The Southern Regional Disaster Response System:

The Pivotal Role of Telehealth in Disaster Preparedness

September 20, 2023

AGENDA

- Emory Rural Tele-EMS Network – Dr. Michael Carr
- Emory Tele-Observation Services – Dr. Michael Ross
- Wellstar MCG Health Tele-Critical Care Services – Dr. Matt Lyon
- The SRDRS Initiative – Dr. Alex Isakov
- Q&A/Discussion

Southern Regional Disaster Response System
HHS Region 4

SOUTHEASTERN telehealth RESOURCE CENTER

The Emory Rural Tele-EMS Network

And the **Southern Regional Disaster Response System**

Michael J. Carr, MD FACEP FAEMS
Assistant Professor, Emory University School of Medicine
Department of Emergency Medicine, Section of Prehospital and Disaster Medicine
Principal Investigator / Director, Emory Rural Tele-EMS Network
Email: michael.j.carr@emory.edu

EMORY UNIVERSITY SCHOOL OF MEDICINE
Prehospital and Disaster Medicine
Department of Emergency Medicine


ER-TEMS
EMORY RURAL TELE-EMS NETWORK

Disclosure

"The Emory Rural Tele-EMS Network is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling $1.2 million with 100 percentage funded by HRSA/HHS and zero percentage funded by non-government source(s). The contents are those of Emory University and do not necessarily represent the official views of, nor an endorsement, by HRSA/HHS, or the U.S. Government."

Just 5 THINGS

Just 5 THINGS

1	2	3	4	5
OUR "WHY": PROBLEM? PATIENTS? METRICS & MEASURMENTS?	SOFTWARE, EQUIPMENT, & CONNECTIVITY: VENDOR RELATIONSHIPS? HARDWARE SOLUTIONS?	SUSTAINABILITY PLAN: FINANCIAL VIABILITY? GRANT FUNDING? ADAPTABLE? MULTI-USE?	SOUTHERN REGIONAL DISASTER RESPONSE FLEX DAILY USE MODEL SUPPORT LOCAL DISASTER	THE VISION FOR ER-TEMS / SRDRS INTEGRATION EMERGENCY PHYSICIANS & SPECIALTY CONSULTATION

Just 5 THINGS

1

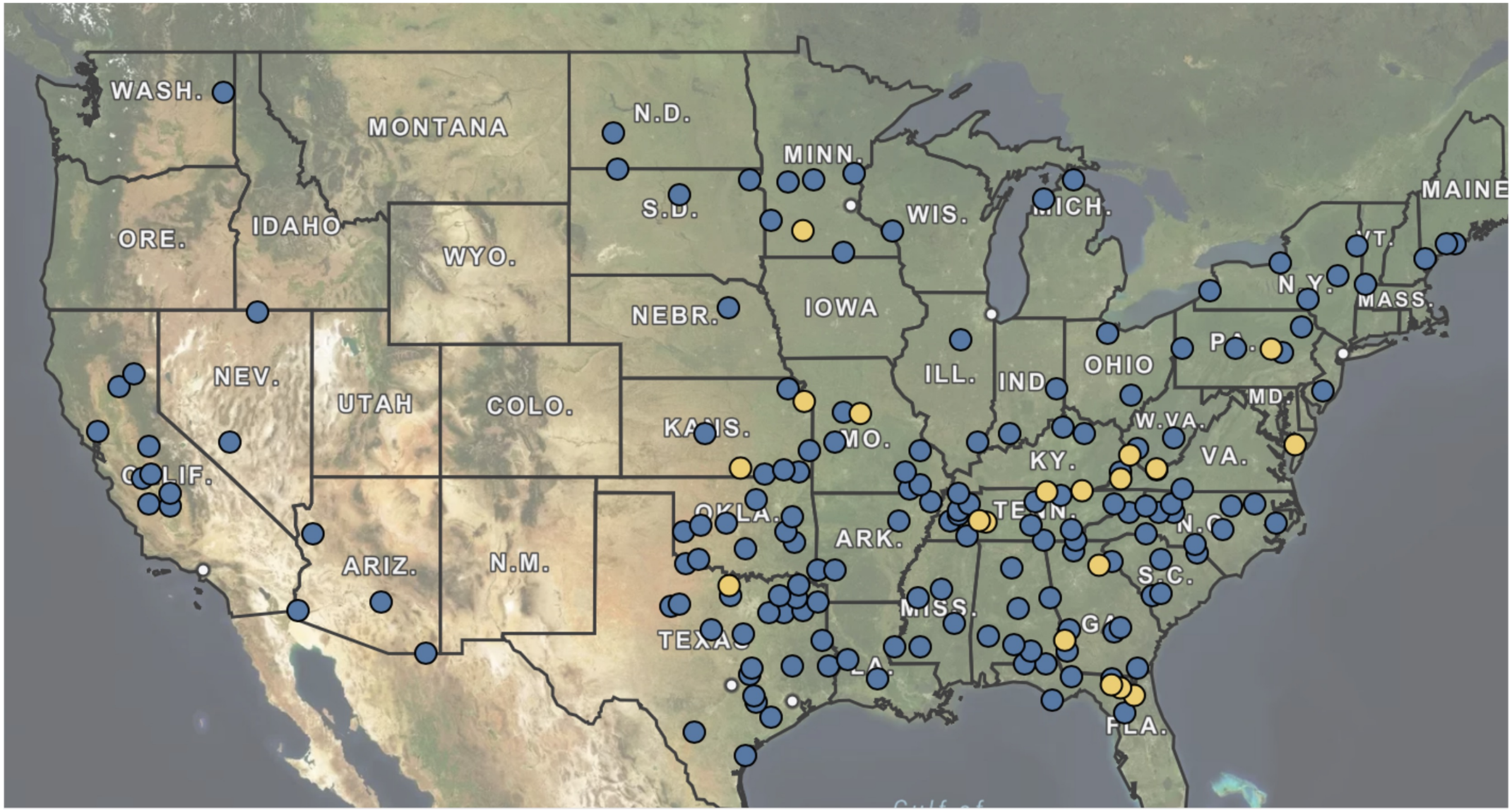
OUR WHY:

WHAT'S OUR:

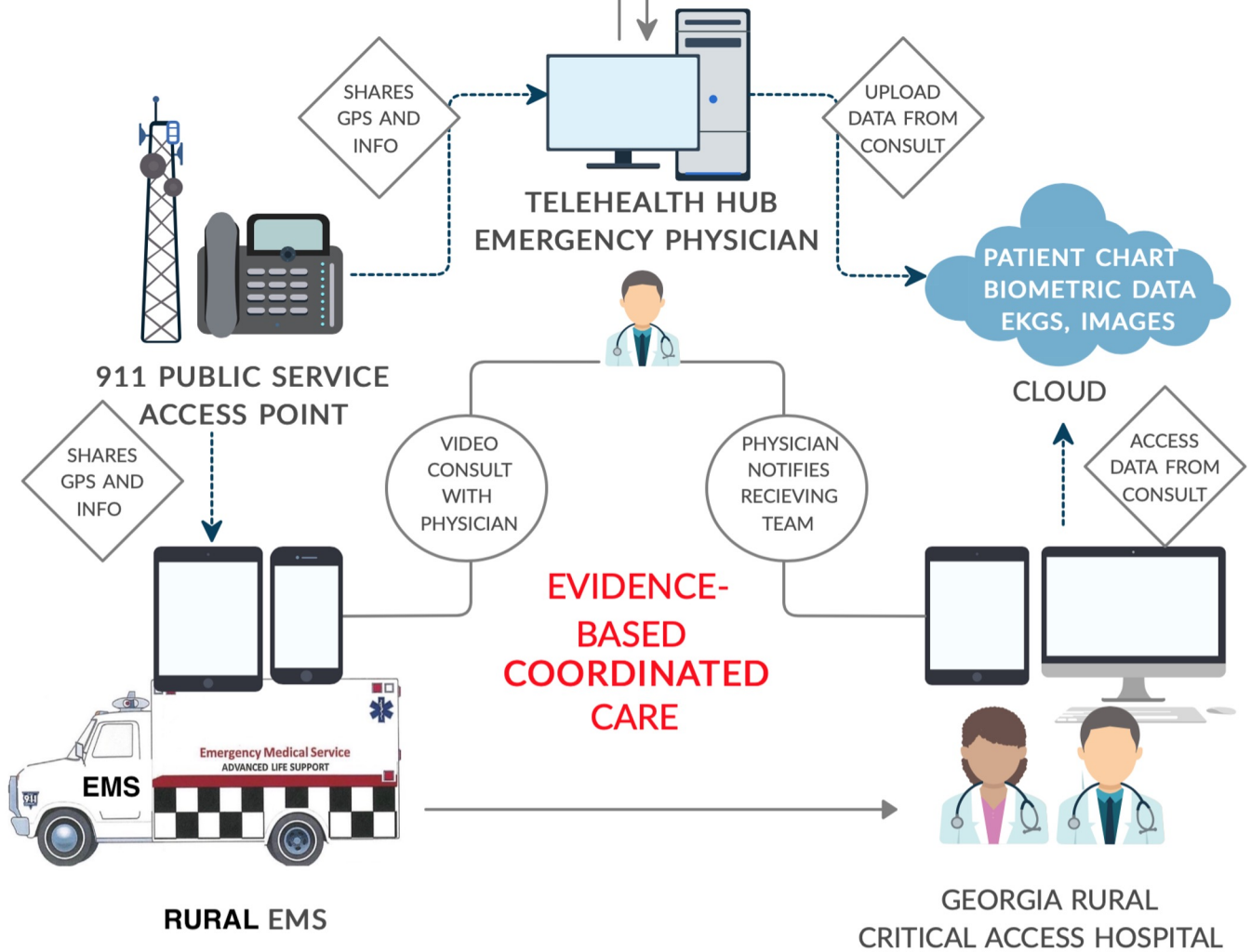
- Problem?
- Population?
- What will we measure?
- Start up?

