

The New Housecall: Telemedicine in Practice

AAAAI Practice Management Workshop 2018

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EMORY
UNIVERSITY

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Presenter Disclosures

- Ad Board AstraZeneca

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Objectives

- The learner will be able to define telemedicine and the different types.
- The learner will be able to describe a telemedicine visit.
- The learner will be able to describe what peripherals can be used during a telemedicine visit.
- The learner will be able to recognize benefits and challenges of telemedicine.

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amazon
Prime

UBER

instacart

Groceries Delivered From Local Stores

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Why do we like Uber?

- On demand
- Predictable prices
- Hassle free payments- done before you get in the car
- Immediate feedback
- Quality is measured: you grade the driver
- Comfortable: cars clean
- Experience is usually good, "easy"



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• Why we like Uber?


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- Experience is usually good, "easy"

Why we would like Telemedicine?

- On demand
- Predictable price for the visit.
- Hassle free payments
- Immediate feedback
- Quality is measured
- Comfortable: No travel needed. Open 24/7.
- Experience is also good, "easy"

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MDLIVE TELADOC amwell


Dr DOCTOR
onDEMAND

AMD Global Telemedicine SnapMD

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U.S. Market Size (ATA)



- +50%**
More than half of U.S. hospitals now use telemedicine applications
- 230**
telemedicine networks
- >3,800**
U.S. service sites
- Over 1 Million**
Americans are currently using remote cardiac monitors

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Growth of Telemedicine Globally

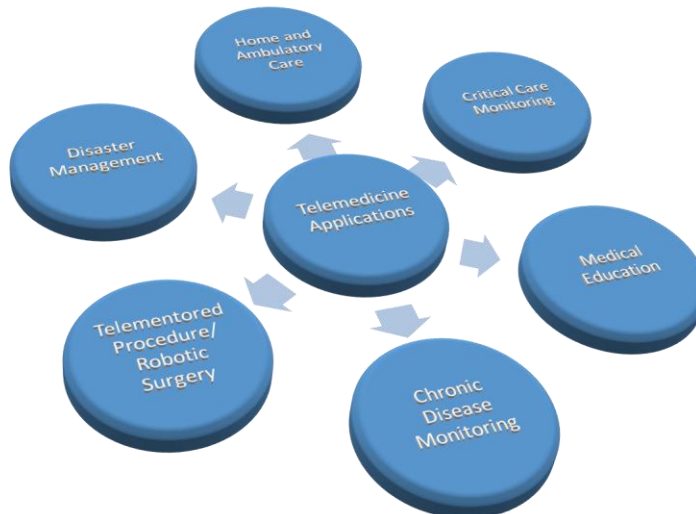
\$23.8 billion
2016 Market Size



\$55.1 billion
2021 Market Size

--BCC Research, 2013

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Penicillin Testing

Original Article

The Use of Telemedicine for Penicillin Allergy Skin Testing

Mary L. Staicu, PharmD^a, Anne Marie Holly, RPA-C^b, Kelly M. Conn, PhD^c, and Allison Ramsey, MD^b Rochester, NY

What is already known about this topic? Penicillin skin testing is increasingly used as a tool to evaluate penicillin allergy in patients with a reported history, given the significant clinical and financial consequences associated with the penicillin allergy label.

What does this article add to our knowledge? This is the first report that assesses and describes the use of real-time, interactive video conferencing or telemedicine to facilitate inpatient penicillin skin testing.

How does this study impact current management guidelines? This novel approach optimizes allergy/immunology resources with a high degree of patient satisfaction. The minimal technology and trained personnel required has the potential to enhance patient access to allergy services while optimizing available resources.

