NC Stroke Advisory Council
Telehealth in the Stroke Clinic
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Definitions

Telehealth Model	Description	Timing
Provider-to-Provider Platforms		
E-Communications	**Templated "e-consults," where specialist reviews a case on behalf of another provider, to share information and advise individual patient care.** Not an actual transfer of care or full consult. E-Comms for requesting providers not on Maestro Care are called *Case Reviews*.	Asynchronous (internet)
Virtual Consults	**Distant specialist connects to a provider or facility to deliver a clinical service directly supporting care of an individual patient at that (originating) site.** Includes live, video-based consults done on-demand (including emergently) in the inpatient setting (e.g., telestroke); *Urgent Case Reviews* done in real time via phone and chart review; scheduled outpatient *Video Clinic Visits* for routine specialty consultation; *Virtual Rounding* to maintain continuity of care at the bedside; *Case Conference* for discussion of specific patient cases in a group format; and *Remote Interpretations* in which imaging or other study (e.g., pathology) is electronically reviewed.	Synchronous (phone, video) or Asynchronous (various)
eICU/TeleAcute	Remote covering clinicians use multiple modalities (video, monitor data) to follow a defined set of seriously ill patients, review checklists, and provide assistance in real-time to on-site care team.	Synchronous (multiple)
Direct-to-Patient Platforms		
Second Opinions	Patient-initiated electronic requests for provider to give an opinion remotely on a clinical case, in lieu of a full in-person consultation.	Asynchronous (internet)
Remote Patient Monitoring	Clinicians remotely monitor patients via connected mobile health devices or patient-recorded outcomes, with timing of response depending on clinical situation.	Synchronous or Asynchronous
Video Visits	**Provider connects directly with patient in real-time via secure video platform outside a healthcare setting (e.g., in the home), to conduct equivalent of a face-to-face office visit.**	Synchronous (video)
E-Visits	Epic version of MyChart-built patient-initiated electronic secure messaging interaction directly with a provider about a specific clinical concern, in lieu of a face-to-face visit. Also called online digital evaluations.	Asynchronous (internet)

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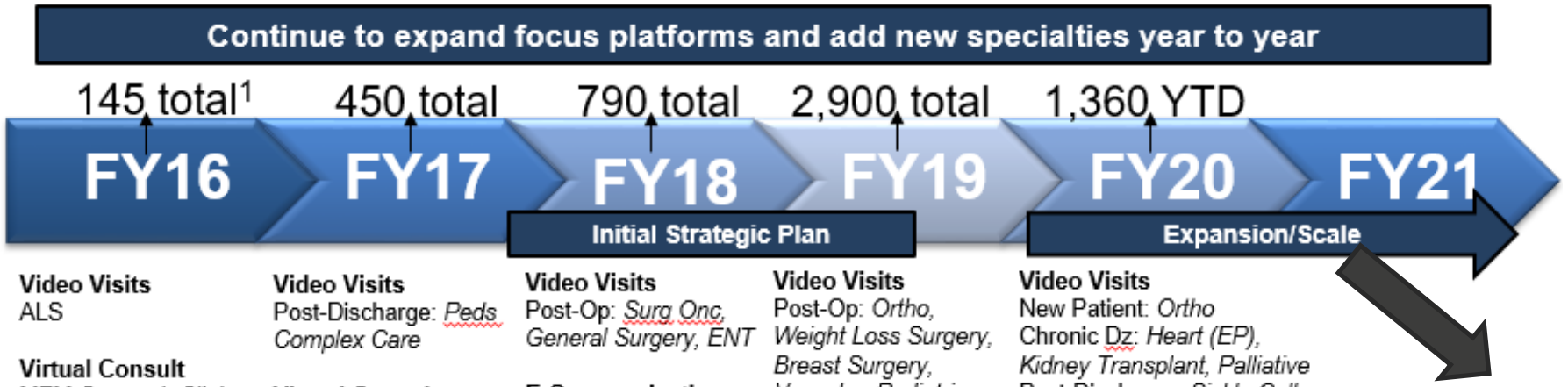
Telehealth Pre-COVID19



