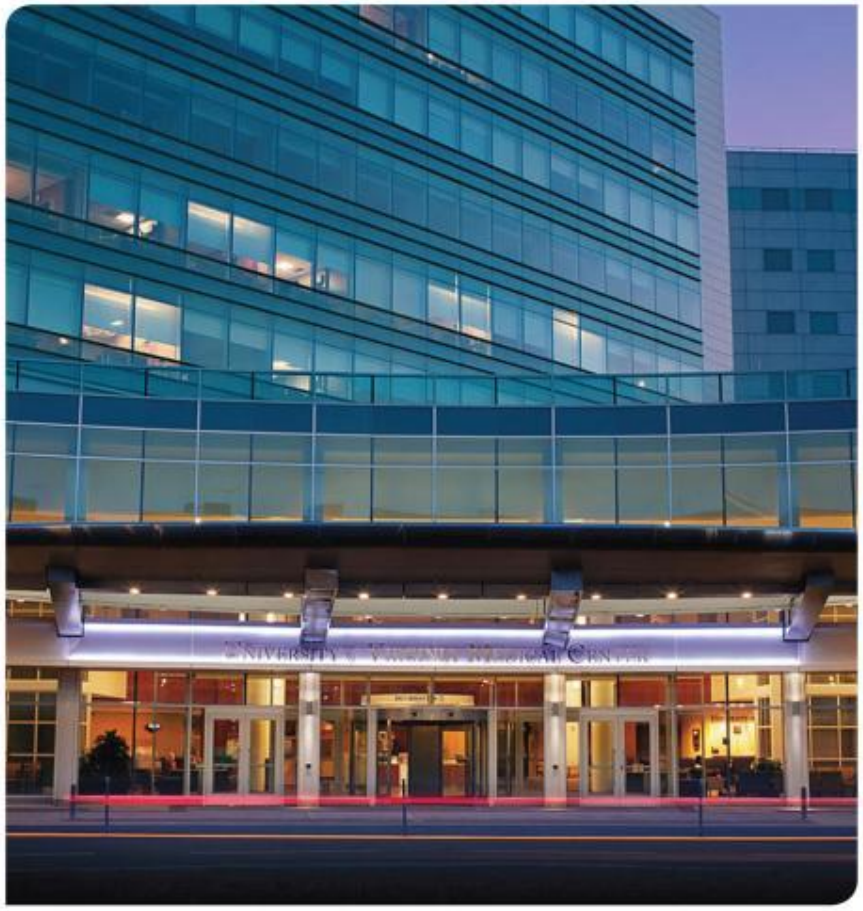

Telemedicine:
A Tool for the 21st Century

2017 APPD Spring Roundtable
April 28, 2017
Miami, Florida

Brad Haws

Chief Executive Officer

University of Virginia Physicians Group

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Definition and Benefits of Telehealth

The delivery of patient care, consultations and education supported by telecommunications technologies, including live interactive videoconferencing, store and forward technologies, remote patient monitoring, mHealth.

Not a specialty in and of itself!

Patients

- Timely access to locally unavailable services
- Improves chronic disease management
- Reduces the burden and cost of transportation for care

Health professionals

- Access to consultative services
- Supports team based, collaborative care delivery models

Hospital systems

- Improved patient and provider satisfaction
- Efficient care
- Improved transfers
- Expanded strategic partnerships + market research
- Reduced readmissions
- Retaining + growing our patient base
- Improved outcomes

Communities

- Enhances partner hospital viability, and as such, supports local workforce

Models Supported by UVA

- Health System (including academic) classical hub and spoke models, many also extending to the home
- Telemedicine services companies
- School-based clinics
- Remote patient monitoring

- Light at the end of the tunnel: Direct to consumer telehealth (not reimbursement)

