# Telemedicine
# Government Response to Covid-19

HIMSS
PUERTO RICO Chapter

# HIMSS

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# HIMSS by Numbers

# Speakers

**David Gray**
Senior Manager, Congressional Affairs & Connected Health Policy at HIMSS
Changes to Medicare Telehealth and Virtual Care Policies in Response to Covid-19

**Alana Lerer, MPH**
CAHIMS Manager, Government Relations at HIMSS
State & Territorial Telehealth Policy Updates in Response to Covid-19

**Marina Díaz**
Director for the Puerto Rico and VI Field Office at CMS
CMS Waiver, Puerto Rico Perspective in Response to Covid-19

# Speakers

**Dr. David McSwain**
CMIO for the Medical University of South Carolina and telehealth expert
Use of telehealth to address COVID-19 in South Carolina and Technology options

**Brooke McSwain**
Director of the South Carolina Children's
Use of telehealth to address COVID-19 in South Carolina and Technology options

# Changes to Medicare Telehealth and Virtual Care Policies in Response to COVID-19

David Gray

Senior Manager, Government Relations & Connected Health Policy

HIMSS

# *Medicare FFS Telehealth Reimbursement Before COVID-19 Background*

## SECTION 1834(m) of the Social Security Act (42 U.S.C. 1395m(m))

- **"(T)he Secretary shall pay for telehealth services that are furnished via a telecommunications system by a physician… or a practitioner… to an eligible telehealth individual enrolled under this part notwithstanding that the individual physician or practitioner providing the telehealth service is not at the same location as the beneficiary."**
- **"Telehealth" (synchronous) vs. "Store-and-forward" (asynchronous)**
  - Telehealth must use an interactive audio and video telecommunications system permitting real-time communication; store-and-forward only permitted for federal demonstration programs in Alaska or Hawaii
- **Eligible Telehealth Services**
  - CMS telehealth services list limited to specific HCPCS/CPT codes

# *Medicare FFS Telehealth Reimbursement Before COVID-19 Background (continued)*

## 1834(m) Restrictions

- Geographic location
  - Patient must be in a rural health professional shortage area or non-Metropolitan Statistical Area
- Originating sites (where patient is located)
  - Generally, only facilities including a physicians office, critical access hospital, RHC, FQHC, hospital, and skilled nursing facility can serve as an originating site
- Eligible physicians and practitioners,
  - Only Medicare-defined "physicians" and "practitioners" are eligible: physicians, nurse practitioners, physician assistants, nurse midwives, certified nurse anesthetists, clinical psychologists, clinical social workers, registered dietitians, and nutrition professionals.
  - Excludes professionals like physical, respiratory, and occupational therapists.
- Distant sites (where provider is located)
  - FQHC's and RHC's cannot act as distant sites (for now)

# *Other Medicare FFS Virtual Care Tools:*
## *Starting with CY2019 Physician Fee Schedule Changes*

**Non-Telehealth Digital Health Tools Starting in CY2019**

All of these services require a preexisting relationship with the patient, are patient-initiated, and not subject to geographic or originating site restrictions

- Brief communication technology-based service (e.g. virtual check-in) - HCPCS code G2012
- E-visits – HCPCS codes G2061-2063 – non face-to-face, not synchronous
  - patient-initiated communications with their doctors using online patient portal
  - 5-10 minutes of time spent
- Remote evaluation of pre-recorded patient information - HCPCS code G2010 –

# *Virtual Check-in – HCPCS G2012*

**Brief communication technology-based service (virtual check-in)**

- **Performed by a physician or other qualified health care professional who can report E/M services**
  - Must be an established patient, and patient initiated
  - Technology modalities include audio-only real-time telephone interactions, and two-way audio interactions enhanced with video or other kinds of data transmission
- **Cannot originate from a related service provided within previous 7 days**
- **Cannot lead to a service or procedure within the next 24 hours or soonest available appointment**
- **5-10 minutes of medical discussion**

# *Pre-recorded information – HCPCS G2010*

**Remote evaluation of pre-recorded patient information**

- **Performed by a physician or other qualified health care professional who can report E/M services**
  - Information = recorded video and/or images submitted by patient
    - Used to determine if a visit or service is needed
  - Must be established patient
- **Cannot originate from a related service provided within previous 7 days**
- **Cannot lead to a service or procedure within the next 24 hours or soonest available appointment**

# *E-visits – HCPCS G2061-2063*

**Qualified non-physician healthcare professional online assessment and management (E-visits)**

- Non-face-to-face communications through an online patient portal
- Clinicians who may not independently bill for E/M can provide these e-visits
  - Must be an established patient, and patient initiated
- **Communication** can occur over a 7-day period
- **Cannot lead to a service or procedure within the next 24 hours or soonest available appointment**
- **Payment for 5-10 minutes, 11-20 minutes, and 21 or more minutes of medical discussion**

# *Other Medicare FFS Virtual Care Tools:*
## *Starting with CY2019 Physician Fee Schedule Changes*

- **Remote Patient Monitoring**
  - RPM is not considered telehealth and is not subject to 1834(m) restrictions
  - RPM is the collection and interpretation of physiological data digitally stored and transmitted by a patient to a health care profession
    - Examples of vital signs include weight, pulse oximetry, blood pressure, heart rate, respiration rate, blood glucose levels, etc.
  - RPM benefit nonexistent before 2018, limited usage (CPT code 99091) starting in CY2018, and expanded (CPT codes 99453, 99454, 99457, 99458) in CY2019 and CY2020