Video Visits
ALS

Virtual Consult
MFM Outreach Clinic

Video Visits
Post-Discharge: *Peds Complex Care*

Virtual Consults
DRAH: *Neuro Critical Care*

E-Communications
Access Challenged: *Nephrology (DIHI)*

Video Visits
Post-Op: *Surg Onc, General Surgery, ENT*

E-Communications
Access Challenged: *Rheumatology, Endocrinology*
Pediatrics: *Cards, GI, Neph, Special Infant*

Video Visits
Post-Op: *Ortho, Weight Loss Surgery, Breast Surgery, Vascular, Pediatric*
Chronic Dz: *Endo, Ob/Gyn, Adolescent*

Virtual Consults
DRAH ED Child Psych

E-Communications
Lincoln; *Derm, Endo*
Pediatrics: *ID, Rheum, Adol Med*
Behavioral: *DOC*

Video Visits
New Patient: *Ortho*
Chronic Dz: *Heart (EP), Kidney Transplant, Palliative*
Post-Discharge: *Sickle Cell*
Pediatrics: *Nutrition, Ortho*

Virtual Consults
SNF Rounding (DIHI)
MFM Remote Interpretation
DRAH ED Child Behavioral
DRAH Rheumatology

E-Communications
Access Challenged: *Adult GI*

Direct-to-Consumer
Duke Health Anywhere: *Urgent Care*

FY20 = 89,747 total volume all platforms

[1]Volume of Telehealth encounters

Original Telehealth Strategy and Volume Targets:
E-Communications: Musculoskeletal (1000 encounters)
Virtual Consults: Heart, DUH ED Surge (1000 encounters)
Video Visits: General Surgery (30 providers / 500 encounters)

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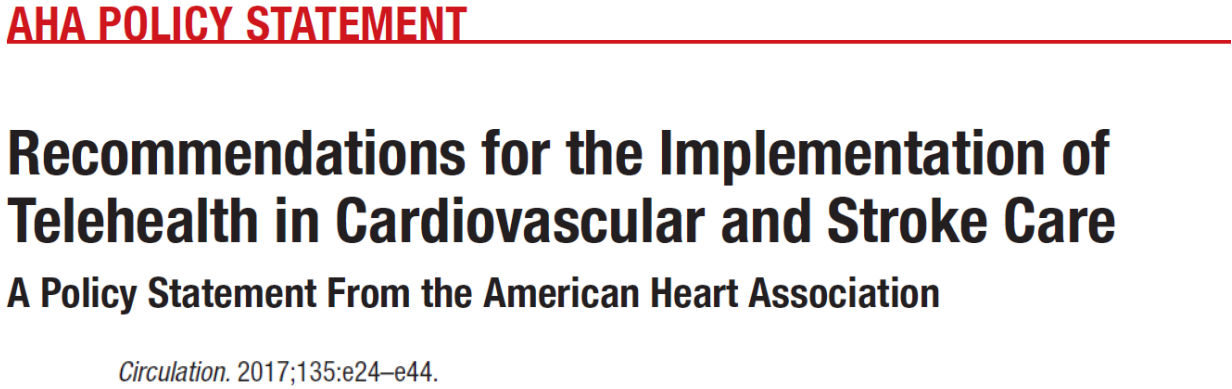
Telehealth in Stroke

Telehealth may increase access and convenience for patients with stroke. It may be especially helpful with:

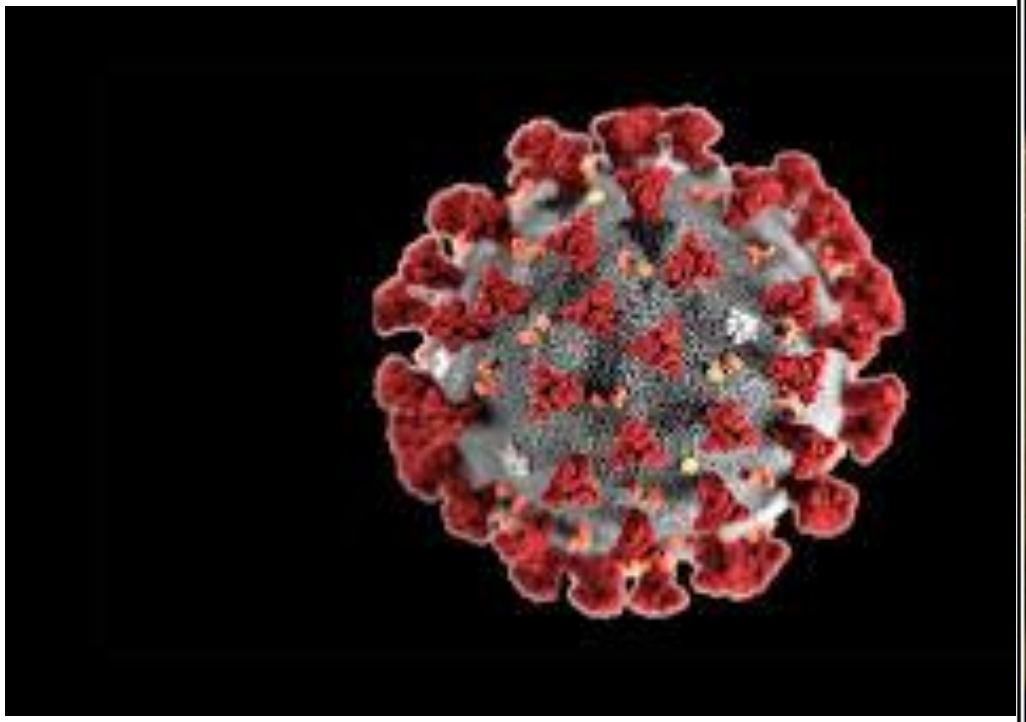
- Distant geographical location
- Physical disability
- Advanced chronic disease
- Difficulty with securing transportation