UVA Center for Telehealth

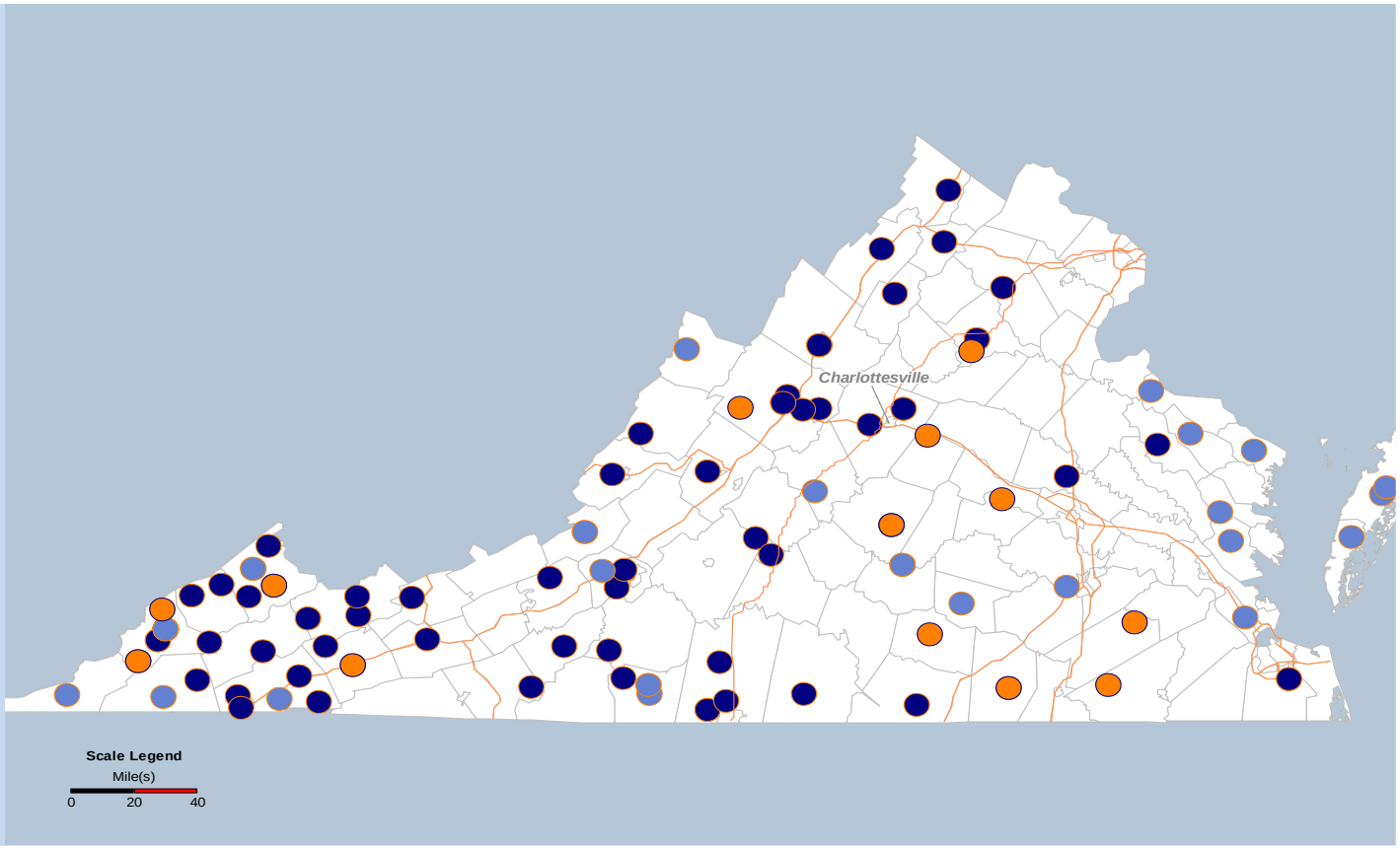
- Launched comprehensive integrated program in 1994 that is *centrally managed*, and crosses all the service lines and Health System entities (MC, SOM, UPG).
- Mission: To provide excellence and innovation in healthcare and distance learning.
- Services: clinical consultations, follow up visits, remote monitoring, health professional and patient education, local, regional, national and international outreach projects.
- Mid-Atlantic Telehealth Resource Center

UVA Center for Telehealth: Clinical mission

- >63,000 patient encounters in Virginia.
  - Additional remote patient monitoring
  - Offer services in >60 subspecialties
- Telemedicine program is integrated with teleradiology, with documentation in EPIC.
- Remote patient monitoring program at home (Locus Health partnership).
  - CHF, COPD, Pneumonia, AMI, TJR, Stroke
  - Moving towards all payer, all cause readmissions prevention
  - “Building Hope” initiative designed for children with medical complexity
- Spared Virginians > 17 million miles of travel.
- Emergency capabilities are vitally important.
  - Stroke, psych, special pathogen management
  - New TB rule out study to see how we use telemedicine for all patients with airborne infections to reduce exposure + mitigate costs and impact
- Partner with Telehealth Management LLC for data analytics.