# *Other Medicare FFS Virtual Care Tools:*
## *CY2019 Physician Fee Schedule Changes*

- **Remote Patient Monitoring (continued)**
- **Remote monitoring of physiologic parameter(s) (e.g. Weight, blood pressure, pulse oximetry, respiratory flow rate)**
  - CPT 99453 - Initial; set-up and patient education on use of monitoring equipment
  - CPT 99454 - initial; device(s) supply with daily recording(s) or programmed alert(s) transmission, each 30 days
  - CPT 99457 – Remote physiological monitoring treatment management services; 20 minutes of clinical staff/physician/other qualified healthcare professional time in a calendar month requiring interactive communication with the patient/caregiver
  - CPT 99458 – Each additional 20 minutes of time
- **BIG CAVEAT – RPM reimbursable for treating chronic conditions**
  - Confusion among providers if RPM codes can be used to treat patients with acute conditions, like COVID-19.

# *Medicare Changes in Response to COVID-19*

**HHS Secretary Granted Waiver Authority over certain 1834(m) restrictions**

- **Starting on March 6, 2020 and lasting *for the duration of the public health emergency:***
  - Geographic limitations are waived(urban and rural)
  - Originating site restrictions are waived – any healthcare facility and a patients home are now eligible originating sites
- **Pre-existing relationships between a patient and provider will not be enforced**
- **HHS OIG provided flexibility for healthcare providers to reduce or waive beneficiary cost-sharing for telehealth visits paid for by Federal health care programs**
  - Won't violate Federal anti-kickback statues

# *Medicare Changes in Response to COVID-19 (continued)*

**Technology-modality changes related to telehealth**

- Authorize the use of telephones that have both audio and video capabilities for the furnishing of Medicare telehealth services
- For the duration of the COVID-19 emergency, OCR will waive penalties for HIPAA violations against healthcare providers that use platforms such as Skype and FaceTime for telehealth, as long as they act in good faith

# *Medicare Advantage Plans during COVID-19*

- Starting January 1, 2020, Medicare Advantage plans can include telehealth services in their base bids (rather than as a supplemental service), without being subject to geographic restrictions.
- On March 10, 2020, CMS issued guidance regarding MA flexibilities during the COVID-19 emergency.
  - Plans may waive cost-sharing for services such as telehealth services (provided that they waive them uniformly across beneficiaries).
  - Second, CMS will exercise enforcement discretion during the outbreak, allowing plans to provide Part B services via telehealth even if they didn't request to do so in their Plan Year 2020 bid.
- CMS also consulted with the HHS Office of Inspector General (OIG) to determine that if a plan expands access to telehealth under this flexibility, "such additional coverage would satisfy the safe harbor to the Federal anti-kickback statute".

# Resources

- **Medicare Telehealth** https://www.cms.gov/Medicare/Medicare-General-Information/Telehealth/Telehealth-Codes
- **Medicare Telehealth Fact Sheet:** https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet
- **Medicare Telehealth FAQs:** https://edit.cms.gov/files/document/medicare-telehealth-frequently-asked-questions-faqs-31720.pdf
- **CMS Guidance for Medicare Advantage Organizations:** https://www.cms.gov/files/document/hpms-memo-covid-information-plans.pdf
- **OCR Telehealth Enforcement Discretion:** https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html
- **HHS OIG Cost Sharing Documents**
  - Policy Statement: https://oig.hhs.gov/fraud/docs/alertsandbulletins/2020/policy-telehealth-2020.pdf
  - Fact Sheet: https://oig.hhs.gov/fraud/docs/alertsandbulletins/2020/factsheet-telehealth-2020.pdf
  - FAQs: https://oig.hhs.gov/fraud/docs/alertsandbulletins/2020/telehealth-waiver-faq-2020.pdf
- **AMA Telehealth Quick Guide:** https://www.ama-assn.org/practice-management/digital/ama-quick-guide-telemedicine-practice

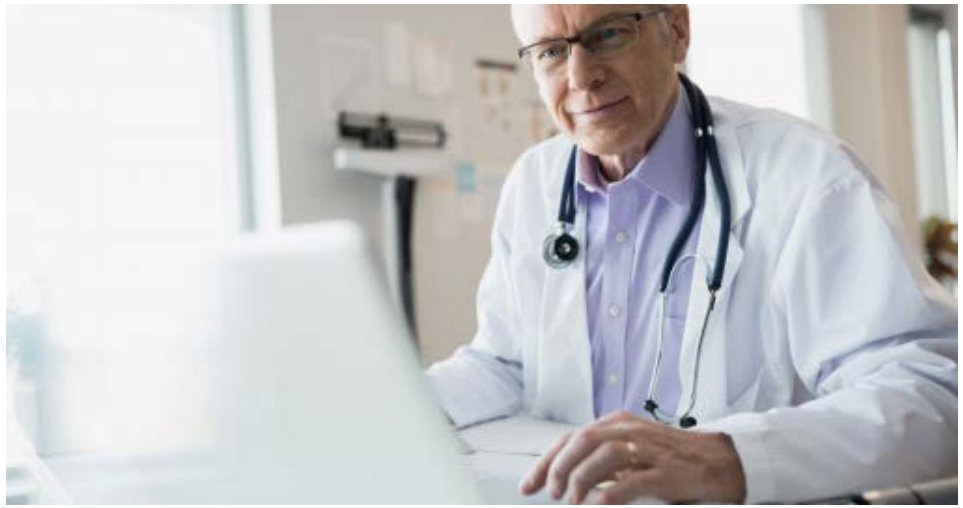
# U.S. State& Territorial Telehealth Policy Updates in Response to COVID-19