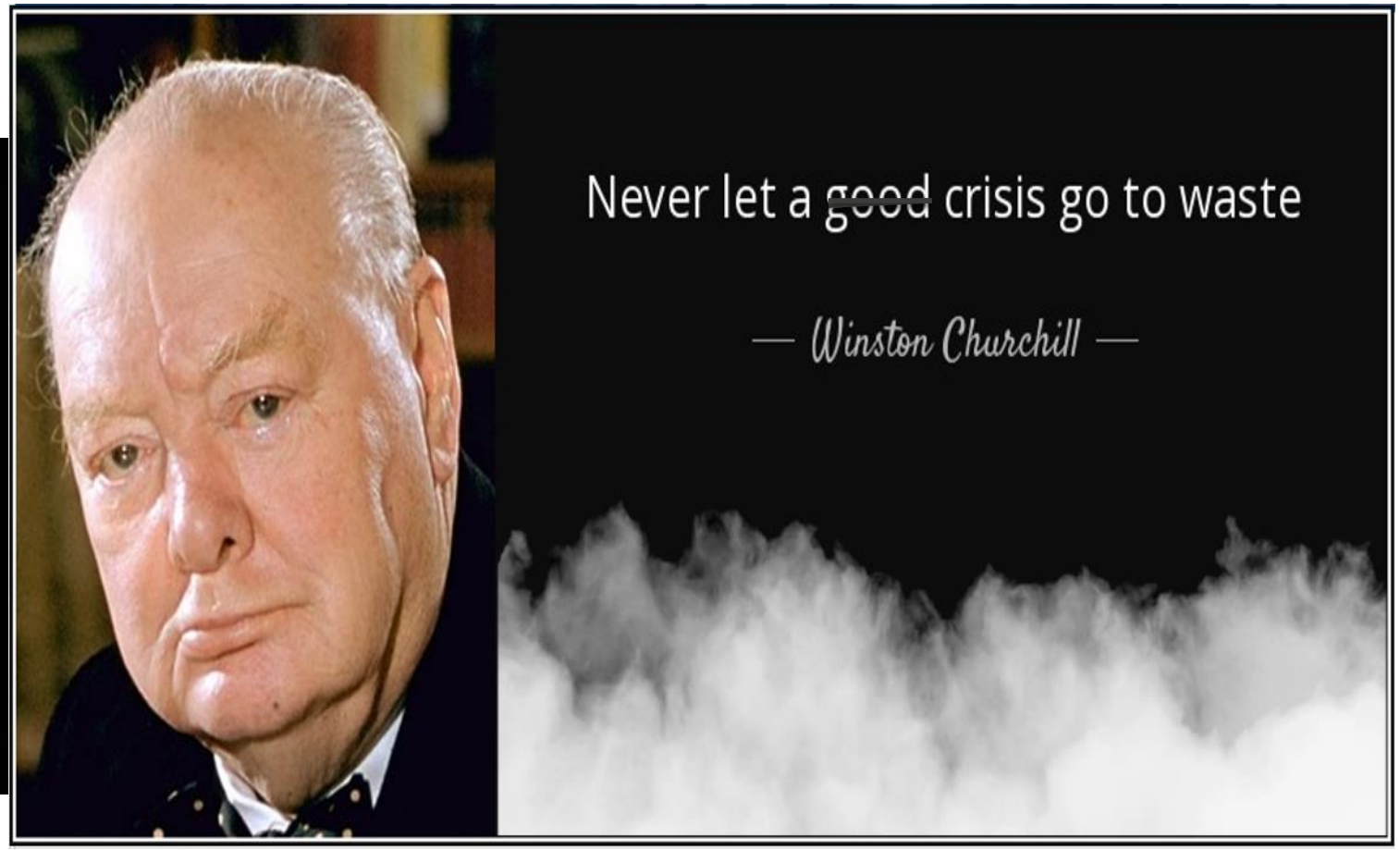


Telehealth meets the 6 characteristics of quality care for innovation in health care: Safe, timely, effective, efficient, equitable, patient-centric

Barriers for implementation (*at that time*)