1 - FIND YOUR WHY

Rural hospital closures since 2005 (180+)



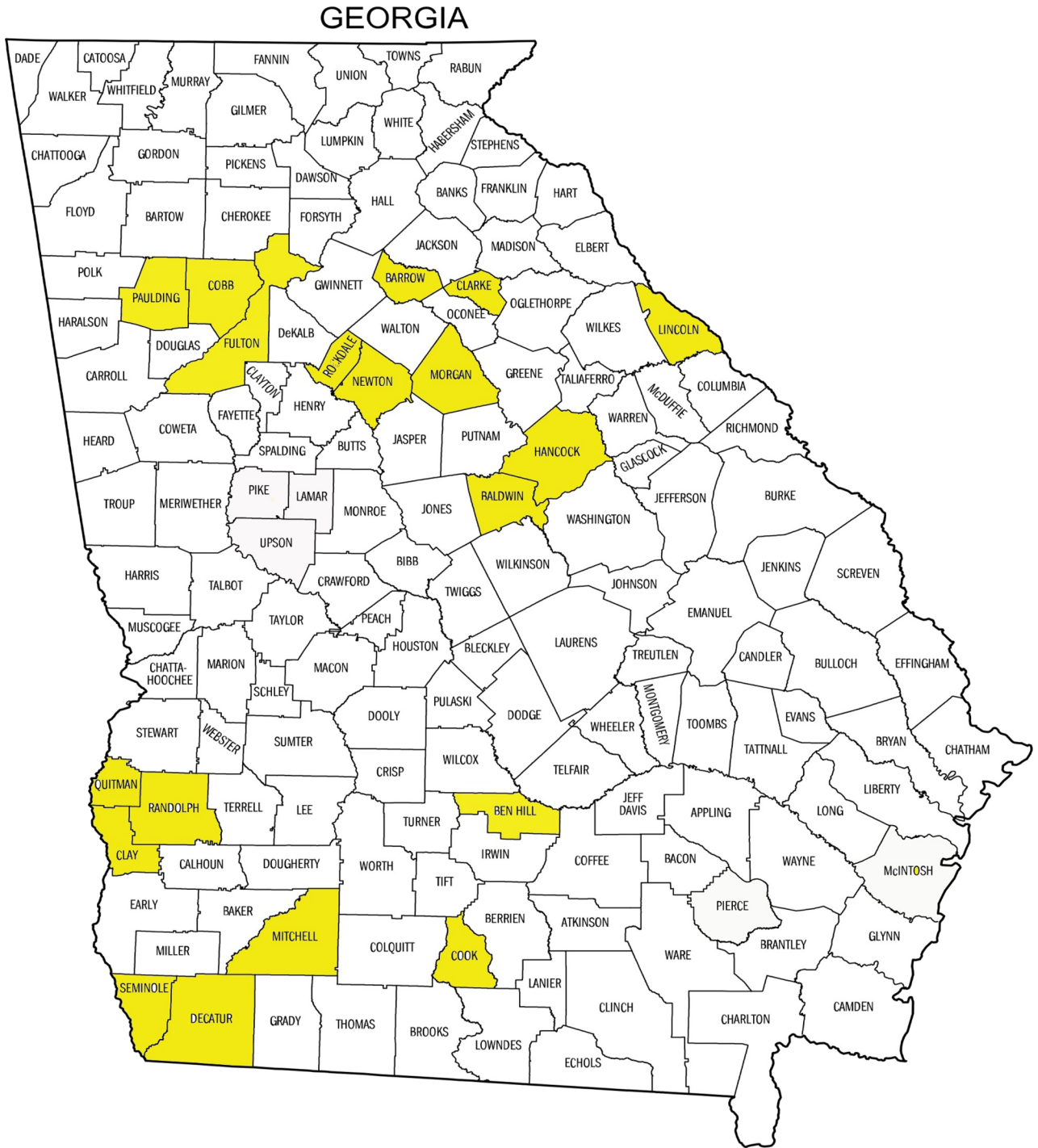
Credit: UNC Cecil G. Sheps Center for Health Services Research



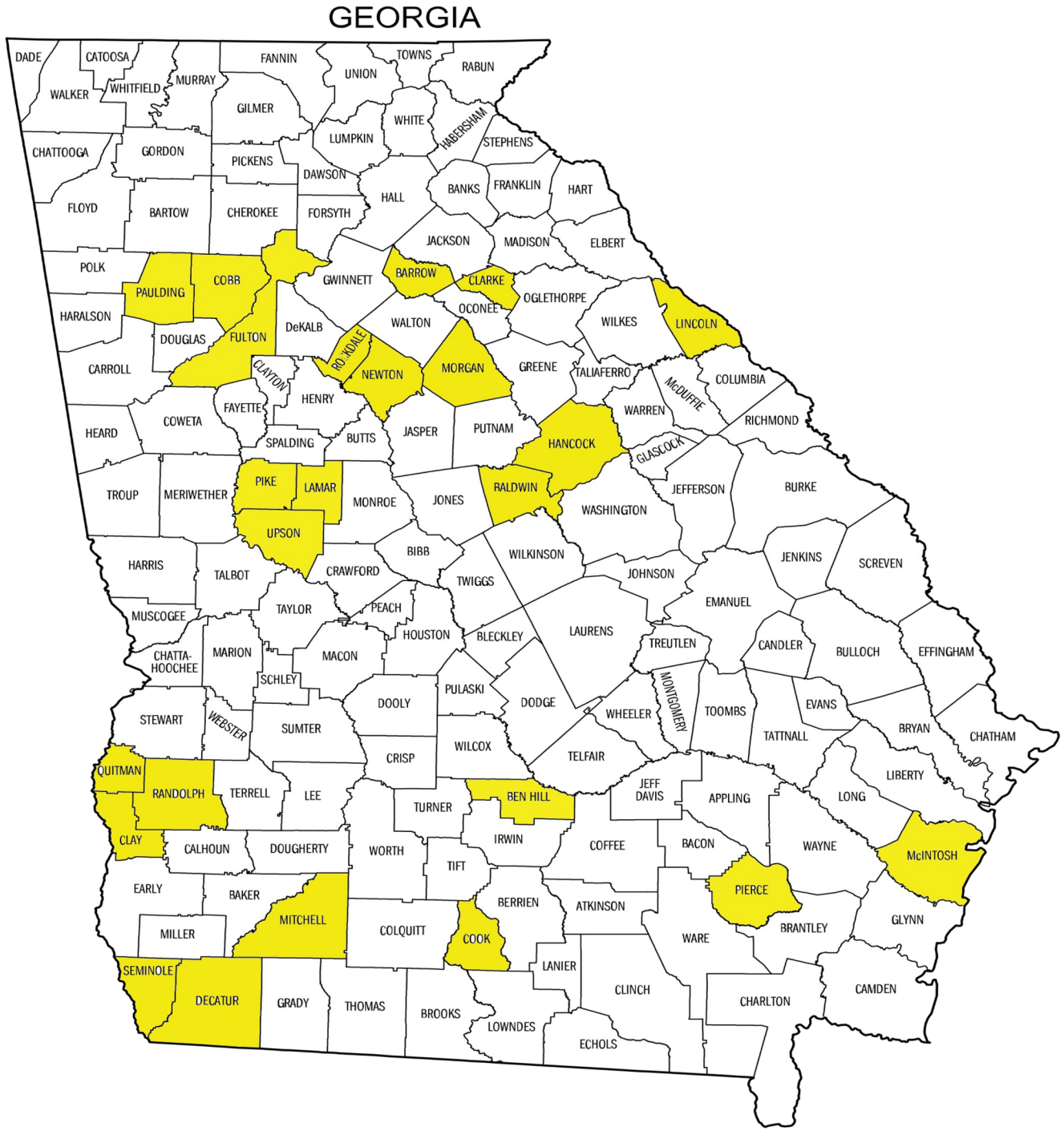
PROVIDE EARLY INTERVENTION TO TIME-SENSITIVE CONDITIONS WITH PROVEN OUTCOME BENEFIT

- CARDIAC ARREST
- LABOR AND DELIVERY
- STEMI
- STROKE
- TRAUMA
- SEPSIS
- SERIOUS COMMUNICABLE DISEASE

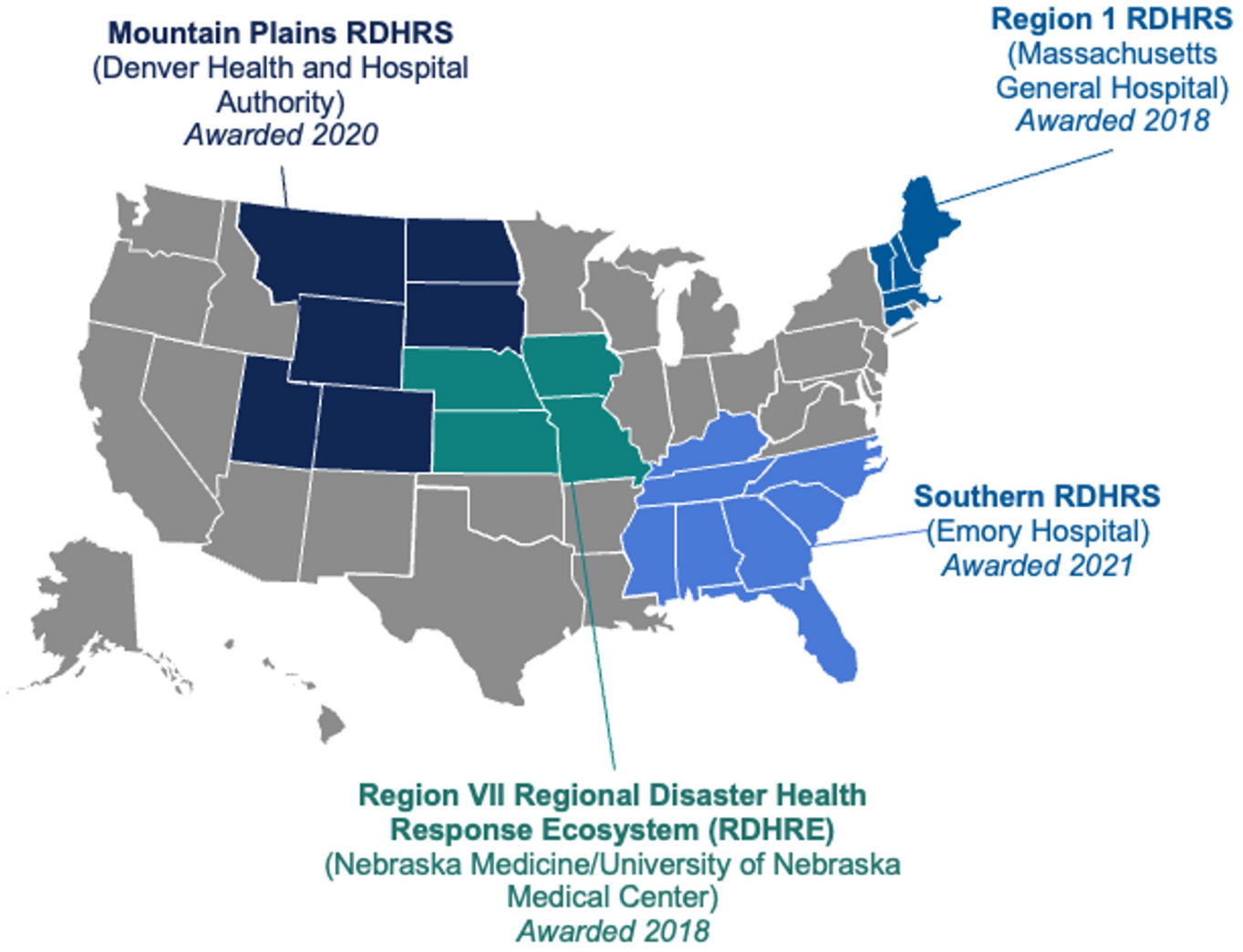
Current Tele-EMS footprint: Ambulances already deployed, or are in process of installation.