The FQHC –UVA Partnership

- Hospitals
- FQHCs
- Rural clinics/free clinics
- CSBs
- Medical practices
- Health departments
- Correctional facilities
- Nursing homes
- Rehabilitation facilities
- Schools
- International sites



UVA Telemedicine Partner Network

- Community Hospitals (including Critical Access Hospitals)
- Federally Qualified Health Centers
- Rural clinics/free clinics
- Community Service Boards
- Medical practice sites
- Virginia Department of Health sites
- Correctional facilities
- Locus-Health partnership in the home
- Assisted living, skilled nursing and rehabilitation facilities
- Schools*
- International sites
- Building direct to consumer capabilities for our employees and patients

* Funded by 2016 HRSA grants to UVA and Bay Rivers Telehealth Alliance/VCU

Patient Encounters: Remote Site Equipment

- Solution + cost are dependent on need.
- Can't buy for external sites due to Stark anti-kickback law.
- All equipment is Hippa-compliant.
- Equipment examples:
  - Laptop with video capability or desktop computer with camera accessory and speakers/microphone/headphones ($100-$500).
  - Video-conferencing unit ($2K-15K).
  - Clinical Assistant Carts ($18K).
    - Primarily used for emergency programs to provide mobility and ease of access
    - Include peripheral devices (e.g. digital stethoscope)
    - Leasing available
- Connectivity: Work with FCC to provide high broadband for originating (patient) site.
  - Deeply discounted cost due to non-profit eligibility

Patient Encounters: Scheduling

- Centralized appointments are scheduled by Office of Telemedicine.

- De-centralized appointments include:
  - Appointments as part of “assigned billing contracts” which do not get scheduled into UVAHS Electronic Medical Records
  - Appointments scheduled by the specialty department or Office of Telemedicine

- Emergency (Urgent/Non-Urgent) appointments include:
  - Appointments as part of “assigned billing contracts” which do not get scheduled into the UVAHS EMR
  - Appointments are scheduled by the Office of Telemedicine

Patient Encounters: Consent + Billing

- Key to success: Integration of scheduling, registering and billing.
- Remote sites obtain consent and send to Office of Telemedicine where it is added to patient medical record.
- If patient doesn't already have EMR, partner site provides demographics via fax.
  - Hope to leverage future capabilities to receive referrals and information electronically through EpicCare Link or other technologies to be determined
- UVA forgoes facility fee to allow partner sites to bill for that part of encounter.
  - Helped build network
- Professional fee billed to payers or billing rights assigned for a monthly fee.
- Virginia has state Telemedicine Parity Law that requires private payers to reimburse telemedicine in the same way and at same reimbursement as in-person services.
  - GT modifier is added to the CPT code to designate as telemedicine appointment
    - Medicaid reimburses at full parity
    - Medicare reimburses at full parity for rural designated locations only

Patient Encounters: Fees

- To comply with federal Stark Law for anti-kickback, we have contracts with each partner organization that includes annual contractual fees and monthly support fees for those needing engineering support.
  - Physician fees for standard contracts are billed to insurers with indigent encounters reimbursed through grants or special payer accounts held by UVA (reimbursed at Medicare rate).
  - Physician fees for assigned billing contracts are covered through established billing rates and/or hourly rates (depending on the clinical specialty) charged to partner site. UVA doesn't bill insurers or patients under these contracts.

- Per agreement between UVA Medical Center and UPG, a per encounter fee is assigned to each encounter supported by the Office of Telemedicine according to the level of support (De-centralized, Centralized, Emergency).

UVA Telemedicine
Leading Peer Institutions

- UVA Telemedicine has assisted or hosted the following programs for telehealth:
  - University of Alabama at Birmingham
  - University of Michigan
  - Dartmouth
  - Geisinger
  - Christiana Healthcare
  - UCLA
  - University of Mississippi
  - George Washington University
  - EVMS/CHKD
  - Mayo
  - Upcoming in May: Johns Hopkins
- For AMCs the goal is to be a comprehensive program: Robust clinical services, professional and patient education including incorporation into the SOM and Nursing, and to serve as research core.
- UVA has had $17M in research grants to help buy equipment for originating sites and support salaries.
- 17 IRB studies using telehealth with a strong focus on cancer control.