- Reimbursement
- State laws
- Data accuracy and ease of use
- Technology



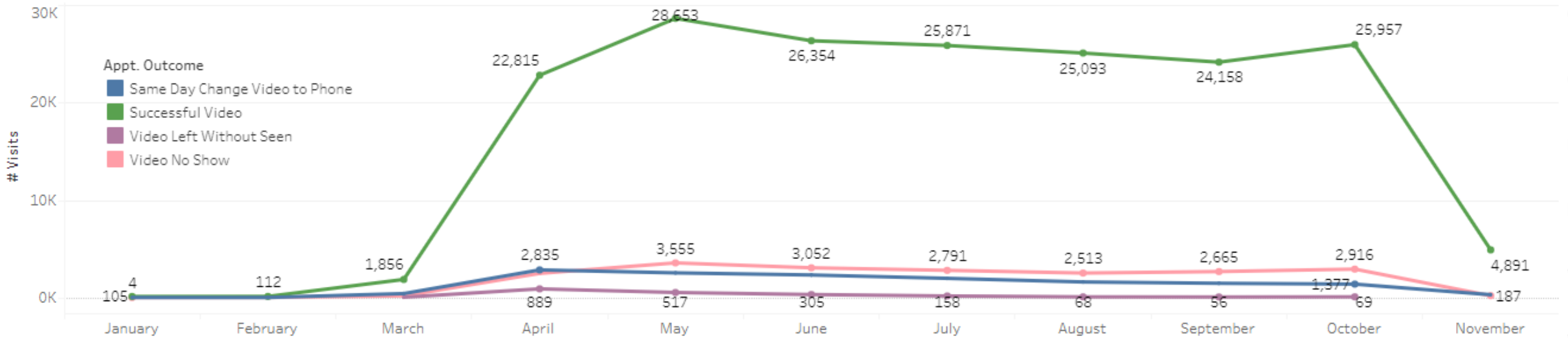

Never let a ~~good~~ crisis go to waste
— Winston Churchill —

Duke Health
Performance Services

Video Visit Volumes

Data last refreshed on 11/6/2020 10:27:14 AM

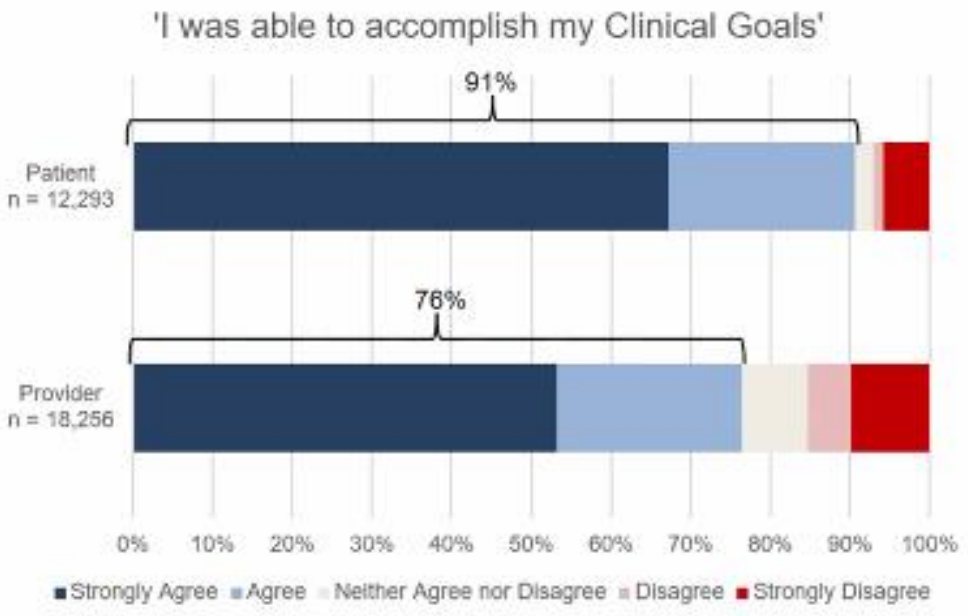
Video Visit Volume by Outcome



Patient and Provider Satisfaction

- Across generations, patients rated video visits as favorably as in-person on their CG-CAHPS Global Rating
- 76% (Provider)/91% (Patient) Agreed or Strongly Agreed that telehealth enabled them to accomplish clinical goals

Generation	Global Rating (N) *In Person*	Global Rating (N) *Telehealth*
Greatest Generation	90.0%(130)	97.5% (81)
Silent Generation	93.5% (8492)	93.6% (3873)
Baby Boomer	92.9% (22928)	93.6% (11730)
Gen X	89.7% (6682)	91.8% (4080)
Millennial	84.5% (3120)	87.3% (1802)
Gen Z	88.0% (1543)	89.2% (845)
Gen Alpha	88.7% (1466)	91.6% (562)
N Count	*44,361*	*22,973*



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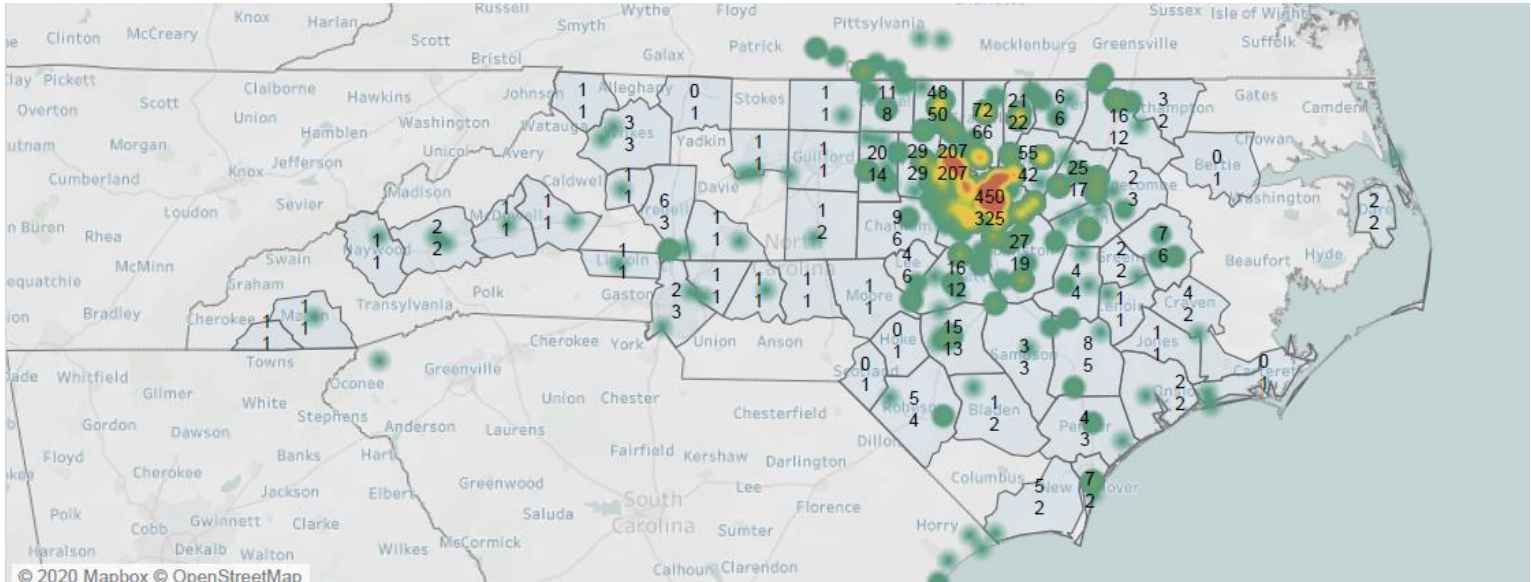
Number of Visits in **Neurology** (since April 2020):

