nurse talk to a Baptist South ePharmacist over the computer - as this 96 year old woman is doing in the picture

Tele-pharmacy



Clinical pharmacist reviewing medications at home with the patient

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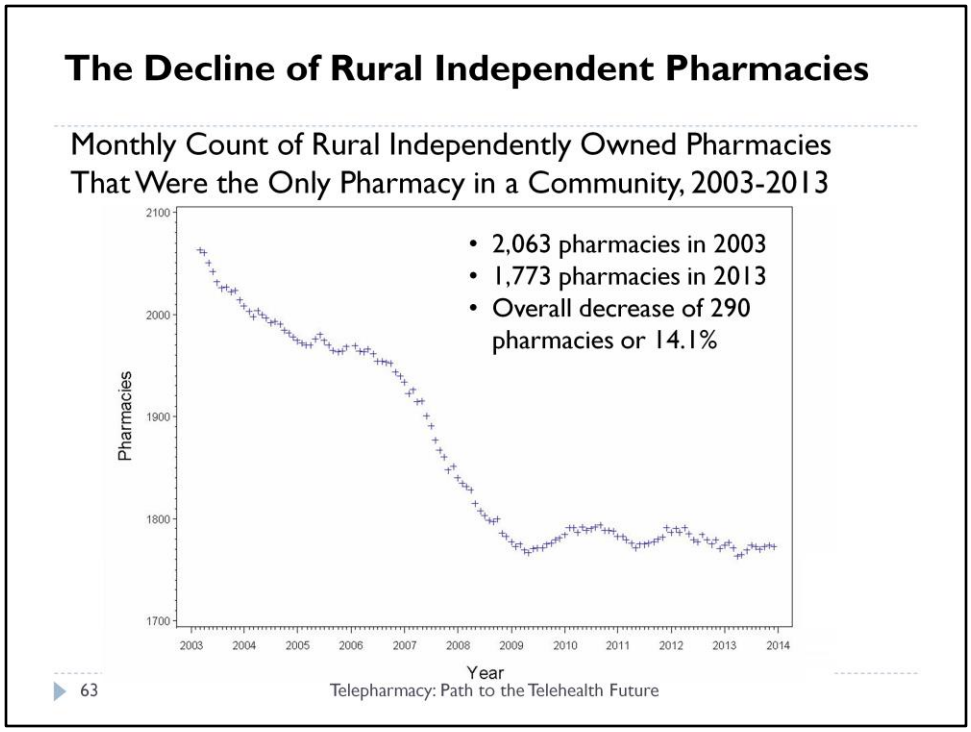
Watch Now: e-Pharmacy, A Vital Connection
https://baptisthealth.net/baptist-health-news/electronic-pharmacy/

Sitting within Baptist Health's Telehealth Center in Coral Gables, pharmacist Gloria Kelly works with the doctors in the hospitals' ICUs to ensure the right medications and dosages are being administered to the patients.

Ms. Kelly also works closely with patients of Baptist Health Home Care to review the medications with which they are sent home from the hospital and the ones they take at home, including over-the-counter products. One goal: To prevent harmful interactions, omissions of necessary medications, double doses or inadequate doses. The ultimate goal: To keep patients, like Marcial Garcia, safe.

Through video chat, Ms. Kelly connects with Mr. Garcia, checks up on his medications and educates him about important health risks associated with what he has been prescribed.

Business Drivers for Telepharmacy



Update: Independently Owned Pharmacy Closures in Rural America, 2003-2013
Fred Ullrich, BA; Keith J. Mueller, PhD
Brief No. 2014-7 June 2014 www.public-health.uiowa.edu/rupri
http://cph.uiowa.edu/rupri/publications/policybriefs/2014/Pharm%20Closure%20Brief%20June%202014.pdf
The number of retail pharmacies that were the only pharmacy in the community declined fairly steadily between March 2003 and May 2009 (from 2,063 to 1,767) but has remained relatively unchanged since then, with 1,773 such pharmacies in December 2013 (Figure 2).

Telepharmacy Startups in Rural America

Phoning it in: Telepharmacy connects rural patients

For the first time in 15 years, Shoshone residents don't have to travel to another town to get their prescription medications.

- Shoshone Pharmacy opened Dec. 22, 2016 as the first telepharmacy in Idaho to open that is not affiliated with an existing hospital or clinic.
  - Shoshone Pharmacy allows an on-site pharmacist to approve orders remotely and do consultations with patients using live video conferencing.
  - "It's bringing pharmacy back to rural Idaho."