UVA Telemedicine Specialty Services

Telemedicine Specialty Services		
Cardiology	Neurology: Child	Pediatrics: Orthopedics
Cardiology: Electrophysiology	Neurology: Epilepsy	Pediatrics: Rheumatology
Cardiology: Heart Health @ Home (3H)	Neurology: General	Pediatrics: Transplant
Dentistry	Neurology: Movement & Memory	Pediatrics: Cardiology – Echo
Dermatology	Neurology: Stroke	Plastic Surgery
Diabetes Education	Neurosurgery	Psychiatry: Adult
Endocrinology	Obstetrics & Gynecology: Colposcopy	Psychiatry: Child & Family
Ear, Nose, and Throat (ENT)	Obstetrics & Gynecology: Genetic Counseling	Psychiatry: Emergency
Faculty & Employee Assistance	Obstetrics & Gynecology: High Risk	Pulmonology: Cystic Fibrosis
Gastroenterology	Obstetrics & Gynecology: Nutrition	Pulmonology: Sleep
Genetics	Oncology	Remote Patient Monitoring
Geriatrics	Ophthalmology: Retinopathy	Rheumatology
Hematology	Pain Management	Special Pathogens
Hepatology	Pediatrics: Critical Care	Surgery: General
Home Monitoring	Pediatrics: Developmental Disabilities	Surgery: Thoracic Cardiovascular
Infectious Disease	Pediatrics: Endocrinology	Surgery: Trauma
Language Services: American Sign Language	Pediatrics: Fitness Clinic	Toxicology / Poison Control
Mobile Mammography	Pediatrics: Gastroenterology	Transplant
Nephrology	Pediatrics: Lactation	Urology: Cystoscopy Bladder Cancer
Neurology: ALS	Pediatrics: Neonatology	Wound & Ostomy Care

Model of Success: Tele-Stroke

- One of the most significant accomplishments of the Office of Telemedicine and Center for Telehealth has been our partnership with the Department of Neurology and regional hospitals to establish a tele-stroke network.

- Tele-stroke is now seen as the standard of care for facilities where a board certified stroke neurologist is not otherwise available and when time is of the essence in administering lifesaving, brain-sparing medication during an ischemic stroke.

- When the program began, the use of these anti-thrombolytic drugs was less than 0.05% in our partner facilities. Usage now stands at 22% which is comparable to the UVAHS Emergency Department.

- This combination of performance data, generated through the OOT back-end analytics database, points to the impact of this service clinically and financially.

- ***When time is brain, the response time of four minutes and door to needle time of 47 minutes represents remarkable care for patients and is a hallmark of excellence for a leading tele-stroke program.***

Model of Success: Tele-Stroke

Program Clinical Metrics	Overall	FY16
Tele-stroke consults	501	221
TPA administered	103 (19.1%)	51 (22%)
Patients transferred to UVA	250 (46.4%)	69 (31%)

Program Performance Metrics	
Average time from initial call to return call	00:04
Average time from initial call to tPA treatment	00:47
Average time to tPA treatment	02:08

- In FY16, the UVA Tele-stroke Program crossed the 500 encounter threshold
- In FY17, the tele-stroke sites will increase from three to six
- Currently the program averages 18 stroke calls per month
- **Another 40 encounters per month** are anticipated with the addition of the Novant and Norton contracts

Program Financial Analysis: 01/2011 - 12/2015	
Encounters reviewed	407
Patients transferred to UVA	163
Physician reimbursement (UPG - collections not charges)	$ 43,249
Contract revenue (UPC & MC - Telemedicine)	$ 297,000
Downstream revenue (MC - facility fees, collections not charges)	$ 3,947,504

The growing success of this program along with other programs in tele-psychiatry, high risk obstetrics, transplant, sleep disorders, surgical follow-up and a myriad of pediatric subspecialties have uniquely positioned us as first in market in Virginia and as a knowledge and technology leader in the industry. This is set in the context of significant changes in market forces.