- Total 8,433 video visits

- Number of completed visits in **Stroke clinic** (Since April 2020): Total 183 video visits, 556 phone visits as compared to 3,753 in-person visits



Telehealth in the Stroke Clinic

- No show rates for Telephone and Video visits both better than in-person (about 5% for phone vs. 7% for video vs. 16% in person)

- Patients opted more often for phone vs. video visits

- Hispanics with highest rate of no- show in the video visit and same-day change to phone visit

	Percent of Total		
	In Person	Telephone	Video Visit
White	83.71%	12.01%	4.28%
Black/African American	83.39%	13.51%	3.10%
Hispanic	85.34%	12.93%	1.72%

No Show Rates

	In Person	Telephone	Video Visit
White	10.32%	3.31%	4.88%
Black/African American	24.89%	7.05%	11.76%
Hispanic	20.80%	11.11%	33.33%

Same Day Change to Phone

Choose Column

White	16.33%
Black/African American	22.73%
Hispanic	40.00%

Telehealth: The physician perspective in the Stroke clinic

The Exam: Tips on Performing the Adult Neurologic Exam

• **General appearance:** By inspection via video

• **Vital signs:** The patient can use home equipment, if available, to check blood pressure, pulse and weight

• **Mental status:** While often easy to ascertain, some patients have visual, auditory, and/or cognitive deficits, making the exam more of an observational exercise

• **Speech:** Start by evaluating comprehension (midline commands, appendicular commands, cross midline
commands), then naming, repetition

Cranial Nerves:

• Visual Fields: May be able to evaluate on the screen or with the help of someone with the patient

• EOM: Ask patient to look all the way to the left, right, up, and down

- Have patient fixate on camera and rotate head from side to side for fixation

- Comment on nystagmus if present

Pupils: Some platforms offer zooming options that you can use to examine pupils, if not ask the patient to hold the camera close to their eyes to examine pupils

• Face: Examine visually by video

• Hearing: Able to evaluate grossly and can document that it is intact to voice

• Shoulders: Check shoulder shrug symmetry

• Tongue: Examine visually by video

• Palate: Some platforms offer zooming options that you can use to examine palate with appropriate lighting.

Motor exam: May need help of someone with the patient for detailed assessment

• Strength: Can be examined via nonconfrontational measures by:

• Arms: using **pronator drift**/Digit Quinti sign/Barrel roll/finger taps for subtle signs of weakness

• Legs: check drift or ask the patient to stand up with arms crossed, crouch then stand, heel walk, toe walk (when possible)

• Using the assistance of someone with the patient; for complex peripheral cases you can instruct the
assistant how to examine the different roots, branches of the brachial and lumbar plexus and individual
nerves

• Tone: may be difficult to examine, but can look for bradykinesia by inspection

• Tremors can be easily seen on camera

Sensory exam: Need help of someone with the patient• May ask for difference between left/right/different dermatomes if examiner is skilled

• May check for extinction with double stimulation by instructing examiner how to do it

• **Cerebellar:** • Ask the patient to extend arm all the way out, then touch their own nose (finger to nose maneuver)

• Can instruct heel to shin easily

• **Gait and station** testing assists in testing for ataxia

• **Reflexes:** difficult to examine

AAN Telemedicine and COVID-19 Implementation Guide Published March 20, 2020 | Updated April 10, 2020

Telehealth visits through the lens of a neurologist

Benefits

- Flexibility to do it from outside the clinic (virtual school for kids, quarantine, high risk group for COVID-19 complications etc.)
- More likely to stay on time as patient usually not late and no time spent checking in
- Improves accessibility to patients with long drives and difficulty with transportation
- Gives options to patients who are concerned about their risk for COVID or who are in the high risk group
- Get to see patients in their natural environments (video visits)
- Overall less no-show rates