Phoning it in: Telepharmacy connects rural patients
JULIE WOOTTON jwootton@magicvalley.com Jan 19, 2017
SHOSHONE — For the first time in 15 years, Shoshone residents don't have to travel to another town to get their prescription medications. Shoshone Pharmacy opened Dec. 22 on South Apple Street. But it's not your average pharmacy.
The owner says it's the first telepharmacy in Idaho to open from the ground up — meaning it's not affliated with an existing hospital or clinic. It allows an on-site pharmacist to approve orders remotely and do consultations with patients using live video conferencing.
It will allow Shoshone's 1,500 residents to fill prescription medications they rely on without having to travel to another town. "It's bringing pharmacy back to rural Idaho," owner/pharmacist Jason Reading said.
And beyond Shoshone, many Magic Valley hospitals use telemedicine services and are looking to expand their offerings.
http://magicvalley.com/news/local/phoningitintelepharmacyconnectsruralpatients/article_2d27e4d6efc350599dc923ef84dfe8b9.html
http://magicvalley.com/news/local/phoning-it-in-telepharmacy-connects-rural-patients/article_2d27e4d6-efc3-5059-9dc9-23ef84dfe8b9.html

Telepharmacy Startups in Rural America

Illinois village loses pharmacy, gains telepharmacy

The pharmacy in the central Illinois village of Dieterich closed several years ago. But residents will be able to fill prescriptions locally again through a new tele pharmacy.

- Telepharmacies allow off-site pharmacists to help patients via a secure video link.
  - A pharmacist in the nearby city of Newton. will provide tele pharmacy services at the Dieterich clinic from her pharmacy.
  - The telepharmacy will help patients who have been driving to Effingham or Newton to fill their prescriptions.

Illinois village loses pharmacy, gains telepharmacy

DIETERICH, Ill. -- The pharmacy in the central Illinois village of Dieterich closed several years ago. But the town of 600 residents soon will be able to fill prescriptions locally again through a new tele pharmacy.

Tele pharmacies allow off-site pharmacists to help patients via a secure video link.

The Effingham Daily News reports (http://bit.ly/2906fMP) pharmacist LaDonna Poehler will provide tele pharmacy services at the Dieterich clinic from her pharmacy in the nearby city of Newton.

Dr. Michelle Braddy practices medicine in Dieterich. She says the telepharmacy will help patients who have been driving to Effingham or Newton to fill their prescriptions.

http://www.dailyherald.com/article/20160629/news/306299805/

http://www.effinghamdailynews.com/news/local_news/closer-look-telepharmacies-gaining-popularity-in-small-towns-like-dieterich/article_d21e1f63-1cd9-5383-93d1-8959334f94da.html

Telepharmacy Startups in Rural America

Implementation of a Telepharmacy Service to Provide Round-the-clock Medication Order Review by Pharmacists

Seven critical access hospitals in Idaho implemented an EHR and pharmacy information system to support around-the-clock medication order review by pharmacists.

- Around-the-clock medication order review was achieved by partnering with remotely located pharmacists.
- CAHs pay $4 per medication order reviewed via this system but the additional costs for the pharmacists' reviews are directly reimbursed for Medicare patients.
- Overall, about 58% of the total reviews were conducted by the remote pharmacists.

Implementation of a telepharmacy service to provide round-the-clock medication order review by pharmacists
Douglas S. Wakefield, Marcia M. Ward, Jean L. Loes, John O'Brien, and Leevon Sperry
Am J Health-Syst Pharm—Vol 67 Dec 1, 2010
Case Study Telepharmacy service
https://www.nodakpharmacy.com/pdfs/telepharmacyFirstDose.pdf

Telepharmacy Startups in Rural America

Around-the-Clock Review Via Telepharmacy

In 2012 the North Canyon Medical Center, a critical access hospital in Gooding, Idaho, had pharmacist coverage only from 7:30 AM to 4:00 PM each day.