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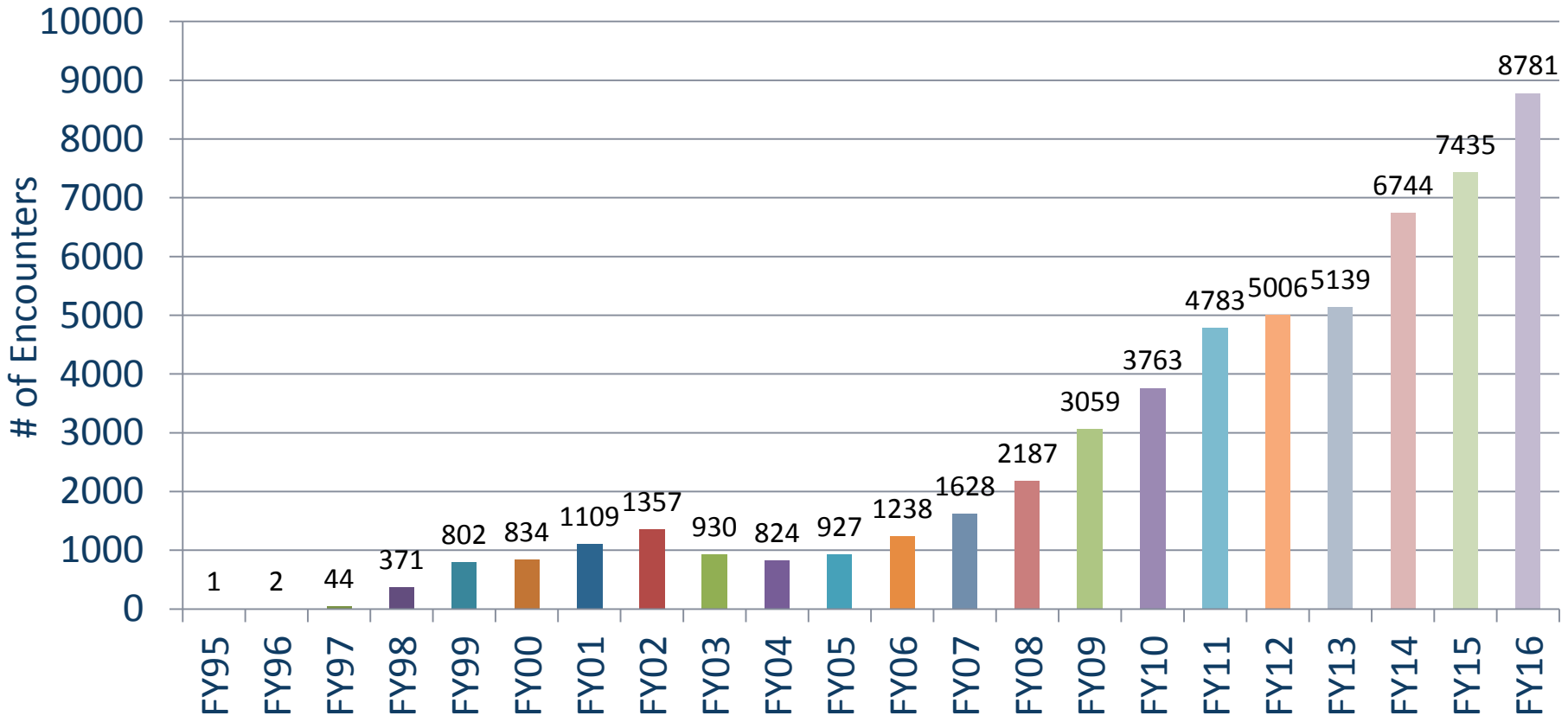
Telemedicine Growth



FY95 - FY17 YTD Telemedicine Metrics

Total Clinical Encounters	63,156
Live interactive Patient Encounters	44,946
Store and Forward Services (excluding radiology)	9,725
RPM: Remote Patient Monitoring	5,558
Patient Education	2,519
Clinician-to-clinician Consultation e-Consults (AAMC CMMI grant) not included in total	262 1955
Home Visits supported by telehealth	146

Total VA Travel saved for patients	**17,053,558 miles**
Total Carbon Emissions saved (based on EPA standard for CO_2 emissions per mile)	7,084 tons of tailpipe CO_2 emissions

Outcomes/Quality Driven (Examples)

- **Acute stroke intervention**
  - >1000 patients evaluated
  - Use of TPA in 19.3%
  - Treatment rates = that in our own emergency room