Alana Lerer, MPH, CAHIMS

Manager, Government Relations

HIMSS

# *Telehealth in the States*



*Licensing waivers for telehealth*

*Expansion of Medicaid coverage for telehealth*

*Expansion of private insurance coverage for telehealth*

Learn more here: https://www.himss.org/news/states-take-extensive-health-it-actions-covid-19

# *Licensing waivers for telehealth*

- States are waiving in-state licensing requirements for providers delivering telehealth, per specified terms and conditions.
- Example: In Florida, with approval, out-of-state providers may deliver services through telehealth to Floridians without attaining a license throughout the duration of the public health emergency.
- As of March 26, the states that waived licenses are: Arizona, California, Indiana, Florida, Kansas, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Tennessee, Texas, and Washington

# *Expansion of Medicaid coverage*

- **These policies include one or more of the following rules:**
  - loosening the limitations of originating site (location of patient)
  - requiring that provider reimbursement for telehealth be the same as that of a traditional in-person visit
  - covering telehealth for specified services (e.g. physical therapy, occupational therapy),
  - allowing for multiple methods of telehealth, such as telephone without the requirement of video,
  - removing the requirement of a face to face *initial* appointment.
- **As of March 26, the following states expanded Medicaid to cover telehealth: California, Colorado, Connecticut, Delaware, , Illinois, Indiana, Iowa, Kentucky, Louisiana, Massachusetts, Maryland, Massachusetts, Michigan, Mississippi , Missouri, Montana, New York, New Jersey, North Carolina, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, Washington, Washington, D.C., and West Virginia**

# *Expansion of Commercial/Private Insurance Coverage*

- **As of March 26, several states are mandating that commercial insurance carriers cover telehealth throughout the duration of the declared public health emergency.**
- **May include waiving all copays, coinsurance, and deductibles for patients relating to COVID-19 diagnostic testing and requiring provider reimbursement for telehealth be the same as reimbursement for a traditional in-person visit.**
- **As of March 26, states in this category include: California, Arizona, Colorado, Illinois, Kansas, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New York, New Jersey, Ohio, Pennsylvania, Rhode Island, and Texas**

# COVID-19 Stimulus Bill: What It Means for States

- **The U.S. Senate approved an estimated $2 trillion stimulus package to battle the harmful effects of the COVID-19 pandemic.**

## Includes:

- **150 billion Coronavirus Relief Fund for state, local and tribal governments**
  - $3 billion set aside for District of Columbia, Puerto Rico, Virgin Islands, Guam, Northern Mariana Islands and American Samoa.
- **$45 billion for a Disaster Relief Fund for the immediate needs of state, local, tribal and territorial governments**
  - Includes $45 million for the Federal Emergency Management Agency (FEMA) to expand information technology and communications capabilities and build capacity in response coordination efforts.
- **$9 million is provided to the Cybersecurity and Infrastructure Security Agency for supply chain and information analysis, and for impacted critical infrastructure coordination.**
- **$140.4 billion for the U.S. DHHS**
  - $275 million to expand services and capacity for rural hospitals**, telehealth**, poison control centers and the Ryan White HIV/AIDS program through the Health Resources and Services Administration (HRSA).
  - $4.3 billion to the Centers for Disease Control and Prevention (CDC) and to assist with agency efforts on public health preparedness and response including funding to state and local public health responders and reimbursements. There is also $500 million designated to invest in **public health data surveillance and infrastructure modernization** to help states in developing COVID-19 tools.
- **Funding for the VA to expand capacity of IT networks to address the demand in services and broaden tele-health capabilities.**
- **Directs the secretary of HHS to consider ways to encourage the use of telecommunications systems, including for remote patient monitoring and other communications or monitoring services by clarifying guidance and conducting outreach.**

https://www.ncsl.org/ncsl-in-dc/publications-and-resources/coronavirus-stimulus-bill-states.aspx