- In 2013 the pharmacy director launched a telepharmacy service for five hospitals in which five pharmacists working from home provide 24/7 coverage.
  - Review and verify medication orders
  - Enter orders in patients' EHRs,
  - Check for drug interactions,
  - Review medication strength
  - Consult with physicians as needed

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Around-the-Clock Review Via Telepharmacy
Pharmacy Practice News
OCTOBER 11, 2016

When Tyson Frodin, PharmD, became the pharmacy director of North Canyon Medical Center in Gooding, Idaho, in 2012, the 15-bed critical access hospital only had pharmacist coverage from 7:30 a.m. to 4 p.m. each day.
Dr. Frodin suggested an arrangement in which he would cover the hospital remotely from home after hours. The medical center's senior leadership loved the idea but suggested he expand it to include other hospitals in their regional cooperative. The result? A telepharmacy service, established in 2013, that covers five hospitals 24/7, in which Dr. Frodin and four other telepharmacists—all current or former employees of those hospitals—review and verify medication orders, enter orders in patients' EHRs, check for drug interactions, review medication strength and route, and consult with physicians as needed.
Through the Idaho service, telepharmacists work from home offices using dedicated laptop computers with secure access to each hospital's EHR and pharmacy system. They promise 15-minute turnaround times to verify and enter stat orders and 60-minute turnaround times for standard orders, although they're averaging 13-minute turnaround times on all. It's been so successful that they want to bring on another three hospitals this fall, Dr. Frodin said.
http://www.pharmacypracticenews.com/Technology/Article/10%AD16/Around%ADt

he%ADClock%ADReview%ADVia%ADTelepharmacy/38231/ses=ogst

Telepharmacy Startups in Corporate America

Cardinal Health buys Iowa telepharmacy startup

Cardinal Health, a large provider of health care services, has purchased a four year old Iowa startup, TelePharm, that sets up telepharmacies across rural parts of the state.

Corridor startup TelePharm snapped up by Cardinal Health

Mr. Miller and his team developed a web based platform that allows pharmacists at a central location to communicate with customers and oversee the dispensing of pharmaceuticals at remote locations.

Cardinal Health buys Iowa telepharmacy startup
Matthew Patane , mpatane@dmreg.com
Aug. 26, 2016
Cardinal Health, a large provider of health care services, has purchased a four year old Iowa startup that has focused on setting up telepharmacies across rural parts of the state.
Ohio based Cardinal health acquired TelePharm, based in Iowa City, in a deal that closed last month, representatives from both companies confirmed to the Register Friday.
TelePharm provides a web based way to offer remote pharmacy services, such as approving prescriptions. The company's platform also offers a type of video conferencing system so patients can speak to a pharmacist who is not physically present.
http://www.desmoinesregister.com/story/tech/2016/08/26/cardinal-health-buys-iowa-telepharmacy-startup/89222040/

Corridor startup TelePharm snapped up by Cardinal Health
By Dave DeWitte
August 29, 2016
dave@corridorbusiness.com
With a quiet but lucrative sale to health care giant Cardinal Health, Iowa City's TelePharm has gained a strong partner in its goal to improve access to pharmacy

services and demonstrated that the Corridor's growing entrepreneurship support network is working.

Cardinal Health, a $26 billion public company by market capitalization, acquired TelePharm in July for an undisclosed amount. TelePharm will maintain its headquarters in Iowa City, and its team of 18, including founder Roby Miller, will remain under Cardinal Health, which is based in Dublin, Ohio.

Mr. Miller and his team developed a web based platform that allows pharmacists at a central location to communicate with customers and oversee the dispensing of pharmaceuticals at remote locations. The system was used to open Iowa's first telepharmacy in 2012 in Victor, and has since helped retain or restore pharmacies in many rural communities, many of which can't support an onsite pharmacist.

http://www.corridorbusiness.com/news/corridorstartuptelepharmsnappedupbycardinalhealth/

Telepharmacy Startups in Rural America

Telepharmacy expansion could help rural pharmacies survive

Newly enacted legislation in Idaho expanded a pilot project that will let so called telepharmacy services go statewide in communities with more than 500 residents, Radio Iowa reported.