Anticipated expansion over the next year



Future of Tele-EMS



Just 5 THINGS

2

SOFTWARE, EQUIPMENT, & CONNECTIVITY:

VENDOR RELATIONSHIPS
HARDWARE SOLUTIONS

2 – SOFTWARE, EQUIPMENT, CONNECTIVITY

CHALLENGE:

- WHAT SOFTWARE?
- WHAT EQUIPMENT
- CONNECTIVITY:
  - Existing vendor relationships?
  - Specific hardware needs?

SUCCESS

- Plan: **30 ambulances over 4 year grant period**
  - swyMed
  - Software solution with experience!

swyMed™

2 – SOFTWARE, EQUIPMENT, CONNECTIVITY

CHALLENGE:

- WHAT SOFTWARE?
- WHAT EQUIPMENT
- CONNECTIVITY:
  - Existing vendor relationships?
  - Specific hardware needs?

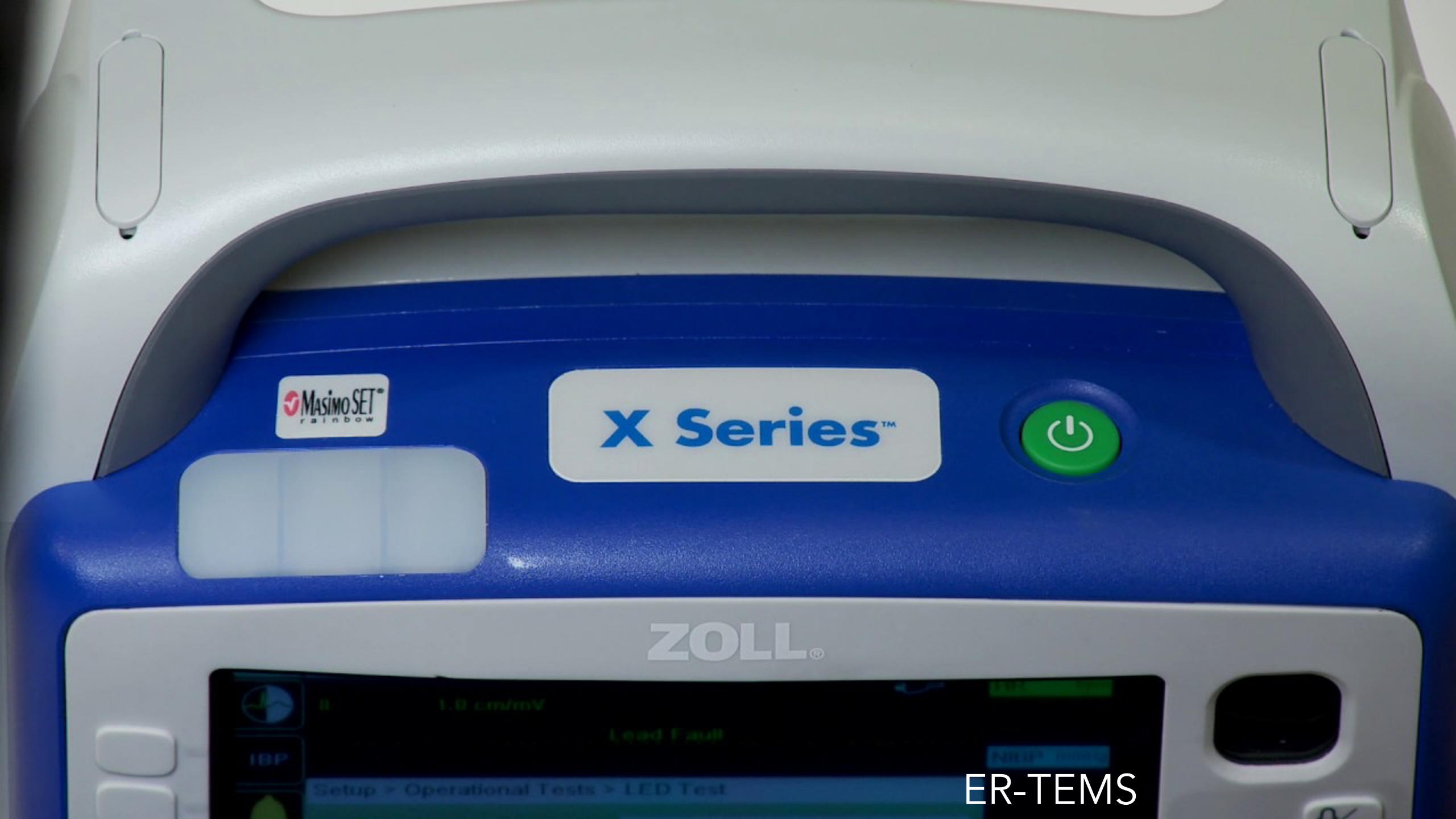
SUCCESS

- DT Research: Durable, antimicrobial, "all in one"
- AXIS Pan-tilt-zoom cameras
- Yamaha speaker
- Zoll X-series monitor

ER-TEMS

ER-TEMS

ER-TEMS


MASIMO SET
rainbow
X Series™
ZOLL®
1.0 cm/mV
Lead Fault
IBP
Setup > Operational Tests > LED Test

ER-TEMS


00:01:38
Emory Physician CLIFTON Control Room
Grady EMS Clay County Unit 7681
HR bpm
NIBP mmHg
EtCO2 mmHg
Sp02 %
SpCO ---
T °C
Vitals are read every 5 seconds. For REAL TIME data click here
Position
Playback Speed
HR (bpm)
EtCO2 (mmHg)
Probe not installed
RR (/min)
SpO2 (%)
Click to transfer a file
Messages
ER-TEMS

2 – SOFTWARE, EQUIPMENT, CONNECTIVITY

CHALLENGE:

- WHAT SOFTWARE?
- WHAT EQUIPMENT
- CONNECTIVITY:
  - Existing vendor relationships?
  - Specific hardware needs?

SUCCESS

- Satellite: not good for moving targets
- Cellular:
  - Rural limitations
  - Tower can "see" antenna
  - Antenna can't "see" tower.

DUAL-SIM and SATELLITE CAPABILITY

Source: FirstNet.gov

Just 5 THINGS

3

SUSTAINABILITY PLAN:

- Financial Viability?
- Ongoing grant funding?
- Adaptable to changing landscape
- Multi-purpose service

3 – SUSTAINABILITY

CHALLENGE:

SUSTAINABILITY PLAN:

- PLAN: 30 ambulances, 24/7/365 coverage
- Cost of coverage: Physician FTE
- Early deployment: low volume