- **High Risk Obstetrics**
  - >4000 encounters
  - Preterm deliveries avoided
  - 38% reduction in NICU hospital days
- **Screening for diabetic retinopathy**
  - > 3000 patients screened, 39% abnormal; 80 patients requiring intervention
- **Locus Health patient monitoring program to prevent readmissions**
  - > 3700 patients served
  - >40% reduction in readmissions – all cause, all payer
  - High rates of patient adoption and satisfaction
- **Telepsychiatry services (including emergency)**
  - Number 1 request for services;
  - Transformed from consultation to collaborative care model
  - 30% decrease in missed appointments
  - High rates of patient satisfaction

- **How do you credit physicians who provide telemedicine services?**
  - Depending on level of service (e.g. call coverage, as-needed consult basis, block coverage), reimburse based on utilization and net collections.
- **Do you allow your physicians to sign up with other networks to provide telemedicine services?**
  - Base off of facts and circumstances of individual institutions
    - Is there a patient reason for utilizing third party networks?
    - Is there a business reason?
    - Is there a conflict of interest?
- **How do you get commercial payers to pay for telemedicine?**
  - Collaborate with state legislature in drafting favorable legislation.
  - Alternatively, form partnerships with payers and demonstrate a return on investment.
  - Since the commercial payers are now also managed Medicaid organizations, relationships count.

To Slow Rising Costs, Payers Seek New Care Models

- Novel Partnerships in the Industry, Expansions into Telebehavioral Health

$126

Average cost savings for commercial payer based on virtual versus in-person visit for an acute condition[1]

20%

Primary/urgent care visits that are clinically appropriate to shift to virtual care platform

Notable New or Expanded Telehealth Services in 2016

Jan	UnitedHealthcare	Grows virtual visit platform to employer-sponsored and individual plan participants; expands remote patient monitoring program
Mar	CareFirst	Establishes "CareFirst Video Visit," available to all members
Sept	Cigna	Expands into telebehavioral health via American Well
	aetna	Announced mHealth and remote patient monitoring investment with Apple
Oct	Humana	Partners with MDLive to offer primary care and behavioral telehealth in new states

*Slide Content from The Advisory Board Company

Smaller, Community Spokes Look to Beat Shortages

- Hospitals Seek On-Demand Specialists, Resources for Patients

Drivers of Provider Shortages across Service Lines

	Insufficient Provider Volumes	Disproportionate Regional Concentrations	Low Rates of Insurance Acceptance	Resident Programs Do Not Meet Rate of Retirement
Frequently Affected Service Lines	Pediatric Subspecialists	Neurologists	Psychiatrists	Pathologists
	29.9%	11.02 vs. 1.78	55% vs. 85%	8.1%
	Reported vacancies of >12 months among hospital-based pediatric general surgeons, nationally	Neurologists per 100,000 people in Washington DC vs. Wyoming	Psychiatrists accepting private insurance vs. other specialists	Deficit of pathology residency positions to meet demand in 2030

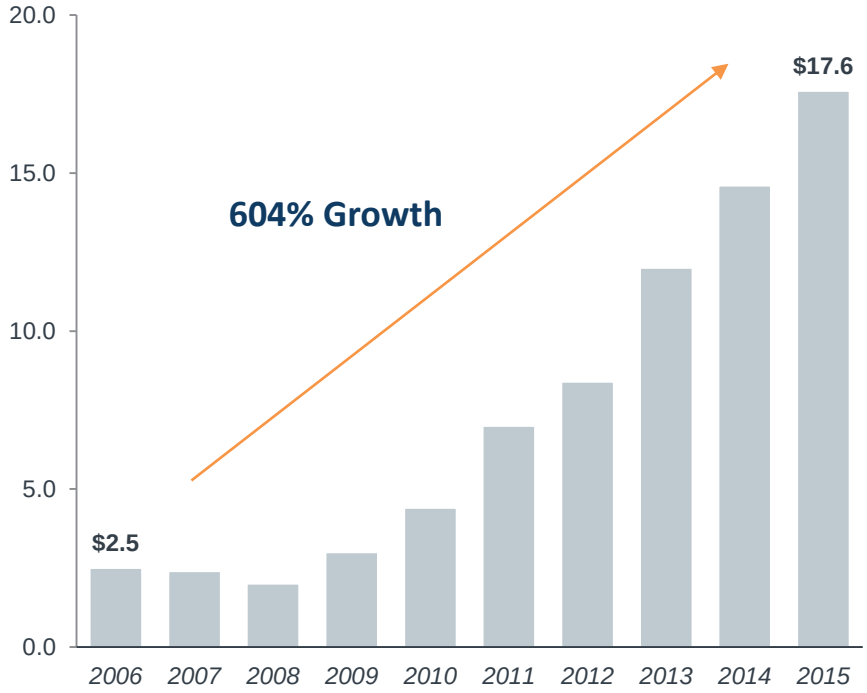
*Slide Content from The Advisory Board Company