# *Telehealth in Puerto Rico*

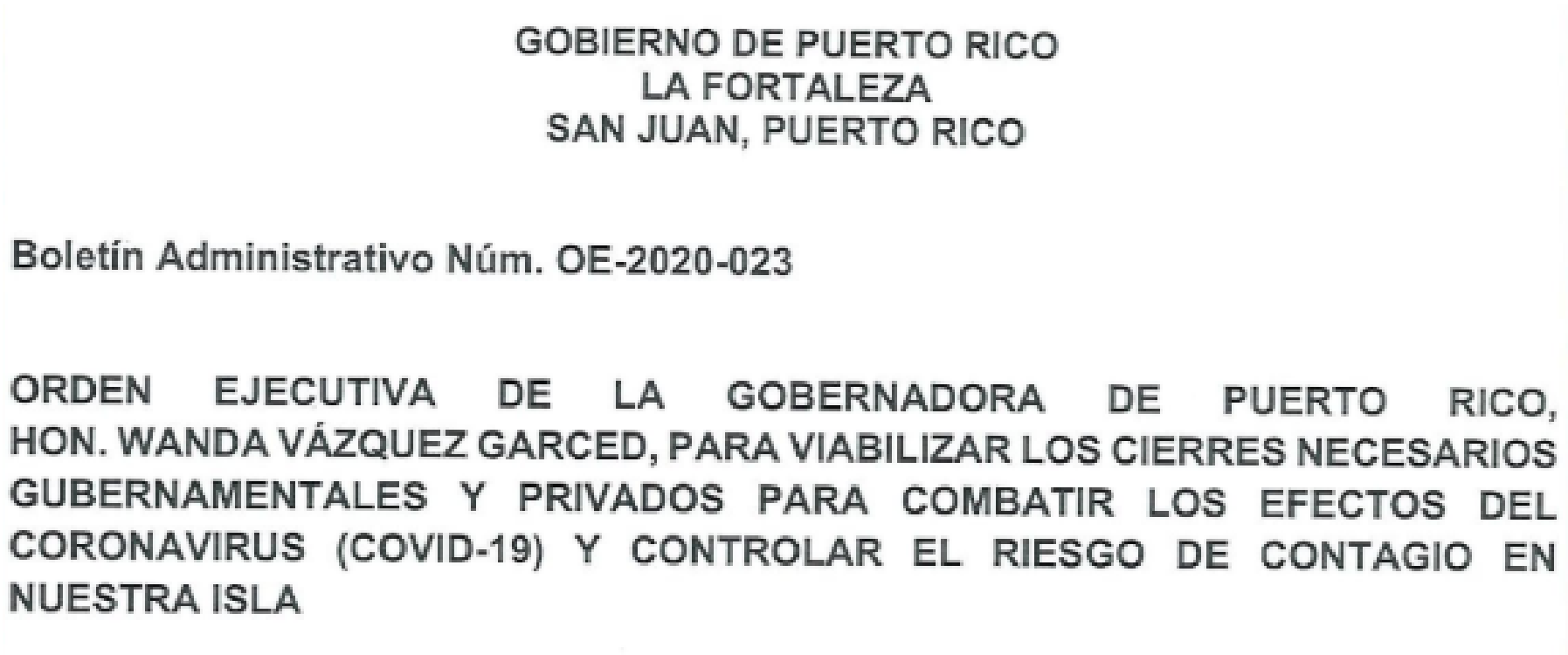
- $787 million announced by Puerto Rico governor in response to COVID-19 (23.3.2020)
  - “In the same way, we take care of giving continuity to the offering of essential services, making supermarkets, pharmacies, gas stations, banks, medical services available through telemedicine, among other services included in our Executive Order” https://www.fortaleza.pr.gov/content/mensaje-de-la-gobernadora-sobre-medidas-econ-micas-ante-la-amenaza-del-covid19 (March 23, 2020)
- **Governor composes task force (March 19th)**
  - Interdisciplinary: 'task force' brings together a group of experts in the fields of microbiology, infectious diseases, psychiatry, public health and trauma.

# COVID-19 Task force in Puerto Rico

- Led by the rector of the University of Puerto Rico, Medical Sciences Campus (RCM), Dr. Segundo Rodríguez Quilichini,
- Dr. Pablo Rodríguez, director of the Trauma Room of the Medical Center, who is in charge of coupling all the medical-professional resources that are necessary to attend this emergency;
- Dr. Dharma Vázquez, dean of the RCM Graduate School of Public Health;
- Dr. Guillermo Vázquez, director of the Infectious Microbiology Department of the RCM;
- Dr. Jorge Santana Bagur, infectious disease director of ACTU at RCM;
- Dr. Karen Martínez, director of Psychiatry at the RCM; Dr. Cynthia Pérez, from the Graduate School of Public Health;
- **DR. JOSÉ CAMUÑAS, DIRECTOR OF THE DEPARTMENT OF FAMILY MEDICINE, COORDINATOR AND DIRECTOR OF THE RCM TELEMEDICINE PROGRAM**
- Lcdo. Jorge Matta, executive director of ASEM; Ing. Wilfredo Martínez, from ASEM; and Betsy Rosado, director of Institutional Security at ASEM.

# *Puerto Rico*

**March 15th Executive Order:**



GOBIERNO DE PUERTO RICO
LA FORTALEZA
SAN JUAN, PUERTO RICO

Boletín Administrativo Núm. OE-2020-023

ORDEN EJECUTIVA DE LA GOBERNADORA DE PUERTO RICO, HON. WANDA VÁZQUEZ GARCED, PARA VIABILIZAR LOS CIERRES NECESARIOS GUBERNAMENTALES Y PRIVADOS PARA COMBATIR LOS EFECTOS DEL CORONAVIRUS (COVID-19) Y CONTROLAR EL RIESGO DE CONTAGIO EN NUESTRA ISLA

# *Executive Order on Homeless Population (18.3.2020)*

- **Plan to establish assistance centers**
- **2019: approx. 2,500 homeless individuals in Puerto Rico, majority over 60 years old**
- "It is established in OE 2020-25, that these centers must provide diagnostics, basic medical care, facilities for personal hygiene, laundry, food and other services aimed at avoiding the spread and spread of the virus."
- **Telehealth opportunities? Not specifically mentioned**

https://www.fortaleza.pr.gov/content/gobernadora-v-zquez-garced-emite-orden-ejecutiva-para-atender-las-necesidades-de-las