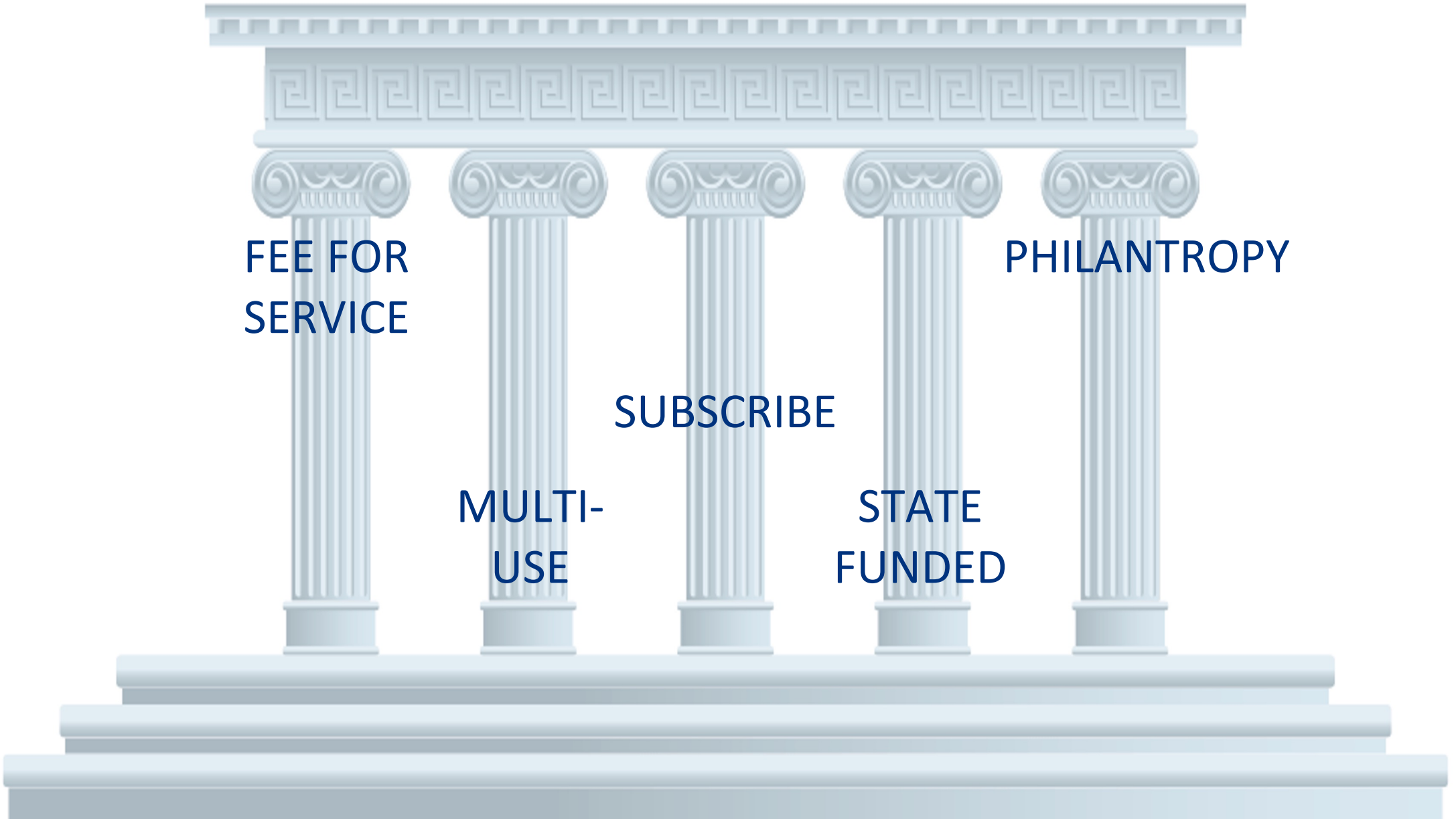
SUCCESS

DUAL SERVICE Model: Overlap with existing workflows

- **Tele-Triage / Tele-Observation**

ER-TEMS

ER-TEMS SUSTAINABILITY



Just 5 THINGS

4

SOUTHERN REGIONAL DISASTER REPONSE SYSTEM

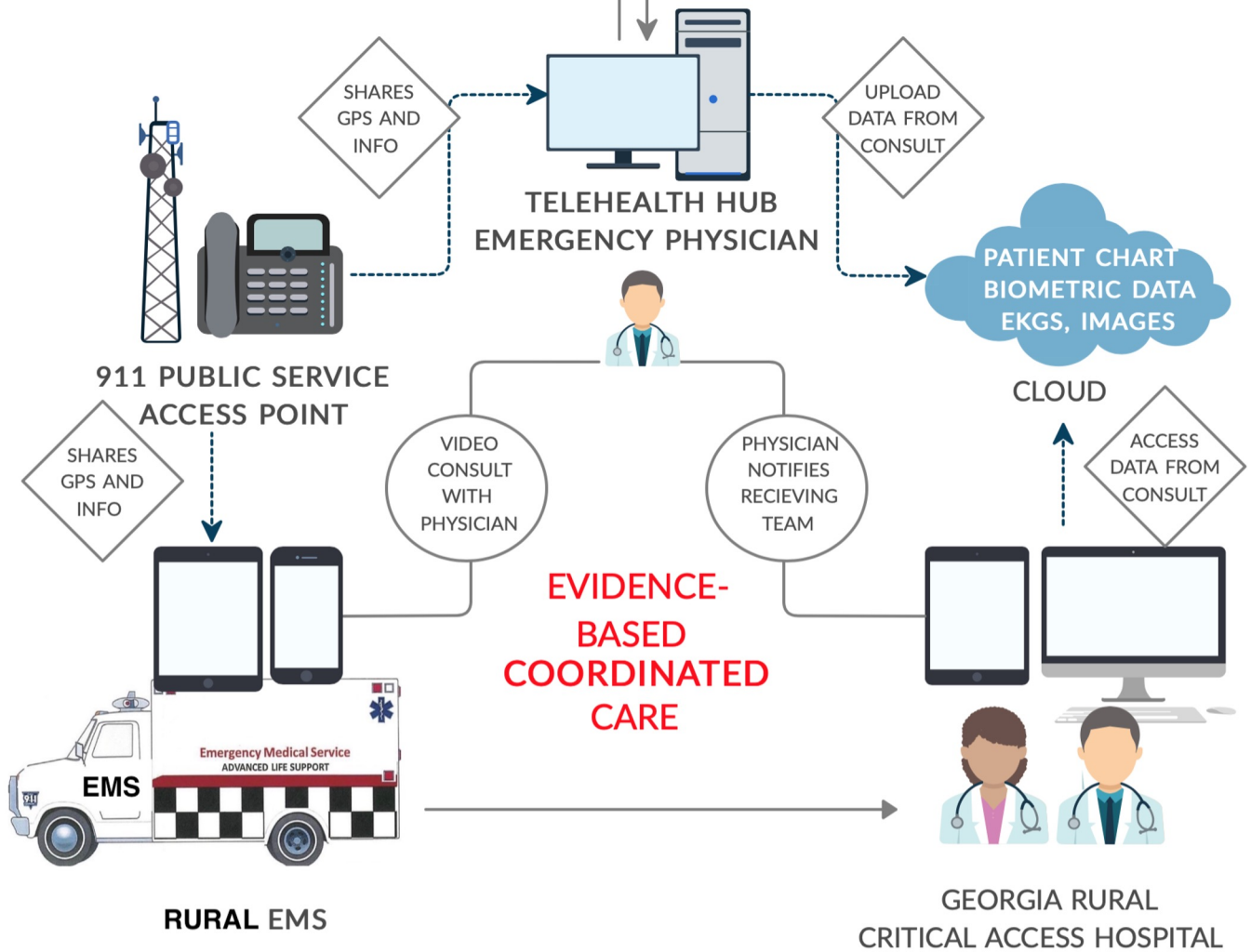
Flex daily use model
Support local disaster / MCI
SME and surge capacity

Just 5 THINGS

5

THE VISION FOR ER-TEMS / SRDRS INTEGRATION

EMERGENCY PHYSICIANS &
SPECIALTY CONSULTATION
- DISASTER RESPONSE -



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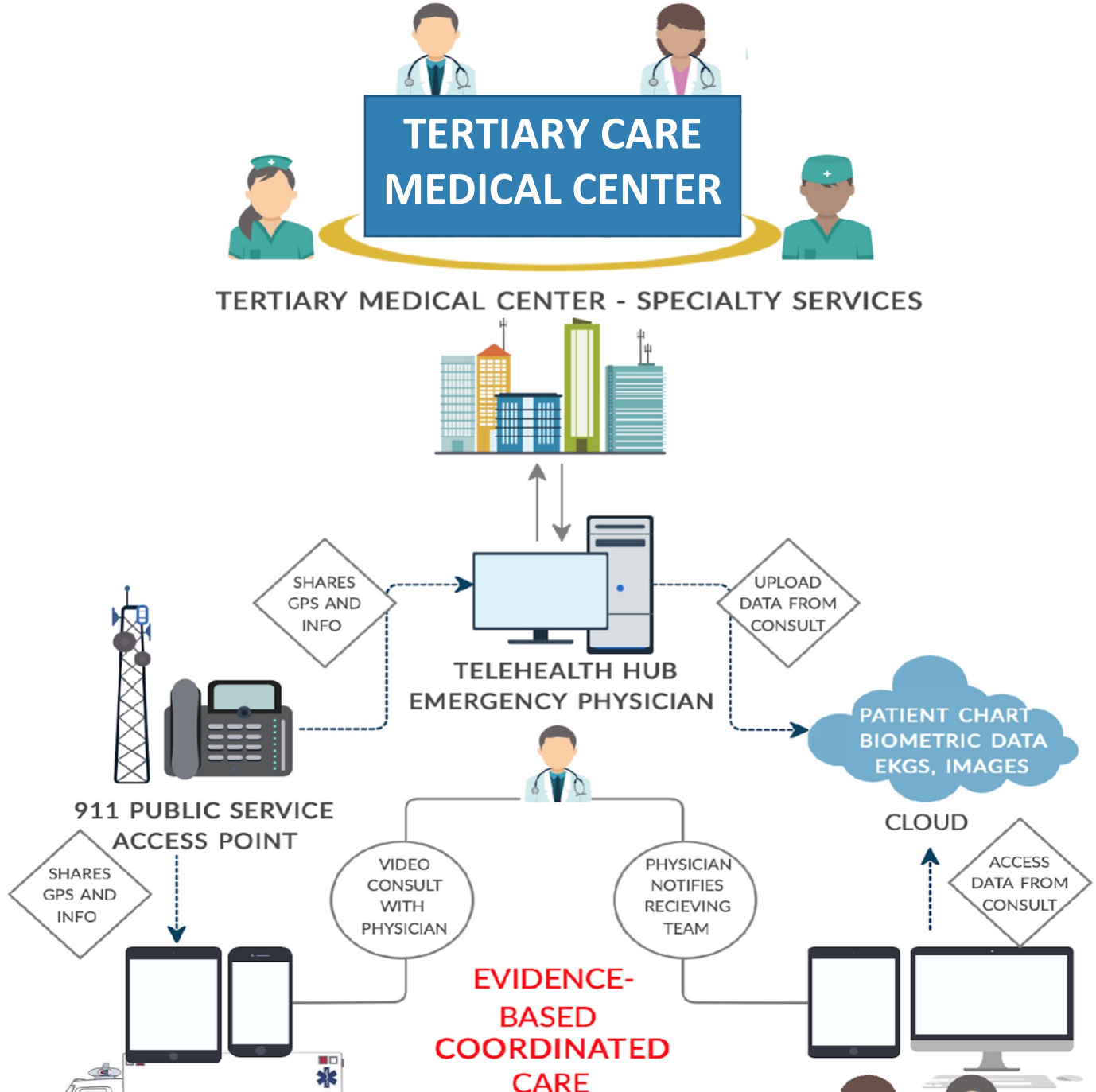
TERTIARY CARE MEDICAL CENTER
TERTIARY MEDICAL CENTER - SPECIALTY SERVICES
SHARES GPS AND INFO
UPLOAD DATA FROM CONSULT
TELEHEALTH HUB EMERGENCY PHYSICIAN
911 PUBLIC SERVICE ACCESS POINT
PATIENT CHART BIOMETRIC DATA EKGS, IMAGES
CLOUD
SHARES GPS AND INFO
VIDEO CONSULT WITH PHYSICIAN
PHYSICIAN NOTIFIES RECIEVING TEAM
ACCESS DATA FROM CONSULT
EVIDENCE-BASED COORDINATED CARE

More info: ER-TEMS

Watch the video on our website (in QR link)!