-Article in Press JACI in Practice, online access May 2018

-46 PST-negative patients, 33 were transitioned to a B-lactam

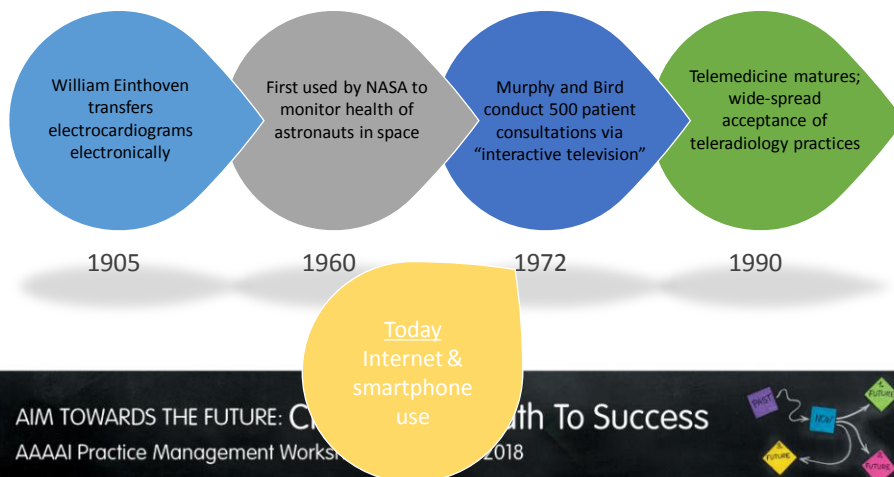
-> \$30,000 was saved throughout the study period.

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History of Telemedicine



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Telemedicine

- “Distance healing”
- Derived from a Greek word “**Tele**” meaning “**distance**” and a Latin word “**mederi**” meaning “**to heal**”
- Is not one specific technology but a way of providing healthcare services at a distance using telecommunications technology, medical expertise & computer science

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Telemedicine

- Video Conferencing
- Distance Learning
- Types of Telemedicine
 - Asynchronous
 - Provider to Provider
 - Synchronous
 - Provider to Patient & Provider
 - Provider to Patient

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Store and Forward (asynchronous)

- Acquire medical data (medical images, etc) → transmit data to doctor at a convenient time for assessment
OFFLINE
- Does not require presence of both parties at the same time
- Dermatology, pathology and teleradiology (store-and-forward images)
- Properly structured Medical Record preferably in electronic form should be a component of this transfer



Realtime (synchronous)

- As simple as a telephone call or as complex as robotic surgery.
- Requires the presence of both parties at the same time.
- E.g. Video-conferencing equipment
- Peripheral devices can be attached to computers or the video-conferencing equipment to aid in an interactive examination.



Sitecall.com

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Peripherals



Wi-Fi Smart Scale



Otoscope



Blood Pressure Monitor



Digital Thermometer



Dermatoscope



Bluetooth Stethoscope



Spirometer



Camera



Blood Glucose Meter



EKG



Ultrasound



Body Fat Analyzer

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The Visit



Distant Site
Where the remote provider is located



<h1 style="margin: 0;">Food Allergy Action Plan</h1> <p style="margin: 0;">Emergency Care Plan</p>		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Print this Form </div>
<p>Parent/Guardian Name: _____</p> <p>Child's Name: _____</p> <p>Age: _____ Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female</p> <p>Address: _____ Zip: _____ City/State: _____ Phone: _____</p> <p>Emergency Contact: _____ Relationship: _____ Phone: _____</p>		
<p>Signature of Parent/Guardian: _____ Date: _____</p>		
<p>Signature of Doctor: _____ Date: _____</p>		
<p>Signature of Nurse: _____ Date: _____</p>		
<p>Signature of Allergy Specialist: _____ Date: _____</p>		
<p>Signature of School Nurse: _____ Date: _____</p>		
<p>Signature of Teacher: _____ Date: _____</p>		
<p>Signature of Principal: _____ Date: _____</p>		
<p>Signature of School District: _____ Date: _____</p>		
<p>Signature of Food Service: _____ Date: _____</p>		
<p>Signature of Other: _____ Date: _____</p>		

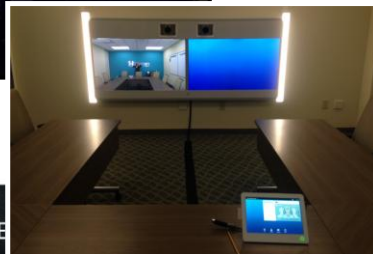


Originating Site
Where the patient is located



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Visits at CHOA/Emory



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Success



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The nation will be short
>90,000 MD's by 2020
-Association of American Medical Colleges

The nation will be short
>130,000 MD's by 2025
-Association of American Medical Colleges

With ~5000 allergists
telemedicine offers the
opportunity to provide
scalable, high quality care
for patients
(AI workforce report)

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Benefits

- Costs
- Access
- Health Outcomes
- Patient Satisfaction
- Environmental Impact

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Asthma costs in US \$56 billion
Rhinitis costs in US \$5 billion

Each year, associated with:



Physician visits



Emergency department visits



Hospitalizations



Missed work/school days annually

Telemedicine could act as a viable option to reduce these costs.