# *Opportunities & Resources for States and Territories*

- **COVID-19 Medicaid and Childrens Health Insurance Program (CHIP): FAQ from CMS:** https://www.cms.gov/newsroom/press-releases/covid-19-response-news-alert-cms-frequently-asked-questions-faqs-state-medicaid-and-childrens-health
- **CMS FAQs on Availability and Usage of Telehealth Services through Private Health Insurance Coverage in Response to Coronavirus Disease 2019 (COVID-19)** https://www.cms.gov/files/document/faqs-telehealth-covid-19.pdf
- **Section 1135 Waiver Flexibilities for Medicaid & CHIP:**

https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/index.html

# *Resources and Contact*

- **Please reach out with any questions at alerer@himss.org.**
- **States take extensive actions: https://www.himss.org/news/states-take-extensive-health-it-actions-covid-19**
- **COVID-19 Telehealth Spotlight (Federal): https://www.himss.org/news/telehealth-covid-19-spotlight**
- **COVID-19 HIMSS Resource Page: https://www.himss.org/news/coronavirus**

HIMSS

CENTERS FOR MEDICARE & MEDICAID SERVICES

# TELEHEALTH

## March 26, 2020

*Marina Diaz, MHSA*
*Director*
*Centers for Medicare & Medicaid Services*
*Puerto Rico & Virgin Islands Field Office*

# 1-Flexibilities on Telehealth Regulations in response to CoVID-19-Puerto Rico Perspective

# 2-Precedents:

227 law 1998
Individual Practitioners
Academic Settings
Multiple efforts to be recognized and financed by health plans

# 3- After Covid-19

CMS flexibilized regulations that were barriers to development

Technology

Defined encounters

Issued directives to Health Plans

# 4- Measure Impacts

In access
- Well Being
- Provider Quality of Life

In Total Health Care System Costs:
- Hospitals
- Primary Care
- Mental Health Stigma

In Patients
- Experience
- Outcome

Push for Interoperability

# Thank you!

# Telehealth Response to COVID-19

S. David McSwain, MD MPH
CMIO – MUSC Health

SPROUT

MUSC Health
Medical University of South Carolina

Changing What's Possible | MUSChealth.org

# The Challenges of COVID-19

The COVID-19 global pandemic has presented healthcare systems around the world with unprecedented challenges:

- Infection control
- Healthcare capacity
- Inadequate equipment
- Lack of Personal Protective Equipment
- Workforce Limitations/Work from Home
- Social Distancing

# Telehealth: Suddenly Center Stage

- For years, although technology has advanced dramatically and well-developed programs have gained traction, gaining widespread adoption of telehealth has been a challenge.
- Telehealth is ideally suited to address many of the challenges posed by COVID-19
  - Facilitates infection control/isolation capabilities
  - Expands healthcare capacity
  - Facilitates triage/appropriate resource utilization
  - Conserves PPE, protects our clinicians
  - Allows clinical work from home
  - Allows patients to remain home

# Global Alignment Toward Telehealth Expansion

- The Good:
  - Governments around the world have loosened restrictions, improved reimbursement, and provided funding to rapidly scale telehealth services.
  - Healthcare institutions have devoted significant resources and manpower toward that expansion.

- The Bad:
  - Institutions without an established telehealth infrastructure or expertise suddenly face a myriad of options and no clear guidance on how to proceed
    - Which services do we implement?
    - What are our options?
    - What equipment do we use?

**S**upporting
**P**ediatric
**R**esearch on
**O**utcomes
and **U**tilization
of **T**elehealth

## SPROUT-CTSA Collaborative Telehealth Research Network

- $3.6 Million, 5-year NCATS Collaborative Innovation Award
- MUSC Children's – Primary Awarded Site/PI
- AAP, CHOP, Mercy Virtual, and Children's Colorado – Subawardees

SPROUT

# SPROUT COVID-19 Telehealth Webinar

- Presentations from 10 leading institutions around the country on their response to COVID-19
- Themes:
  - Virtual Urgent Care Triage
  - Inpatient Telehealth for “Virtual PPE”
  - Ambulatory In-Person Visit Substitution
  - Remote Patient Monitoring for COVID-19+ or suspected patients
  - Many other approaches
- Developed the SPROUT COVID-19 Telehealth Measurement Framework for dissemination
- Near completion of a national assessment of telehealth activity around COVID-19

# MUSC COVID-19 Related Telehealth Efforts

- Virtual Urgent Care – On-demand triage of patients
  - Directs patients who screen in to a drive through testing center
  - Challenges: EHR integration, staffing up to scale, test ordering workflow, follow-up with test results

- Ambulatory In-Person Visit Substitution
  - Utilizing multiple functionalities through Epic
  - Video Visits, Virtual Check-Ins, e-Visits
  - Can mix and match with other video-conferencing platforms: Vidyo, Doxy.me, FaceTime, Skype, etc.
  - Challenges: Education and training, Epic build required, use of MyChart patient portal

# MUSC COVID-19 Related Telehealth Efforts

- Inpatient Telehealth for "Virtual PPE"
  - Shawn Jenkins Children's Hospital: recently opened with telehealth capability in every inpatient room.
  - Rapidly expanding capabilities to different care team members (dietary, chaplains, social work, nursing, etc.)
  - Challenges: rapidly scaling an newly rolled out service, telehealth endpoints for rooms not already equipped. Using iPads, old Computers on Wheels (adding webcam), personal devices

- Remote Home Monitoring
  - High-risk COVID-19+ patients with mild symptoms
  - Symptom tracker, pulse oximetry and BP cuff integration, mobile device integration
  - Challenges: Significant interface build required, device limitations for children, how to deliver devices, how to scale