Just 5 THINGS

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OUR "WHY": PROBLEM? PATIENTS? METRICS & MEASURMENTS?	SOFTWARE, EQUIPMENT, & CONNECTIVITY: VENDOR RELATIONSHIPS? HARDWARE SOLUTIONS?	SUSTAINABILITY PLAN: FINANCIAL VIABILITY? GRANT FUNDING? ADAPTABLE? MULTI-USE?	SOUTHERN REGIONAL DISASTER RESPONSE FLEX DAILY USE MODEL SUPPORT LOCAL DISASTER	THE VISION FOR ER-TEMS / SRDRS INTEGRATION EMERGENCY PHYSICIANS & SPECIALTY CONSULTATION

SUMMARY

TELE-OBSERVATION AND DISASTER PREPAREDNESS: A SUSTAINABLE "WIN-WIN"

SEPTEMBER 20, 2023

Michael A. Ross, MD, FACEP, FACC

Chief of Service, Observation Medicine
Director, Emergency Virtual Care
Professor, Department of Emergency Medicine
Emory University School of Medicine
Adjunct Faculty, Nell Hodgson Woodruff School of Nursing

TELE-OBSERVATION AND DISASTER PREPAREDNESS:

1) **Background – nomenclature, what works, and what doesn't**
2) **Tele-Observation – the model and the evidence**
3) **Disaster preparedness – a sustainable "win-win"**

Primary clinical reference: CDU Manual
https://med.emory.edu/departments/emergency-medicine/_documents/cdu-manual-protocols.pdf

1. OBSERVATION NOMENCLATURE

Observation **Patients** = "6 to 24 hour" patients. Distinct patient population.

Observation **Service** = "***management to determine the need for admission***"

- 20 – 35% of patients staying in hospitals are "observation" patients

Observation **Settings** – defined by two variables: Protocols + Units

- Protocol driven, observation units are the best "setting"
- **2/3 of U.S. Hospitals do not have an observation unit (CDC data)**

EXHIBIT 1

Hospital Settings In Which Observation Services Are Provided

Setting	Description	Characteristics
Type 1	Protocol driven, observation unit	Highest level of evidence for favorable outcomes Care typically directed by ED
Type 2	Discretionary care, observation unit	Care directed by a variety of specialists Unit typically based in ED
Type 3	Protocol driven, bed in any location	Often called a "virtual observation unit"
Type 4	Discretionary care, bed in any location	Most common practice Unstructured care Poor alignment of resources with patients' needs

Ross MA, et al. Health Affairs. 2013 Dec; 32(12):2149-2156

REVIEW ARTICLE

State of the Art: Emergency Department Observation Units

Michael A. Ross, MD, Taruna Aurora, MD,† Louis Graff, MD,‡ Pawan Suri, MD,†*
*Rachel O'Malley, MD,§ Aderonke Ojo, MD,¶ Steve Bohan, MD‖, and Carol Clark, MD***

Condition / Year / Author	N	Primary Outcome
1. Syncope / 14 / Sun *	124	↓ admissions and LOS
2. Chest Pain / 10 / Miller *	110	↓ Cost (stress MRI)
3. Atrial Fib / 08 / Decker	153	↑ conversion to sinus
4. TIA / 07 / Ross	149	↓ LOS and cost
5. Syncope / 04 / Shen	103	↑ established diagnosis, ↓ admissions
6. Asthma / 97 / McDermot	222	↓ admissions, no relapse ↑
7. Chest Pain / 98 / Farkouh	424	No difference cardiac events
8. Chest Pain / 97 / Roberts	165	↓ LOS and cost
9. Chest Pain / 96 / Gomez	100	↓ LOS and cost

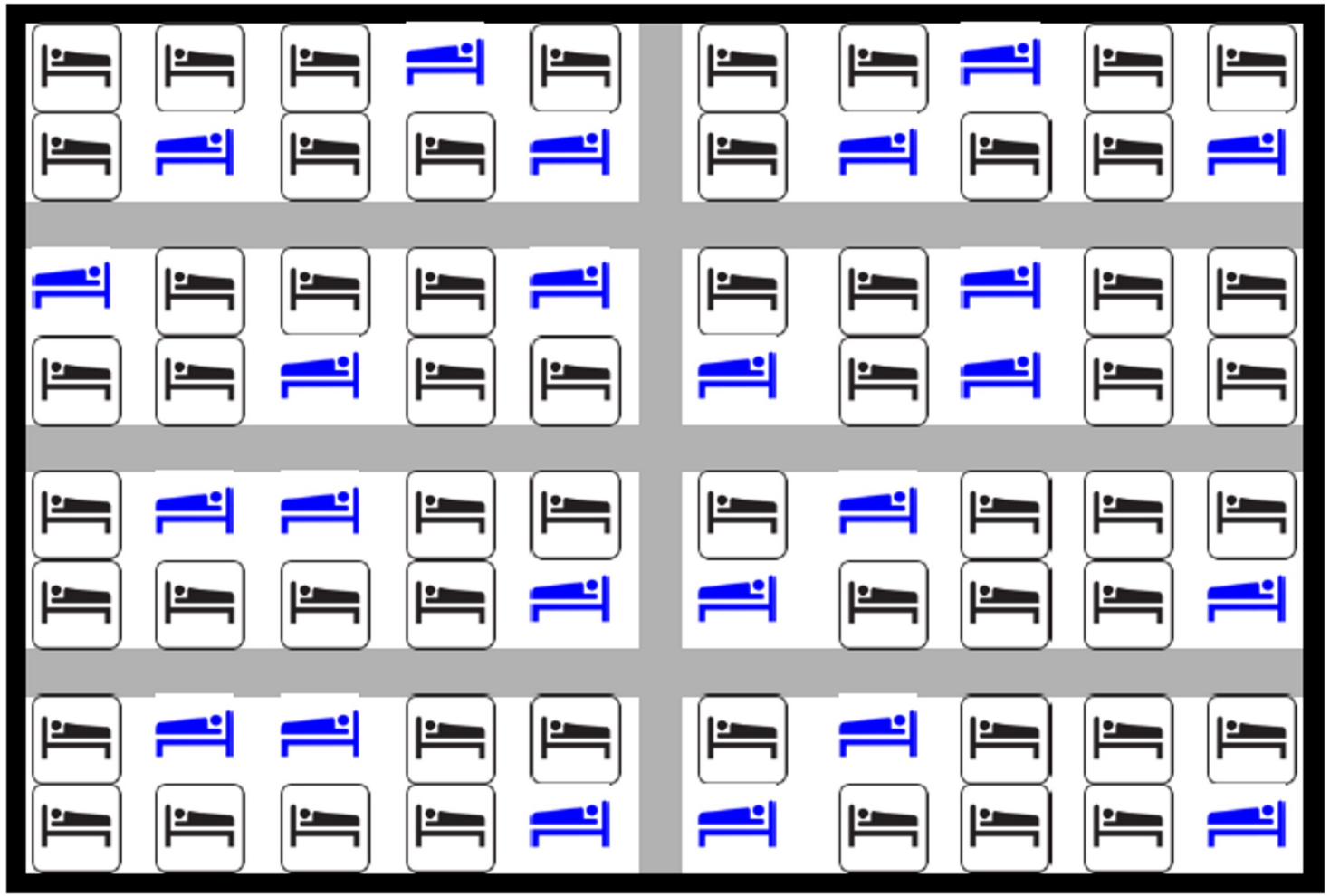
(*Crit Pathways in Cardiol* 2012;11: 128–138) *Added since published after this review

TELEMEDICINE AND TYPE 1 UNITS

A tale of three hospitals . . .

What works and what doesn't

SCENARIO A: INPATIENT BED – TYPE 4



Length of stay = 33hr

Total Direct Cost = $1,978

Blue Bed = Observation Patient

Black Bed = Inpatient

Pink Bed = New Bed Capacity

SCENARIO B: TYPE 1 SETTING – INPATIENT FLOOR

Length of stay = 28 hr

Total Direct Cost = $1,800

Blue Bed = Observation Patient
Black Bed = Inpatient
Pink Bed = New Bed Capacity

SCENARIO C: TYPE 1 SETTING – NON-IP BEDS, ED RUN OU

Length of stay = 17 hr

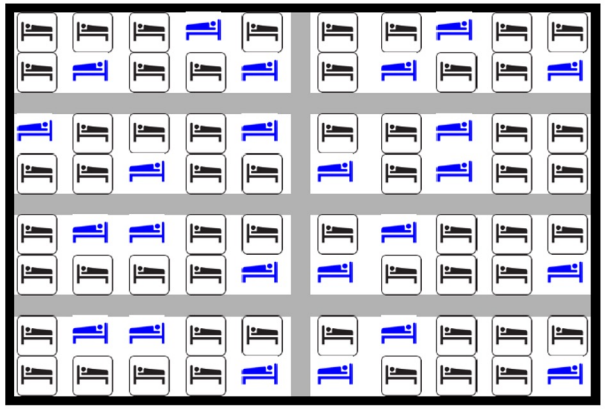
Total Direct Cost = $1,342

Blue Bed = Observation Patient
Black Bed = Inpatient
Pink Bed = New Bed Capacity

IMPACT OF SETTING AND SERVICE ON THE CARE OF DISCHARGED OBSERVATION PATIENTS

Setting	Annual Census	LOS (hours)	TDC	Annual Cost	Annual cost savings	Annual Bed Days	Bed days saved - Efficiency	Bed days saved - Efficiency + OP Location	Annual Revenue Enhancement ($1K/bed day)	Cost + Revenue Impact
A - Type 4 setting	3,000	33	$1,978	$5,934,000	0	4125	0	0	$0	$0
B - Type 1 IP setting	3,000	28	$1,874	$5,622,000	$312,000	3500	625	625	$625,000	$937,000
C - Type 1 EDOU setting	3,000	17	$1,342	$4,026,000	$1,908,000	2125	2000	4125	$4,125,000	$6,033,000

A



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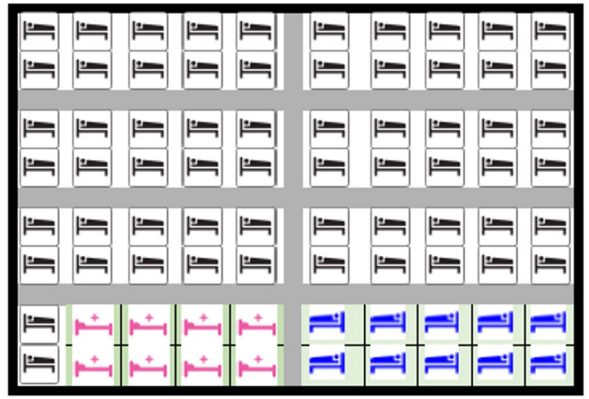


C

Assumptions (any may be adjusted)

1. An open inpatient bed will backfill with an inpatient
2. Only discharged patients are used (OU admissions differ)
3. ~Ten bed unit – ~1 patient / bed / day
4. Captures 100% of observation patients

Perry M, et al. Am J of Emerg Med. 2021 Volume 48; 231-237.