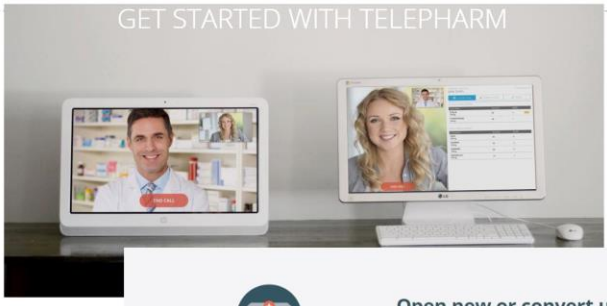
- Telepharm, an Iowa City company, makes a licensed pharmacist available to remote locations in the state's first telepharmacy pilot project.
  - TelePharm provides web-based way pharmacy services, such as approving prescriptions.
  - The company's platform offers a video conferencing system

TelePharm
A Cardinal Health company

Telepharmacy expansion could help rural pharmacies survive
Monday, April 25, 2016 10:25 AM
Business Record

Newly enacted legislation expands a pilot project that will let so called telepharmacy services go statewide in communities with more than 500 residents, Radio Iowa reported.
Gov. Terry Branstad last week signed the bill effective July 1, which allows qualifying pharmacies without a pharmacist on staff to offer customers telepharmacy services.
Telepharm, an Iowa City company which offers the services of a licensed pharmacist to remote locations in 12 other states, was the state's first telepharmacy pilot project.
"There's a lot of pharmacies that have closed in rural Iowa over the last couple of years, so this will bring back a lot of pharmacies," owner Roby Miller said. "It will also save a lot of pharmacies from closing."
Business Record
http://www.businessrecord.com/Content/Default/AllLatestNews/Article/Telepharmacyexpansioncouldhelpruralpharmaciessurvive/3/248/72929

Telepharm - Telepharmacy Marketing Website



TelePharm
A Cardinal Health company

Open new or convert underperforming locations to telepharmacy stores

Telepharmacy locations allow you to expand your business with small-footprint stores where it is convenient for your patients. It also enables you to extend or avoid cutting back hours and services by converting an existing store. This leads to better access, improved outcomes, and a better patient experience.

- Rural communities

https://www.telepharm.com

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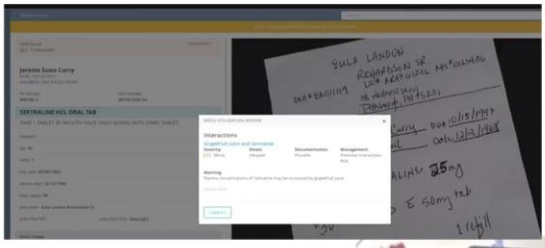
Telepparm Website
https://www.telepharm.com
https://www.telepharm.com/telepharmacy/

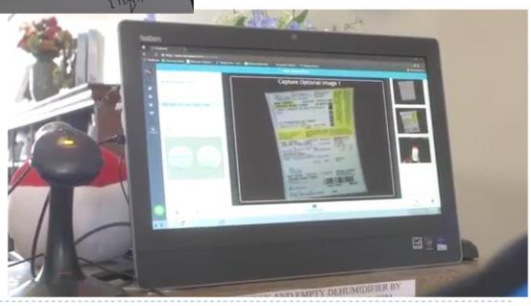
Telepharm Promotional Video

"How Telepharmacy Works"



Pharmacist checks prescription accuracy and drug interactions

Technician receives medication instructions from the pharmacist



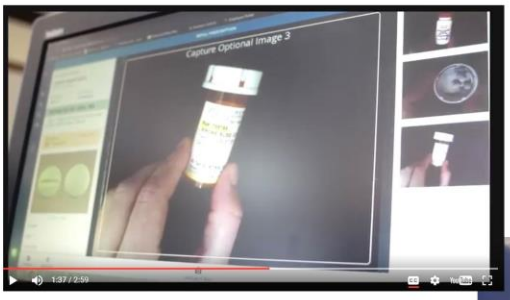
https://www.telepharm.com/how-telepharmacy-works

71 Telepharmacy: Path to the Telehealth Future

Watch the video
Telepharmacy expansion could help rural pharmacies
https://www.telepharm.com/how-telepharmacy-works/

Telepharm Promotional Video

"How Telepharmacy Works"



The Technician sends a video of the medication for dispensing

The Pharmacist can talk one-on-one with the customer

https://www.telepharm.com/how-telepharmacy-works

72 Telepharmacy: Path to the Telehealth Future

Telepharmacy expansion could help rural pharmacies
https://www.telepharm.com/how-telepharmacy-works/

Telepharmacy Startups in Corporate America

The business case for telepharmacy: Remote dispensing of medications — tomorrow's telepharmacy.

PipelineRx offers a telepharmacy technology platform called PowerGridRx.

- "This HIPAA-compliant solution is a remote telepharmacy service for next-generation medication order queue management. It's an industry-first telepharmacy technology platform."