# Key Points to Consider

- Focus on the use case and the people before the technology
  - The technology exists to handle most use cases.
  - Have to have a well-defined purpose/goal
  - Integrate telehealth into established/existing workflows as much as possible
  - Utilize informatics, systems education resources
- Broad institutional alignment
  - Technology is just one component
  - Need alignment and involvement from leaders in administrative, clinical, operational, compliance, revenue cycle, and legal areas.
  - Frequent communication between areas is critical
- Use tools you already have available
  - Electronic Health Record functionality
  - Established video-conferencing tools, mobile devices, PC's with webcams
  - All-in-one telehealth platforms may be an ideal long-term solution, but may be difficult to scale from scratch.
- Ensure that scheduling, documentation, and billing approaches are in place
  - Document and bill within your EHR if at all possible.
  - Utilize personnel that are being redistributed from other areas to facilitate these tasks

# Resources

- HRSA National Consortium of Telehealth Resource Centers
  - https://www.telehealthresourcecenter.org/
- American Telemedicine Association COVID-19 Resource Page
  - https://info.americantelemed.org/covid-19-news-resources
- SPROUT/AAP Section on Telehealth Care
  - https://services.aap.org/en/community/aap-sections/telehealth-care/
- American Medical Association (AMA) Quick Guide to Telemedicine in Practice
  - https://www.ama-assn.org/practice-management/digital/ama-quick-guide-telemedicine-practice

**SPROUT COVID-19 MEASURE FRAMEWORK**

Original Release Date: March 24, 2020

Key Authors: Michelle L. Macy, MD, MS; Dana Aronson Schinasi, MD; S. David McSwain, MD, MPH; John Chuo, MD, MSBI, IA

**Purpose**

With the massive response to COVID-19 resulting in rapid expansion and revisioning of telehealth services, many teams are wondering: "What is the impact of telehealth on COVID-19 response?" To help SPROUT members and others interested in answering this question, we provide a list of potential data elements, and measures to consider for inclusion in analysis of the institutional, local, regional, and national telehealth responses to COVID-19.

**Description**

The list presented in Appendix A is a work in progress lead by the SPROUT Metrics Topic Working Group - drafted on 3/21/2020 – and may be updated in the future. The suggested data points can serve as stand-alone measures and/or combined (i.e. measures of rates, percentages, and ratios). With robust data collection for these proposed measures, comparisons can be made for locations with and without telehealth services and for pre-post telehealth service deployment.

As you embark on this journey to evaluate the impact of telehealth, do not overlook the importance of documenting the resources being deployed and the timing of the deployment. Clearly document what you did, how you did it, and at what time, while you are in the moment (Appendix B). This will strengthen your ability to conduct analyses after you are able to return to “business as usual”. Be mindful of and document important co-variates or confounders, such as the timing of institutional changes in response to COVID-19 that were not telehealth-specific (e.g. changes in PPE and isolation practices, changes in method of delivery for inhaled beta-agonists). These practice changes will be critical to our understanding of how telehealth impacted COVID-19.

Measure concepts are listed regardless of how easy or hard they may be to obtain. We expect data found in administrative databases and electronic medical/health records (EMRs and EHRs) will be most readily available. Population denominators in geographic areas can be determined from data collected by the U.S. Census. Primary data collection from patients and providers, needed for some of these measures, may be difficult without a pre-existing infrastructure or new funding to support data collection. New “work from home” mandates may allow shifting of resources toward primary data collection in this crisis. *Please consult your Institutional Review Board for guidance on regulations related to primary data collection and secondary analysis of EMR/EHR and hospital administrative data.*

In addition, it will be key to understand the nature of the presence of telehealth in a given area before, and in response to, COVID-19. We encourage investigators to record programmatic

This work is supported through the SPROUT-CTSA Collaborative Telehealth Research Network and funded in part by National Institutes of Health (NIH) National Center for Advancing Translational Science (NCATS) – Grant #U01TR002626.

elements in the moment. We provide 10 key questions about your telehealth program to get you started.

1) Who is coordinating the telehealth service? (e.g., health system, health plan, private company, a mix of these, no coordination)
2) Who is providing telehealth services? (e.g., nurse, physician, advanced practice nurse or physician's assistant, pharmacist, public health professional)
3) What modalities are used? (i.e., live video, asynchronous, remote monitoring)
4) What types of telehealth services are offered? (Screening, Medical Advice, Patient Telemedicine visits)
5) What telehealth services required outsourcing or new contracts with vendors?
6) Where are the healthcare workers providing this service and where are the patients and families? (e.g. home, clinic, hospital, call center, public health office)
7) When did the service start and when is the service offered to providers, patients, and families?
8) Why is the telehealth service being offered? What is the intended goal? (such as a mitigation of spread strategy to healthcare workers providing services to patients in isolation in-hospital, conserving PPE, home monitoring for home quarantined individuals' continuity of care for patients with chronic disease)
9) How is the service paid for? (e.g., covered by insurance fully, with co-pay or co-insurance, out of pocket, absorbed by the health system/hospital)
10) How was science translated into practice? What implementation science model was used? (e.g., RE-AIM, Precede-Proceed, Dynamic Sustainability, PRISM, CFIR)

A NOTE on NEW deployment of telehealth services: The collection of cost data in real time will prime you to conduct economic analyses. Example costs associated with your COVID-19 response could include: costs of onboarding new telehealth service providers (time for trainees, time and number of trainers, time for planning, time for advocacy for policy change), costs of new equipment, and costs of disseminating information about telehealth to end users.