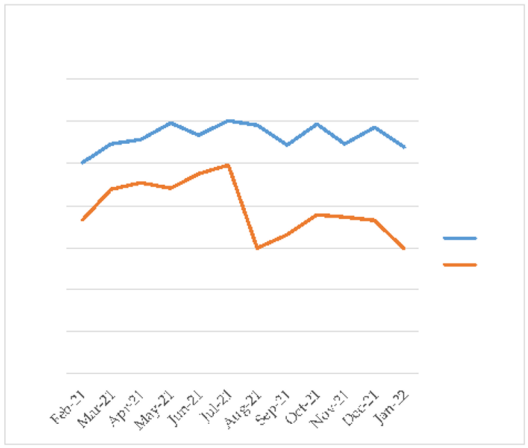
FROM HYPOTHETICAL TO REAL: ANNUAL EHC EDOU SAVINGS

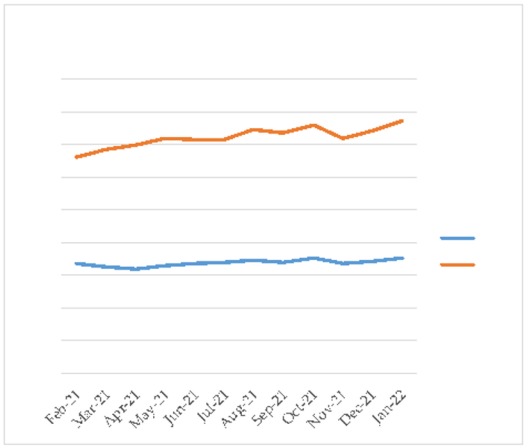
Row Labels	Sum of Cases	LOS	TC	Current TC Savings	Current Bed Days Savings
HCEHM Emory Hospital Midtown	6821	27	$3,204	$ 6,932,225	3,190
CDU	3918	18	$2,451		
NOU	2903	38	$4,220		
HCEJC Emory Johns Creek Hospital	3306	21	$2,631	$ 6,488,419	1,653
CDU	2516	17	$2,014		
NOU	790	33	$4,593		
HCEUH Emory University Hospital	5589	24	$3,710	$ 5,425,184	2,524
CDU	3260	16	$3,016		
NOU	2329	35	$4,680		
HCSJH Saint Josephs Hospital	7210	25	$2,736	$ 5,927,706	3,158
CDU	3772	16	$1,986		
NOU	3438	36	$3,558		
Grand Total	**22926**	**25**	**$3,097**	$ 24,773,533	10,526

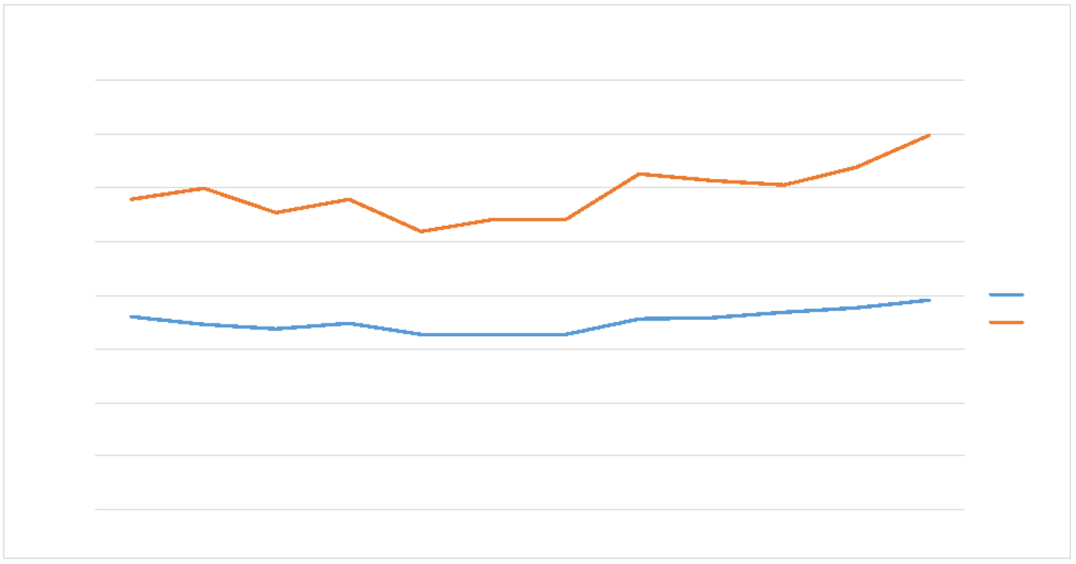
Current savings:

- Avoided inpatient bed use= 13,466 patients
- Applying NOU LOS and TC
- Gain over no CDU

EMORY HEALTHCARE OBSERVATION PATIENTS BY SETTING: CENSUS, LOS, COST







Graphs:

- Census
- Ave Length of Stay
- Total Direct Cost

Settings:

- **CDU – Clinical Decision Unit**
- Non-OU – Inpatient bed

CDU consistently outperforms the inpatient / NOU setting

EMORY HEALTHCARE

THE OBSERVATION UNIT SUSTAINABILITY CONUNDRUM

- **Works for hospitals** => GREAT!!!
  - Emergency Medicine run EDOUs outperform all other settings
  - Lower costs, LOS, admit rates. Improved inpatient bed availability, etc.

- **Doesn't always work for physicians** – Depending on billing and practice model, not sustainable:
  - CPT / payer structure
    - One service model: Must forfeit emergency CPT codes, bill observation CPT codes
    - Two service model: Able to bill both
  - Hospital subsidy often needed
  - When providing two services (emergency and observation):
    - Physicians need to be able to bill for both
    - Need an essential number of beds (20+)

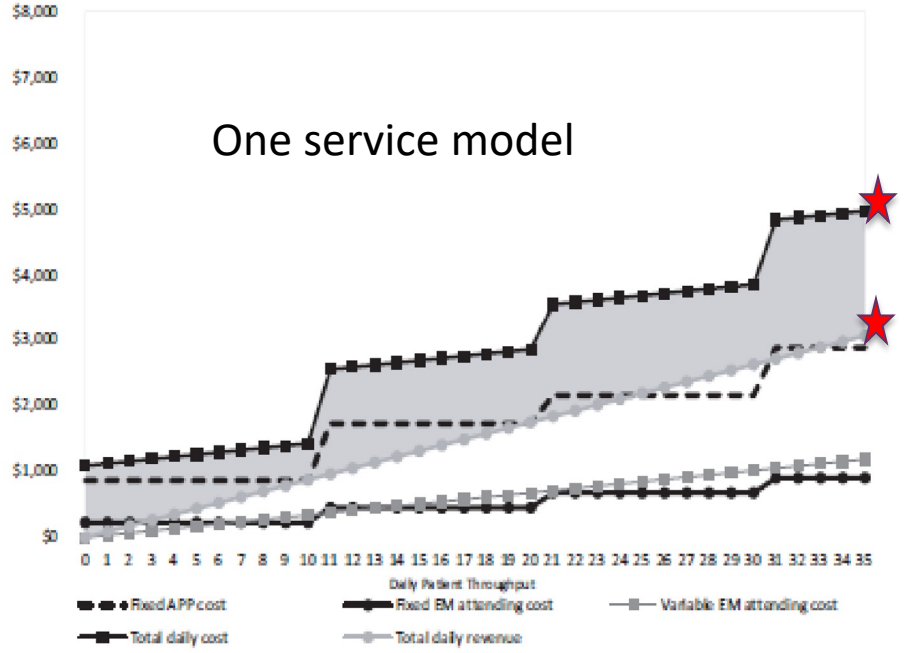
ORIGINAL CONTRIBUTION

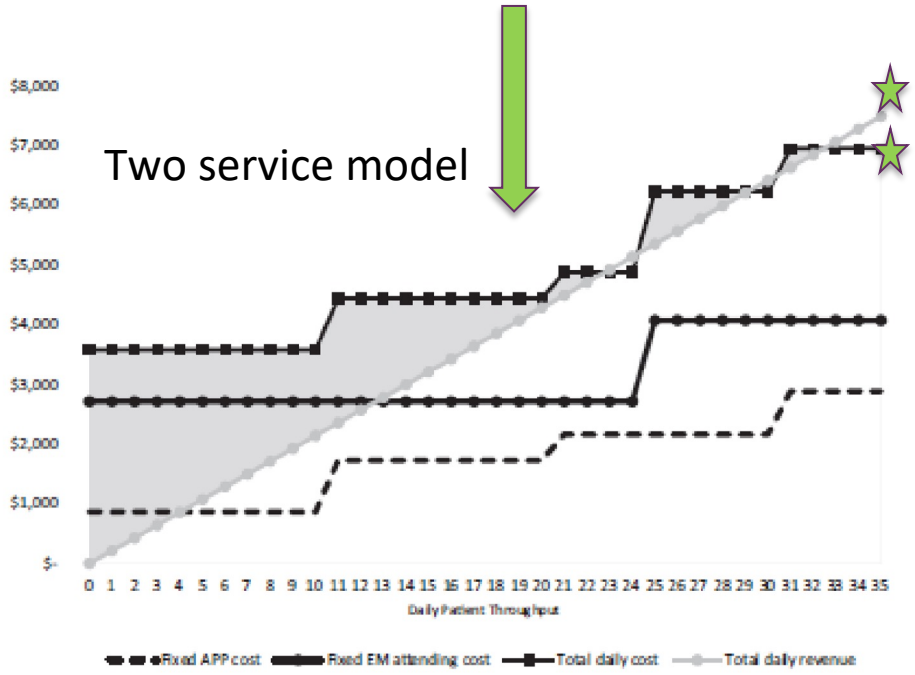
Financial Viability of Emergency Department Observation Unit Billing Models

ACADEMIC EMERGENCY MEDICINE 2019;26:31–40.