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Benefits

- Costs
 - 100 million e-visits across the world → \$5 billion in savings (2014)
- Successes:
 - Telestroke- Mayo clinic reduced costs by \$1436 and gained 0.02 years of quality adjusted life years over a lifetime compared with the patient receiving care at a rural community hospital
 - VA- care coordination/home telehealth program 25% reduction in bed days, 19% reduction in number hospital readmission.

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Estimated Savings For CHOA/Emory Telemedicine Patients*

2015 Statistics Per visit:	Median (Round Trip)	Range (Round Trip)
Miles Saved	362	72 - 504
Cost of miles saved	\$199	\$40 - \$277
Hours Saved Traveling	6	2 - 9
School days <small>*Children greater than 5 y/o and less than 19 y/o</small>	80% of our patients would have missed school to travel to Atlanta	
Work Days Missed <small>*One adult present & greater than 4 hour drive</small>	76% of our parents would have missed a full day of work to travel to Atlanta	

- Patients served live in 73 (46%) of Georgia's 159 counties
- Overall cost of miles saved: \$161,686 (293,786 x 0.55/mile)

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Benefits

*Mean no show
rate 20%
2015*

Poor access



Long Travel Time



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Benefits

- Access
- Underserved-rural and urban setting
- Prison
- School

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Benefits

- Access Successes
- Parkinson
 - Do better under treatment of neurologist, fewer than ½ with Medicare see a neurologist
 - National randomized control trial of virtual house calls: 11,734 Parkinson patients showed great interest with virtual access

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Technology 2011; Dorsey ER Telemed J E Health 2016



Benefits

- Access Successes
- Indian Health Service (Alaskan)
 - Comparison study of patients waiting for ENT evaluation before and after telemedicine introduction showed significant decrease in number of new patients waiting >5 mo (47% vs 8%)
 - Average wait time for appointment decrease (4.2mo vs 2.9mo)



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Benefits

- Access Successes
- Asthma
 - Improved outcomes if involvement of specialists
 - Greatest need in asthma live in underserved areas (rural, inner-city)

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Benefits

- Health Outcomes
- Chronic diseases
- Successes
 - Asthma-comparable asthma control in pediatric pt with in person visits vs telemedicine
 - Diabetes
 - CHF
 - Stroke
 - COPD

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Benefits

- Patient Satisfaction
- Primary Care visits- prefer video visit to office visits (cost, transportation)
- Minute Clinic telehealth- High satisfaction noted, siting convenience & perceived high quality of care



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Benefits

- Environment -positive impact due to less travel in telemedicine
- University of California Davis Health Systems study with telemedicine database
 - Reduction pollution, greenhouse gas emissions bc reduced travel distances



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Challenges

- Technology
- Licensing
- Credentialing/Privileging
- Accreditations
- Privacy, Confidentiality, Security
- Regulations
- Physician-Patient Relationship

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Challenges

- Technology
- ATA guidelines for high quality interaction
 - Keep in mind when considering a telemedicine provider
 - Cameras, audio, data capture, transmission equipment

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Challenges

- Licensing
- License required by provider where patient receives treatment
- Some states=specialty license allowing MD to practice across state lines for telemedicine only



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Challenges

- Credentialing/Privileging
- Privilege by proxy
 - The Joint Commission permits hospitals receiving services to accept distant site hospital's credentialing and privileging decisions.
 - May require change in hospital by laws for adoption

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Challenges

- Accreditations
- ATA
- Utilization Review Accreditation Commission

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Challenges

- Privacy, Confidentiality, Security
- Any transmissions should be encrypted to ensure compliance with Health Insurance Portability and Accountability Act 1996 (HIPAA)

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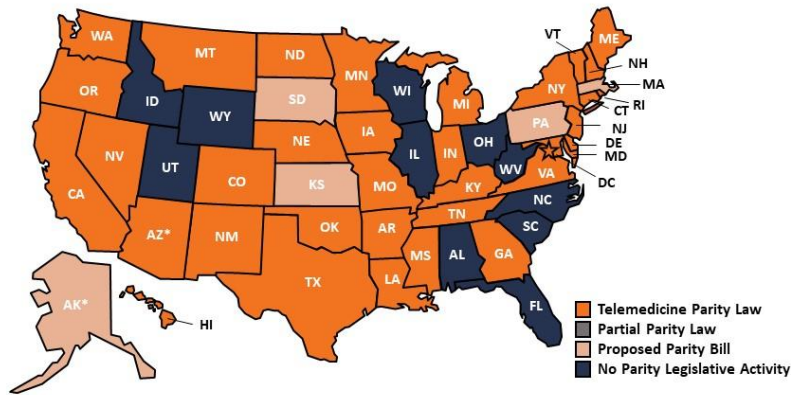
Challenges