We acknowledge that COVID is having impacts on the larger health system, outside of those with symptoms of concern for COVID and documented COVID disease. This may lead you to collect or secondarily analyze *data on three subpopulations (or more)*: 1) well individuals in your community who may have scheduled or acute care needs that are not related to concern for COVID; 2) patients with symptoms concerning for COVID (lower respiratory tract infection and fever); 3) patients who are positive for COVID.

Please reach out to the SPROUT Research Coordinator, Christina Coleman, at colemach@musc.edu with additional ideas, suggestions, and feedback on this list of potential measures. Organizations or societies external to the SPROUT-AAP or SPROUT-CTSA Network that contribute substantively to the enhancement of the SPROUT COVID-19 Measure Framework will be included in the acknowledgement section of future versions of this guidance. Visit https://services.aap.org/en/community/aap-sections/telehealth-care/sprout/ for more information on SPROUT.

Last Updated: March 24, 2020

This work is supported through the SPROUT-CTSA Collaborative Telehealth Research Network and funded in part by National Institutes of Health (NIH) National Center for Advancing Translational Science (NCATS) – Grant #U01TR002626.

# Appendix A – Measures List

| SPROUT Measurement Framework Domains | Subdomains | Measure Name | Description and Specifications |
|---|---|---|---|
| Health Outcomes | COVID population | COVID Cases | Number of COVID positive cases in your catchment area. Consider stratifying by age groups (Children, Adults, age groups within those two larger categories) |
| | | Population Adjusted COVID Cases | Number of COVID positive cases in your catchment area divided by the total population in your catchment area. (Children, Adults, age groups within those two larger categories) |
| | | COVID among healthcare workers | 1) Number of COVID positive healthcare workers |
| | | | 2) Number of healthcare workers required to self-quarantine |
| | | Mortality rate | Number of COVID cases resulting in death divided by the number of COVID positive cases in the relevant time period |
| | | Morbidity rate | Number of COVID survivors with associated short- or long-term consequences of the disease (e.g., neurologic disability, respiratory support) divided by the number of COVID positive cases in the relevant time period |
| | | Level of Care Required for COVID Patients | Number of patients with COVID concerns managed in one or more of following settings: 1) outpatient clinics; 2) emergency departments; 3) inpatient general care; 4) inpatient intensive care; 5) novel care settings - drive through triage; 6) via telehealth |
| | | | Number of encounters for patients with COVID concerns managed in each of the following settings: 1) outpatient clinics; 2) emergency departments; 3) inpatient general care; 4) inpatient intensive care; 5) novel care settings - drive through triage; 6) via telehealth |
| | General Population or subpopulations with chronic disease | Population health outcomes tracked prior to COVID-19 (i.e. HEDIS Measures, NQF, benchmarking data registries) | Mental health visits for anxiety, stress, depression, fatigue (some of these could be assessed by professional or Patient reported outcomes). PEDS-QL 4.0, DALY (disability adjusted life years) related measures |

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|---|---|---|---|
| Value of Healthcare Delivery | Utilization | Proportion of completed telehealth visits | Number of telehealth visits completed divided by the number of telehealth visits scheduled |
| | | ED visit rate | Number of ED visits overall and for specific conditions, e.g., LRTI, URI, fever, mental health concerns over time |
| | | COVID testing rates | COVID testing divided by number of cases presenting for consideration of testing |
| | Value of Care | COVID testing yield | COVID positive tests divided by total tests |
| | Access | COVID testing availability | Number of tests ordered but not obtained (or number of tests declined) due to lack of testing supplies |
| | | Cancelation of Care | Number of Cancelled 1) Primary care appointments for well child care; 2) primary care appointments for chronic disease management; 3) subspecialty care; 4) surgical cases; 5) imaging studies |
| | | No show rate | Number of missed appointments divided by the number of scheduled appointments |
| | | Wait times | Wait time for "on demand" care (include in-person and telehealth visits) |
| | | | Wait time for scheduled visits (include in-person and telehealth visits) |
| | | Hospital and intensive care unit capacity | Number of available hospital beds; ED boarding time; number of patients boarding in ED |
| | Safety | Proportion of telehealth visits that were directed to in-person care | number of telehealth visits directed to in-person evaluation divided by the number of telehealth visits |
| | | PPE Use Rate | Amount of PPE utilized for patient evaluation divided by the number of patients seen in the COVID-19 response time period |
| | | Availability of PPE | Number of face-to-face patient encounters where less than maximal PPE precautions are taken due to either lack of availability or conservation measures. (Specify your local practice regarding N-95 and surgical masks, gloves, gowns, head covering, shoe covers) |
| | | COVID transmission to healthcare workers | Number of providers who contract COVID divided by the number of patients evaluated for COVID (include in person and telehealth visits in the denominator to estimate “COVID transmission avoided” in settings with and without/pre-post telehealth) |
| | Costs of Care | See notes above on costs | |