Projections Agree on Growth, But How Aggressive?

- Key Distinction Lies in Growth Rate Compared to Visit Volumes

Year-Over-Year Medicare Reimbursement for Telehealth Services[1]

In millions of dollars



$13.9M

2014 Medicare reimbursements under its Part B telehealth benefit

0.0023%

Percent of total 2014 Medicare Part B reimbursements spent on telehealth services

- CMS data.
- 2015 HIS Analytics report.

*Slide Content from The Advisory Board Company

Specific Regulations Limit Medicare Reimbursement

- Reimbursement Favors Virtual Visits in Rural Health Care Facilities

Core Eligibility Requirements for Medicare Reimbursement

1 Geographic Location of Originating Site

- Must be provided to an eligible beneficiary in an eligible site
- Site must be located in:
  1. A Health Professional Shortage Area outside of a Metropolitan Statistical Area
  2. A rural census tract (even within an MSA)
  3. A county outside of an MSA

2 Type of Health Provider at Distant Site

- Physician
- Nurse practitioner
- Physician assistant
- Nurse midwife
- Clinical nurse specialist
- Clinical psychologist and clinical social worker (limitations apply)
- Certified registered nurse anesthetist
- Registered dietitian or nutrition professional

3 Type of Institution for Originating Site

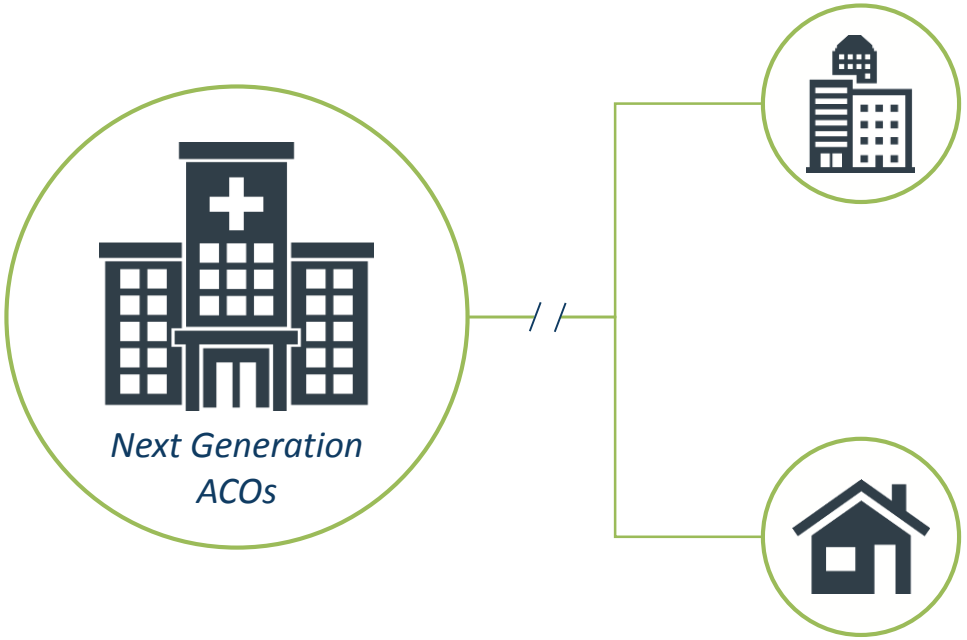
- Office of a physician or practitioner
- Hospital
- Critical access hospitals
- Rural health clinic
- Federally Qualified Health Centers
- Skilled nursing facility
- Hospital-based dialysis center
- Community mental health center