- Regulations
 - Evaluation of state telemedicine policies found nearly 50 combinations of requirements, standards, licensure policies
 - Reimbursement

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States with Parity Laws for Private Insurance Coverage of Telemedicine (2018)



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Challenges

- Physician-Patient Relationship
- Convenient, episodic care
 - Does this challenge the maintenance of the patient-centered, longitudinal relationship between the patient and their MD?

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Ann Allergy Asthma Immunol 119 (2017) 512–517

Contents lists available at ScienceDirect



Position Statement

American College of Allergy, Asthma & Immunology Position Paper on the Use of Telemedicine for Allergists

Tania Elliott, MD^{*}; Jennifer Shih, MD[†]; Chitra Dinakar, MD[‡]; Jay Portnoy, MD[§]; Stanley Fineman, MD^{||}^{*}New York University Medical Center, New York, New York[†]Emory University and Children's Healthcare of Atlanta, Atlanta, Georgia[‡]Division of Pulmonary and Critical Care Medicine, Department of Medicine, Stanford University School of Medicine, Stanford, California[§]Division of Allergy, Asthma, & Immunology, Telemedicine, Children's Mercy Hospital, Kansas City, Missouri^{||}Department of Pediatrics, Emory University School of Medicine, Atlanta, Georgia

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Considerations for Implementation

- The use of telemedicine must be secure and compliant with state and federal regulations.
- Provider groups should confirm that medical liability coverage includes a provision for telemedicine services.
- Quality assurance measures should be in place to track patient satisfaction, physician performance, and clinical outcomes whether at an originating site or via home based telemedicine care.
- Live interactive video visits with allergy patients should be at the same standard of care and held to the same standards of professionalism and ethics as in-person consultations.
- Appropriate technical standards should be upheld throughout the telemedicine care delivery process and specifically meet the standards set forth by the Health Insurance Portability and Accountability Act (HIPAA).

Elliott, Shih, et al. Position paper on the use of telemedicine for allergists. Annals. 119(2017)512-517.

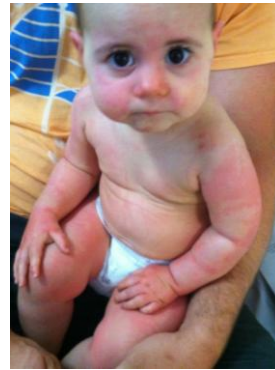
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The Visit



Distant Site
Where the remote
provider is located



Originating Site
Where the patient is located

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“Webside” Manners

- Use High Quality Webcam
 - replicates the feeling of an in-person visit
- Set camera at eye level
 - ensures patient you are engaging with them
- Set up a dedicated space for virtual visits
- Be mindful of facial expressions
- Engage as if you were at an inperson visit



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Telemedicine Income Potential

urgentcarecareer.com

- Family Medicine board certified physician licensed in: Oregon, Washington, California
- 3rd party Telemedicine platform (from home)
- 13-hour telemedicine marathon (7am-8pm)
- **118** patients and a total income of **\$2,798** for the day.
- **~\$215/hour**
- **For 40 hour week for 47 week year=\$404,200**

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Key points

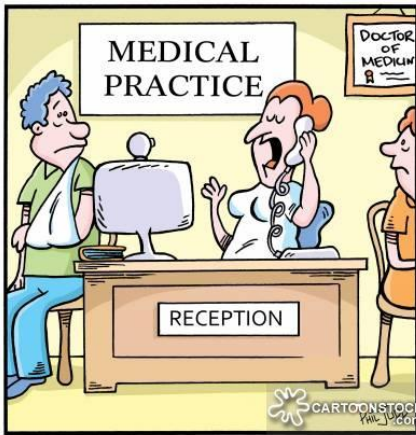
- Patients want convenience
- Telemedicine is here
- There is great potential for our field



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Thank you!



"No, the doctor doesn't do house calls. But he does do skype calls!"

<http://www.americantelemed.org/home>
<http://www.americantelemed.org/home>

<https://evisit.com/state-telemedicine-policy/>

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