Christopher W. Baugh, MD, MBA, Pawan Suri, MD, Christopher G. Caspers, MD, Michael A. Granovsky, MD, CPC, CEDC, Keith Neal, MBA, MHL, CHFP, and Michael A. Ross, MD

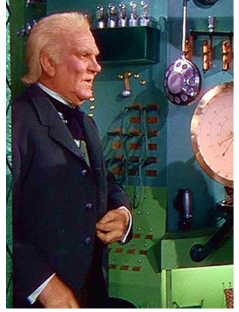
- Methods: Monte Carlo simulation by billing models.
- Data source: literature, national survey data, payer data





One service model: Not sustainable. Net negative cash flow at any number of beds

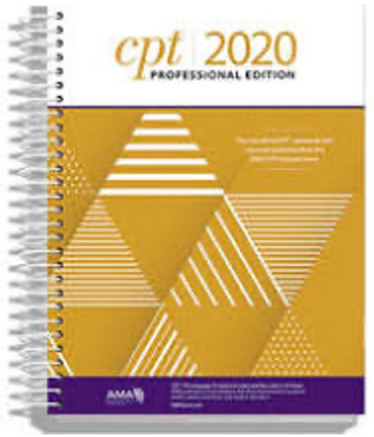
Two service model: *Sustainable*. Net positive cash flow at 20 beds or more.



2. TELEMEDICINE FOR OBSERVATION MEDICINE

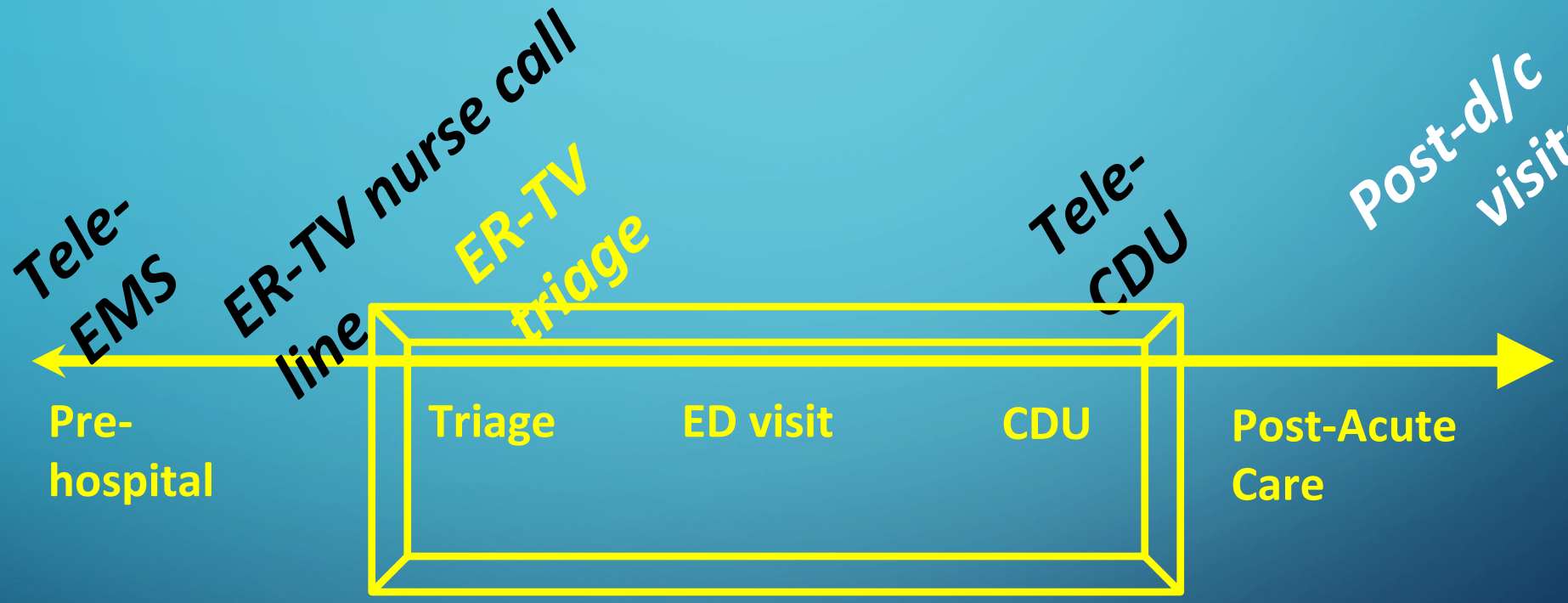
- Optimize Observation Unit availability–
  - Meet the "20-bed threshold" to support single service staffing
  - Help struggling hospitals with staffing, cost, quality
  - Share CDU protocols
  - Develop physician – APP staffing model
  - Develop quality / utilization / financial performance metrics

- Telemedicine works best for "Evaluation and Management Services"
  - CPT E/M services:
    - **Clinic Visit – Proven and established**
    - **Critical Care – Proven and established**
    - **Emergency Visit – Proven and established**
    - **Observation = opportunity!**
    - Inpatient



SRDR
S

ENTER COVID PANDEMIC:
FULL SPECTRUM OF TELE-EMERGENCY CARE

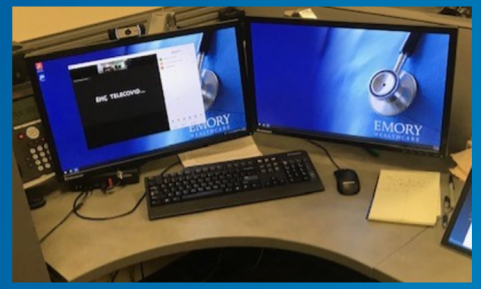


HYPOTHETICAL TO REAL:
ED OBSERVATION UNITS - "CLINICAL DECISION UNITS"

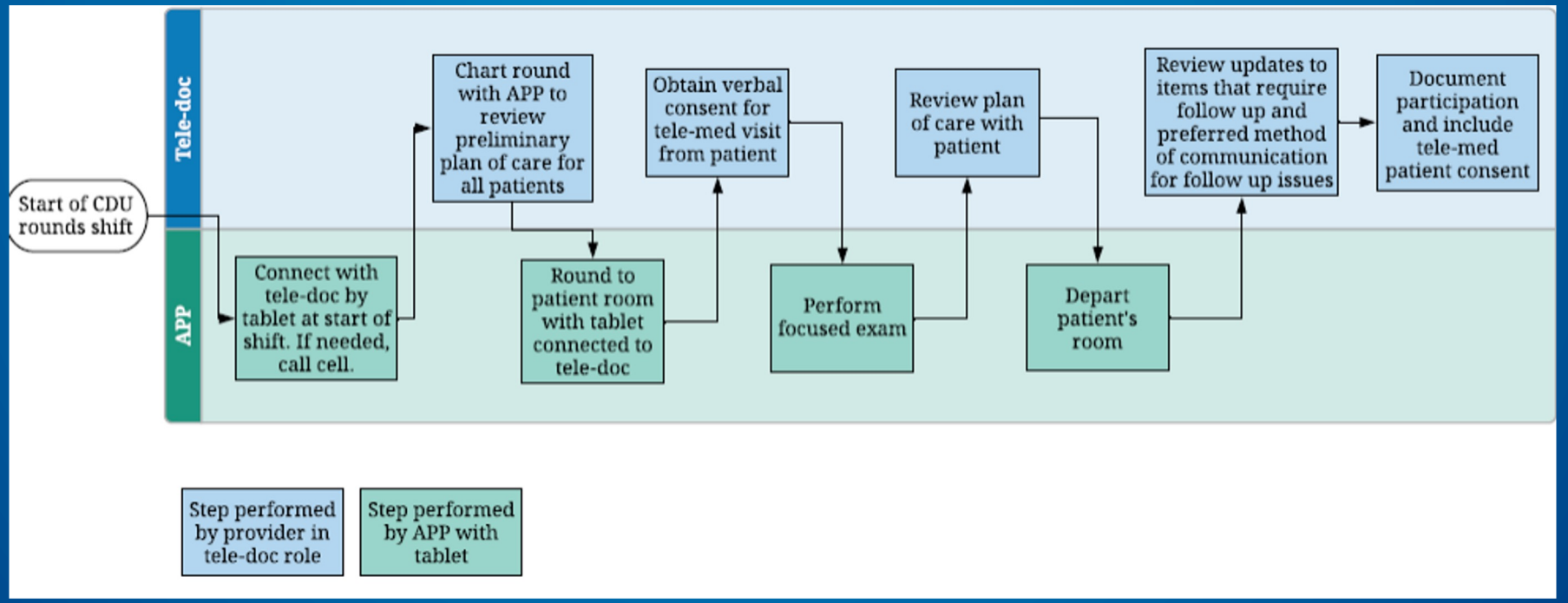
- 2004 – 2006 – EUHM (8 beds), Grady (8 beds), EUH (5 beds)
  - Following site visit to Beaumont.
- 2008 – EUH: 5 => 8 beds
- 2016 – ESJH: 12 beds
- 2018 – EJCH: 10 beds
- 2019 – EUHM: 8 => 16 beds ; EUH 8 beds => 13 beds
- 2022 – EDH: 12 beds

CY 2021, 2022 Metrics	Annual # visits	Ave Obs LOS(hrs)	# EDOU beds	Combined visit	Combined beds
1. HCEHM Emory Hospital Midtown	4,777	18.8	16	8,713	29
2. HCEUH Emory University Hospital	3,936	17.1	13		
3. HCEJC Emory Johns Creek Hospital	3,069	17.1	10	7,295	22
4. HCSJH Saint Josephs Hospital	4,226	16.1	12		
EHC Total	**16,007**	**17.4**	**51**		
Grady	5,374		20		
Emory Total	**21,381**		71		

EMORY HEALTHCARE



Tele-CDU Workflow



TELE-OBSERVATION MEDICINE *NON-INFERIORITY*:

The Impact of Virtual Care in an Emergency Department Observation Unit

Autherine Abiri, DNP, ENP-C*; Matthew Keadey, MD, MHA; George Hughes, MD; Stephen R. Pitts, MD; Tim P. Moran, PhD; Michael A. Ross, MD

[Ann Emerg Med. 2023;81:222-233.]