Telehealth visits: Challenges

-May be inconvenient to incorporate in the middle of in-person clinic (usually different location and does not follow the same protocol with check-in: consider virtual clinic sessions vs. incorporating at the beginning or the end of an in-person clinic session)

-Virtual exam is usually limited by inability to assess: manual motor strength, reflexes, sensation and visual fields so new or progressive subtle deficits may be missed

-Technical challenges/connectivity (support via chat vs. phone; less needed with the zoom platform)

-Facilities (SNF, rehabilitation): prior communication with facility may be needed to secure a device and presence of assistive staff. The presence of family members may be overcome by three way presence

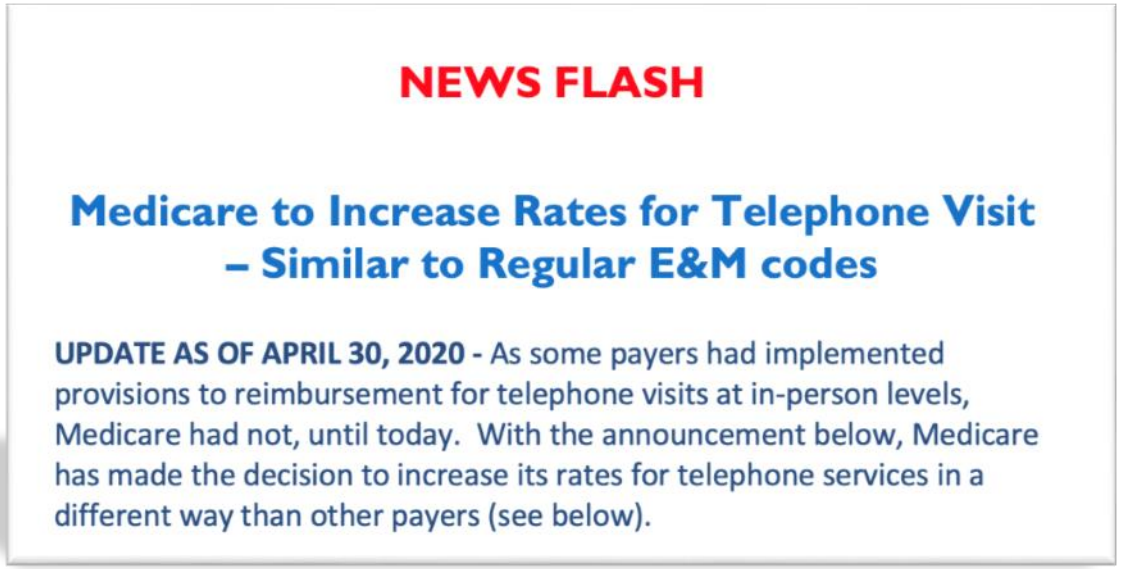
-For new patients, records and imaging to be uploaded in EHR prior to visit

-Nursing support to reconcile meds is limited but potentially may be incorporated in patient flow. Usually the patients are sent an electronic questionnaire to complete beforehand but it is not always completed.

Additional Observations

- Unlike telestroke, usually there is no nurse or assistant in the room and zooming capability not available in most platforms
- Difficult to administer an entire NIHSS without assistant and usually patients are sitting rather than laying down so drift in the legs may be more difficult to assess
- Optimal for patients with relatively stable exam and when the history is more important
- May be potentially preferred by patients who feel less sick or with overall less concerns (more studies are needed to confirm-inherent selection bias from information collected via patient's survey)
- Preferred by working patients (several encounters done from offices), those with transportation issues or who live far
- Expected reason for telehealth preference was to avoid sick people during COVID pandemic, but most common reason cited was basic convenience

Telehealth is here to stay…



NEWS FLASH

Medicare to Increase Rates for Telephone Visit – Similar to Regular E&M codes

UPDATE AS OF APRIL 30, 2020 - As some payers had implemented provisions to reimbursement for telephone visits at in-person levels, Medicare had not, until today. With the announcement below, Medicare has made the decision to increase its rates for telephone services in a different way than other payers (see below).

Post-Covid considerations:

- Reimbursement
- State laws and licensure
- *Part of a portfolio of services*
  - Access
  - Growth
  - Improving quality/value
  - Provider well-being
  - Patient-centered, targeted
- Opportunity for decreasing fragmentation of care in major transitions
- Disparities: computer literacy, computer and broadband availability

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