The business case for telepharmacy: Remote dispensing of medications — tomorrow's telepharmacy.
By Peter B. Nichol
OCT 4, 2016
CIO

PipelineRx offers a telepharmacy technology platform called PowerGridRx. This HIPAA-compliant solution is a remote telepharmacy service for next-generation medication order queue management. It's an industry-first telepharmacy technology platform. The system provides 24/7, real-time medication order review and verification, improves medication order workflow visibility and operational control, and benefits from national coverage. What's the bottom line? It has the potential to save better than 20% of costs when compared to in-house staffing. One of the benefits is that PowerGridRx allows the telepharmacist one processing view of orders from all IT systems, and across various hospitals and care settings. PowerGridRx creates a clear benefit not only for rural towns but also for traditional pharmacies that are looking to compete with the larger chains.

In February 2016, Dartmouth-Hitchcock (D-H) Medical Center selected the PowerGridRx technology platform to help optimize pharmacy workflow and improve patient care. Founded in 2009, today, PipelineRx has 120 folks supporting its operations, with $14.92 million raised in funding.

PipelineRx™ Telepharmacy Services

Our fully managed and staffed Telepharmacy Services option provides 24×7 access to experienced clinical pharmacists for expert order processing, including on-demand coverage. Click here to view our current service area.

This solution is designed for organizations that want to:

Provide 24×7, real-time medication order review and verification

Improve medication order workflow visibility and operational control

Comply with all regulatory requirements regarding order retention

Consolidate data for reporting and analysis

Access best practices and standardizations

Benefit from national coverage

http://www.pipelinerx.com/solutions/pipelinerxremotetelepharmacyservices/#.WOLHI_nyuHs

http://itelemedicine.com/wp-content/uploads/2015/07/telepharmacy-market11.jpg

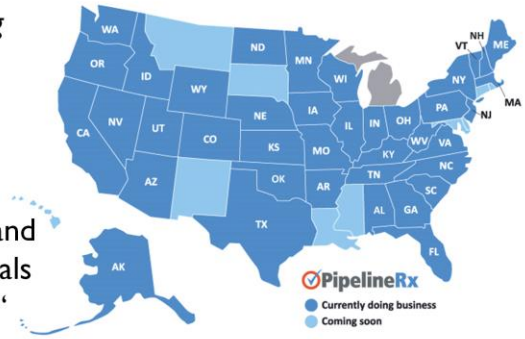
Telepharmacy Startups in Corporate America

Dartmouth-Hitchcock Center for Telehealth goes live with PipelineRx telepharmacy solutions

- "To help optimize pharmacy workflow and improve patient care."

CPSI and PipelineRx Bringing Telepharmacy Services to Community Hospitals

- "To offer a cutting edge telepharmacy solution designed to help small and rural community hospitals provide first class care."



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http://www.pipelinerx.com/solutions/pipelinerxremotetelepharmacyservices/#.WOLHI_nyuHs

CPSI and PipelineRx Bringing Telepharmacy Services to Community Hospitals
CPSI Adds Remote Pharmacy Services to Aid Small and Rural Hospitals with Efficiency, Quality of Care
November 17, 2016 10:00 AM Eastern Standard Time
MOBILE, Ala.(BUSINESS WIRE)CPSI
(NASDAQ: CPSI), a leading provider of healthcare information solutions, today announced that the Company has teamed with PipelineRx to offer a cutting edge telepharmacy solution designed to help small and rural community hospitals provide

firstclass care. The remote pharmacy solution through PipelineRx will be sold by TruBridge, the member of the CPSI family that provides business, IT and management consulting and services.
http://www.businesswire.com/news/home/20161117005175/en/CPSI-PipelineRx-Bringing-Telepharmacy-Services-Community-Hospitals

http://www.pipelinerx.com/assets/telepharmacy-map-03-22-2017.jpg
http://itelemedicine.com/wp-content/uploads/2015/07/telepharmacy-market11.jpg

Is Telepharmacy a Benefit to Pharmacists?

Telepharmacy Now: A Look at Telepharmacy for Independent Pharmacies

Question: Does Telepharmacy eliminate pharmacists' jobs?

- According to Adam Chesler, Director of regulatory affairs at Cardinal Health:
  - "Rural pharmacies are closing at an alarming rate, and when a rural pharmacy closes, that's the loss of a job."
  - "When you add a telepharmacy, you're not only helping the overall economy of that town, but you're actually increasing the amount of pharmacists' jobs there; you're increasing access to the pharmacists."
  - "Every time you open a telepharmacy you're creating jobs."