*Slide Content from The Advisory Board Company

Next Generation ACO Waivers Expand Applicability

- CMS Encourages Population Health by Waiving Some Restrictions

Telehealth Rule Waiver Removes Major Limitations on Originating Sites



Originating Site Geographic Restrictions

Waiver eliminates restriction for receiving services in a rural area (non-MSA, HPSA, or rural census tract)

Originating Site Facility Restrictions

Waiver allows patients to receive care in their homes (some exclusions apply)

*Slide Content from The Advisory Board Company

Medicaid and Commercial Payer Rules Differ

- Some States More Supportive by Removing Restrictions to Payment

Eligible Technologies

- Many states cover two-way audio and video encounters
- Most states do not include store and forward in their definitions of telehealth
- Some states cover remote patient monitoring or home health, usually for specific conditions like CHF, COPD, or end-stage renal disease

Setting Requirements

- Type of setting and location of patient at time of encounter
- The most supportive states have no geographic requirements for reimbursement
- Some states limit the site where the patient may be located to clinics or schools
- Few states allow the home as an eligible patient site

Type of Service

- Some states limit the services for which they offer reimbursement to chronic disease or behavioral/mental health
- Many states limit reimbursement to teleradiology or emergency services
- Most states limit the types of providers that are eligible to conduct specific services

Commercial Parity Laws

- The majority of states have commercial parity legislation in place
- State statute requiring commercial payers to reimburse for eligible telehealth services at the same rate as in-person services

Payer-Led Programs

- Individual payers may choose to include telehealth services in benefit packages regardless of state laws
- Some payers offer their own telehealth services or partner with vendors (e.g., United HealthCare & MDLive)

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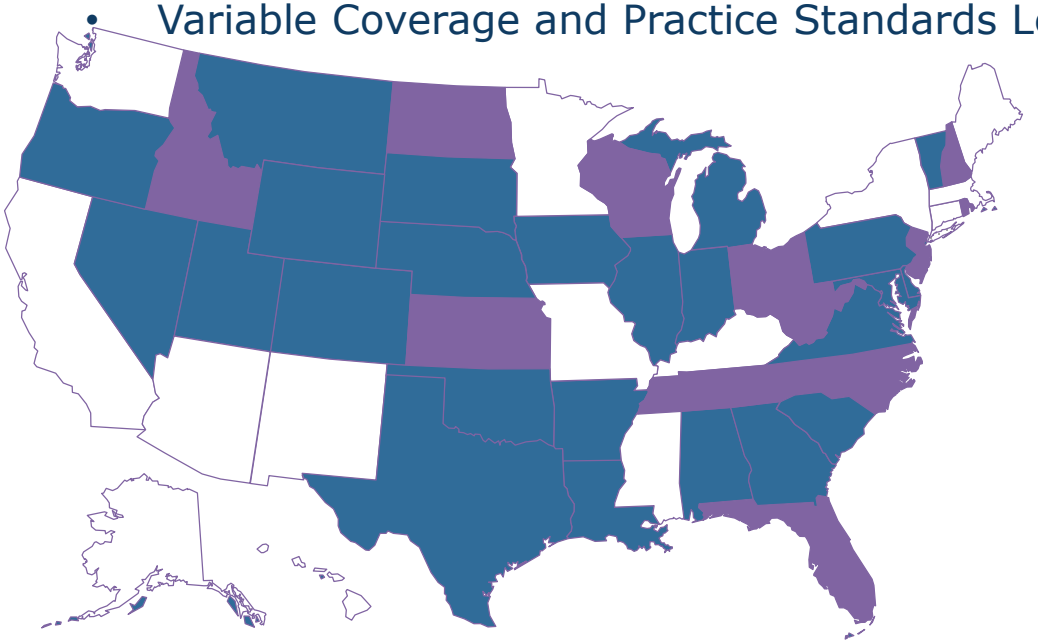
Policy & Reimbursement Support Varies by State

Variable Coverage and Practice Standards Lead to Uneven Adoption

LEVEL OF STATE SUPPORT



- *Good to Excellent*
- *Average*
- *Fair to Poor*

CRITERIA

- *Medicaid Reimbursement*
- *Commercial Reimbursement*
- *Geographic & Patient Setting Requirements*
- *Licensure & Eligible Practitioners*
- *Patient Informed Consent & Telepresenter*
- *Prescribing & Practice Standards*
- *Care Innovation*

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