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| | Effectiveness | Existing measures of healthcare delivery quality that are already being tracked (i.e. NQF, benchmarking data registries) | Developmental screening in the 1st 3 years of life (NQF - 1448), by 2 years old (NQF - 1339). |
| | Equity | Demographic Characteristics | Consider analyses stratified by race/ethnicity, preferred language, insurance status/payer, gender, family income |
| Patient/Provider Experience | Satisfaction | Patient/Family/Provider Satisfaction | Apply existing patient/family satisfaction/provider survey that is already part of quality of care assessment for clinic/health system in person visits to telehealth population (Examples - TUQ, Net Promotor score, TSUQ, TAM, etc. In doing so, consider cognitive bias principles) |
| | Individual workload burden | Miles Saved for Patient/Family | Patient address to location of care if in person visit was required |
| | | Travel Time Saved for Patient Family | Calculated from travel distance and typical travel times: consider categorical estimates - <15 minutes, 16-30 minutes. 31-60 minutes, 1-2 hours, > 2 hours |
| | | Miles Saved for Providers | Provider address to location where care would have been provided if visit was conducted in person |
| | | Travel Time Saved for Providers | Calculated from travel distance and typical travel times: consider categorical estimates - <15 minutes, 16-30 minutes. 31-60 minutes, 1-2 hours, > 2 hours |
| | | Staff wellness and Burnout | Examples tools - Maslach inventory, Oldenburg inventory, MBI:EE, Physician Work-Life Study Single Item measure (Rohland et al), Professional Fulfillment Index, Well-being Index) |
| | | Technical Events | # of Technical issues experienced during telehealth encounters (Consider tracking if there were: No technical issues, Video not working, Video suboptimal, Audio not Working, Audio suboptimal, resorted to telephone call) |
| | Telehealth Encounter Logistics | Absent telehealth participants | Were all participants present? If not, who was missing and why? |

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| | Telehealth Encounter Logistics | Telehealth Encounters Completed, Cancelled, or Rescheduled | Was the telehealth encounter completed as planned, cancelled, or rescheduled? If cancelled or rescheduled, what was the reason? |
| | | Reason for Telehealth Encounter | What was the reason for the telehealth encounter? Examples to consider:<br>1) scheduled because of a COVID-19 positive patient being monitored at home,<br>2) COVID-19 positive patient isolated in hospital,<br>3) quarantined patient with symptoms of COVID-19 (with or without travel/exposure history prior to community spread),<br>4) patient without symptoms and no COVID-10 exposure (prior to community spread),<br>5) Institutional policy change regarding contact with patients/families for certain encounters (specify type of encounter) |
| | | Length of visit via telehealth | Encounter End Time minus Start Time |
| Program characteristics, performance and implementation | Program characteristics | Existing Telehealth Services | Telehealth service lines were in place prior to March 1st, 2020 |
| | | | Number of clinicians/providers using telehealth |
| | | | Equipment in place for existing telehealth services |
| | | | Capacity of telehealth program to take on new patients |
| | | New Telehealth Services | What new service lines were launched and when |
| | | | Number of staff to support telehealth services |
| | | | Number of staff to support telehealth services for managing COVID |
| | | | Number and types of clinicians/providers deployed for managing COVID |
| | | | Equipment required for new or expanded services |
| | | | Demand for new services and demand for existing services |
| | | Telehealth Encounter completion rate | Number of telehealth encounters COMPLETED divided by the total number of telehealth encounters scheduled (including those completed, cancelled, and rescheduled) |

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| | Target Performance Indicators / benchmarking | Program Benchmarks | How did the program perform relative to other similar programs in terms of any of the measures listed in this publication? |
| | Implementation | Implementation Science Framework or Model | How are you translating science into practice?<br>Examples of implementation science frameworks include RE-AIM, PRISM, CFIR.<br>What implementation science variables are you specifically measuring within your model? |
| | | Staffing Adjustments | How did your staffing strategy/model change in order to meet the patient care demands in response to COVID-19? Did you need to: mobilize reserve staff, increase moonlighting incentives, hire more staff, change staff roles and responsibilities? |
| | | Facilitating Factors | What changes were made in the system that facilitated the successful implementation of your telehealth response to COVID-19? |
| | | Barriers | What barriers were encountered when attempting implementation of telehealth in response to COVID? |
| | | Problems imposed on the system (change burden) | What problems did your system experience as a result of implemented changes in response to the COVID-19 crisis?<br>Examples include: decrease in staff wellness, supply chain gaps, staffing gaps from staff call-offs due to being sick/having to care for family members, or staffing gaps due to increase in patient load |

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# Appendix B: Telehealth Change Management Recording Tool

**INSTRUCTIONS: Fill in the project aim (hint: start with a verb) and the responsible department, division, or group. Then on each row, describe the intervention by answering four questions – date of implementation, what/who/how/where done, Results, Action plan. You can delete the entries in the below example for use in your own Telehealth project.**

**EXAMPLE USE:**

| | | | |
|---|---|---|---|
| **Project aim**: Implement secure video tele-visit between provider and patients for post operative follow up check. | | | |
| **Department, Division, Group name:** Hospital A, Digital Health team | | | |
| | | | |
| **Date of implementation start** | **What was done? To/With Whom? Why? How? Where?** | **Were the results as expected? If not, why?** | **Action plan - Did you choose to adopt the change as is, abandon it, or make improvements?** |
| 3-1-2020 | One:one education of provider on the video platform | Too slow | Adapt – group classes on remote webinar |
| 3-5-2020 | Engage IS to push telemedicine platform to provider devices | Too slow, not enough devices, and personal devices do not have the required enterprise management software | Adapt – a specific task force formed to enroll devices, revised enterprise management software policies to be more accommodating |
| 3-10-2020 | Enable patients to use telemedicine from the video visit option of our mobile EMR platform | Too slow, not all patients are enrolled | Adapt – revised workflow to be more efficient and capture more patients for enrollment |
| | | | |

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