Telepharmacy Now: A Look at Telepharmacy for Independent Pharmacies
December 15, 2016
PBA Health
https://www.pbahealth.com/telepharmacynowalookattelepharmacyandwhyforindependentpharmacies/

The number of independent pharmacies has decreased steadily over the past five years from 23,106 in 2011 to 22,160 in 2015, according to the 2016 edition of the NCPA Digest, an annual publication from the National Community Pharmacists Association (NCPA) that profiles the independent community pharmacy market. With the number of independent pharmacies dwindling, those operating must consider how to compete to stay in business.
A possible solution is telepharmacy. Telepharmacy serves as an extension of a pharmacy's current business, and allows for remote dispensing of prescriptions. Telepharmacy eliminates pharmacists' jobs. "Rural pharmacies are closing at an alarming rate, and when a rural pharmacy closes, that's the loss of a job," said Adam Chesler, director of regulatory affairs at Cardinal Health. "When you add a telepharmacy, you're not only helping the overall economy of that town, but you're actually increasing the amount of pharmacists' jobs there; you're increasing access to the pharmacists. Every time you open a telepharmacy you're creating jobs."
Telepharmacy will take prescription business away from your other pharmacy. "Telepharmacy is actually improving adherence, which increases the overall number

of filled prescriptions," Chesler said.

Telepharmacy increases the risk of diversion or robbery. "If someone wants to rob a pharmacy, they're going to rob a pharmacy, whether a pharmacist is on site or not," Chesler said. "Telepharmacies have cameras covering every square foot of their facility and panic buttons are also put in place. Regarding diversion, you want your top technicians in these pharmacies; the ones who look at their profession as a career, and are ready to take that next step in advancing their role."

Telepharmacy is less accurate. "Telepharmacy, when performed correctly, can be more accurate than a traditional pharmacy due to all the additional checks and balances that are built into the system," Chesler said.

Telepharmacy is similar to FaceTime and Skype. "Telepharmacy is not FaceTime or Skype, but a secure pointtopoint video feed that is electronically documented and barcode scanned of a prescription to the patient from point of entry through remote dispense," said Brian Glaves, director of sales at ScriptPro.

Some Telepharmacy Takeaways

Telehealth/Telepharmacy Takeaways

Telehealth and Telepharmacy projects develop out of health care need, typically the delivery of care to remote populations.

- Many telehealth projects start with grant funding and involve a university or other health care organization to create the initial technical system.
- Regulatory oversight and legislation is often required before the Telehealth or Telepharmacy project can begin.
- Many Telehealth and Telepharmacy projects are anchored in medical centers that can afford the overhead of the project and its telecommunication infrastructure.
- With the success of initial Telehealth and Telepharmacy projects, larger health care corporations are realizing the value of investment in Telepharmacy and Telehealth.

Telehealth/Telepharmacy Predictions

1. With the headlong technology rush to mobile communications, the two-way interactive video features of Telehealth and Telepharmacy applications will become a standard means of health care communication.
2. With more access to secure Internet connections via smart phones, tablets, computers and even "wearable" technology and home monitoring systems, demand will increase for interactive access to health care professionals.
3. With the ongoing creation of applications for mobile communications and interoperability, Telepharmacy and Telehealth systems will be on the front end of health care development.

Follow-up Question 1

The Ryan Haight Online Pharmacy Consumer Protection Act of 2008 was passed to shut down all sales of controlled substances over the Internet.

A. Yes

B. No

C. Sometimes

D. Maybe

E. Don't Know

Follow-up Question 2

A Valid Patient-Practitioner Relationship requires at least one in-person meeting between doctor and patient.

A. Yes

B. No

C. Sometimes

D. Maybe

E. Don't Know

Follow-up Question 3

HIPAA Security regulations make it almost impossible to implement Telepharmacy projects.

A. Yes

B. No

C. Sometimes

D. Maybe

E. Don't Know

Follow-up Question 5

Telepharmacy projects can create jobs and income for people in rural areas.

A. Yes

B. No

C. Sometimes

D. Maybe

E. Don't Know

Questions?

Christopher B. Sullivan, PhD
Image Research, LLC
cbsullivan@imageresearch.com
850-591-2821

This presentation, with notes, is available at:
www.imageresearch.com/telepharmacy