- **Methods**: Retrospective diff-in-diff before-after analysis
- **Timeframe**: Jan 2019 – Feb 2021

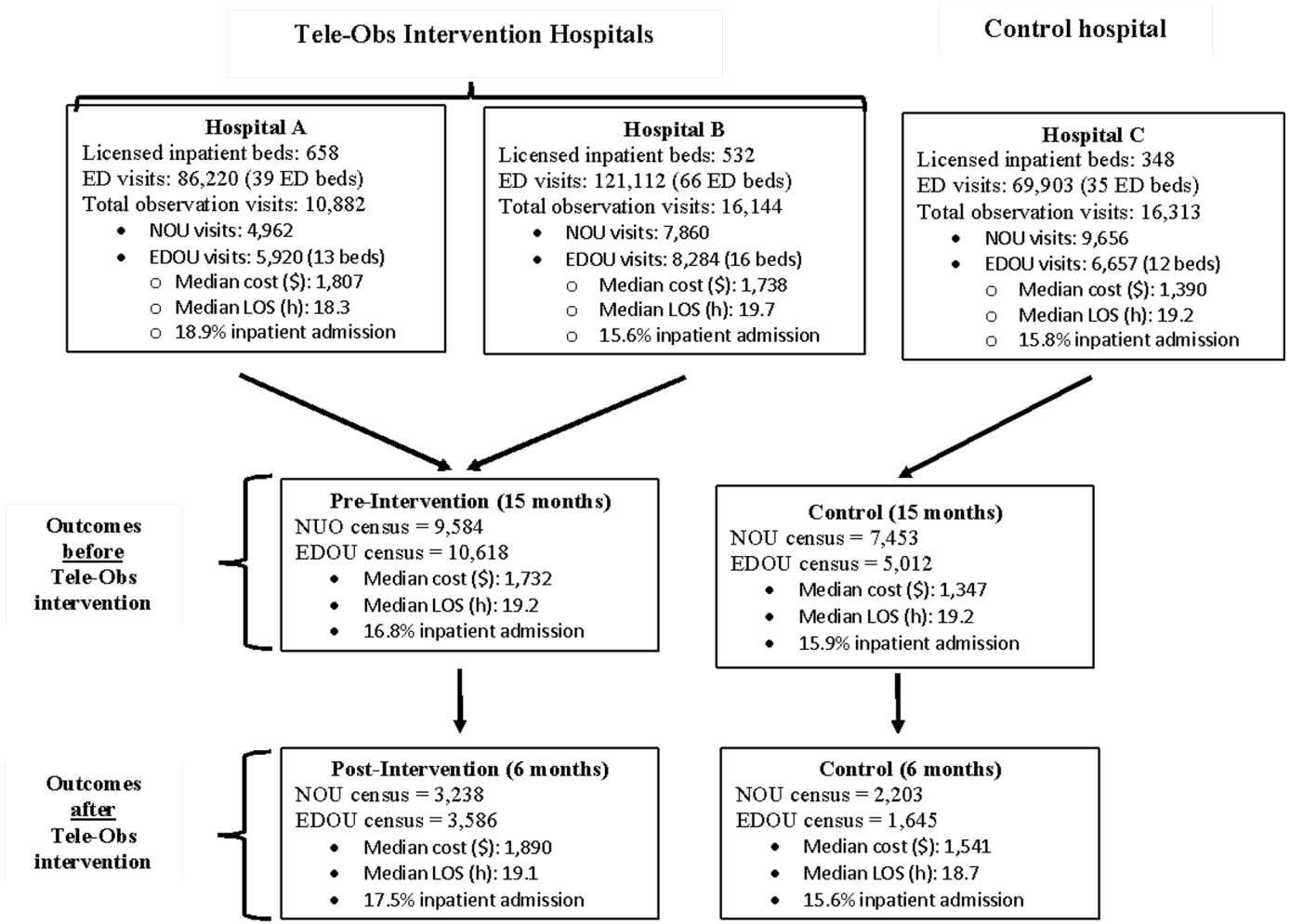
- **Population**:
  - 20,861 EDOU patients
  - 23,055 non-EDOU observation patients

- **Outcomes**:
  - Adjusted length of stay – no difference (26.4 vs 23.5 hr)
  - Inpatient admit rate – no difference (20.9% vs 22.4%)
  - Adjusted total cost – no difference
  - Adverse events (ICU/death) – no difference

- **Conclusion**:
  - Using tele-obs to manage observation patients in an ED observation unit was not associated with significant differences in length of stay, admission rate, adverse events, or total direct cost.

Tele-Observation Medicine: The Impact of Virtual Rounding in an ED Observation Unit

Figure 1. Census by setting flow chart (figures represent discharged and admitted EDOU patients over study periods)



Abiri, A., M. Keadey, G. Hughes, S. R. Pitts, T. P. Moran and **M. A. Ross** (2023). "The Impact of Virtual Care in an Emergency Department Observation Unit." Annals of Emergency Medicine **81**(2): 222-233.

TELE-OBSERVATION MEDICINE *SUPERIORITY* DATA: THE BENEFIT OF TELE-OBSERVATION OVER TRADITIONAL OBSERVATION SERVICES

- Methods: Retrospective observational cohort study
- Timeframe: 24 consecutive months (9/2020 to 8/2022)
- Setting: Two academic teaching hospitals
  - EDOU (aka "Clinical Decision Unit" or CDU)
  - Non-Observation Unit (aka, type 4, inpatient bed setting)
- Population: 31,223 observation patients
  - Tele-EDOU = 17,424 patients
  - Traditional setting = 13,799 patients

Row Labels	# visits	Ave Obs - Hours	Ave Enc Total LOS - Hours	Ave Enc - Total Costs	Admit Rate
CDU	**17,424**	**18.0**	**36.0**	**$4,746**	18%
INPATIENT	3,117	16.0	120.1	$13,743	
OBSERVATION PT	14,307	18.5	17.7	$2,786	
NOU	**13,799**	**38.6**	**60.1**	**$7,739**	25%
INPATIENT	3,488	39.8	127.6	$16,819	
OBSERVATION PT	10,311	38.2	37.3	$4,668	
Grand Total	**31,223**	**27.1**	**46.7**	**$6,069**	

Savings per case:
All CDU: $2,993; 24.2 hours
Discharged CDU: $1,882; 19.7 hours

Total 2-year savings:
- $52,154,700
- 17,547 bed-days

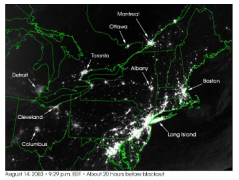
TELE-OBSERVATION SUMMARY

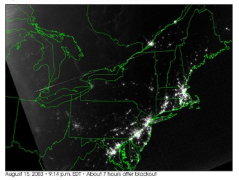
- Supports Type 1 EDOUs
  - Has become routine EDOU model at EUH, EUHM for three years now
  - Superior to traditional care in an inpatient bed

- Improves observation care
  - Non-inferior to in person rounding
  - Superior to traditional care in an inpatient bed
  - Addresses issues with single service conundrum
    - Improve staffing availability and flexibility
    - Improved faculty satisfaction and engagement
    - Improve consultant availability
  - Improve hospital disaster preparedness and response
    - Develop observation protocols for unique disaster conditions (i.e., radiation)
    - Improve subject matter expert availability

3. DISASTER PREPAREDNESS AND OBSERVATION UNITS

- Detroit Receiving Hospital; May 15,1986
  - Inhalation disaster, district courthouse; 74 patients
    - https://www.latimes.com/archives/la-xpm-1986-03-15-mn-20888-story.html
- Riverside Methodist, Columbus; 1996
  - Influenza epidemic, 1996 – avoided EMS diversion
- William Beaumont Hospital; 2003, 2005
  - August 14, 2003 – power grid failure
    - https://www.history.com/this-day-in-history/blackout-hits-northeast-united-states
  - March 6, 2005 – Swimming pool CO exposure – 54 patients
    - https://www.deseret.com/2005/3/6/19880621/carbon-monoxide-lands-55-in-michigan-hospital





- NYU Langone Medical Center; 2016
  - Type 1 unit allowed NY hospital to survive and treat patients following a hurricane disaster
    - https://www.researchgate.net/publication/301508981_Observation_Services_Linked_With_an_Urgent_Care_Center_in_the_Absence_of_an_Emergency_Department_An_Innovative_Mechanism_to_Initiate_Efficient_Health_Care_Delivery_in_the_Aftermath_of_a_Natural_Disast
- Emory Johns Creek Hospital; Feb – June 2020
  - Converted type 1 unit into a COVID unit to allow hospital to function

SRDRS: TELE-OBSERVATION AND DISASTER PREPAREDNESS

1. **Support "daily use"** of telemedicine equipment and workflow that can be rapidly deployed in a disaster.
2. Develop **EDOU protocols** for CBRNE disaster patients:
   - Chemical, Biological, Radiation, Nuclear, Explosive
   - Limited to "6-24" hour patients = a large portion of disaster patients
3. Provide immediate **subject matter expertise** for unique disaster management (radiation, chemical, biological) when needed
4. Provide **flexible provider staffing** pool for sudden surges in patient volumes
5. **Preserve scarce resources** in a disaster (i.e., PPE, inpatient beds, etc.)

QUESTIONS?

maross@emory.edu

AUGUSTA UNIVERSITY
MEDICAL COLLEGE OF GEORGIA

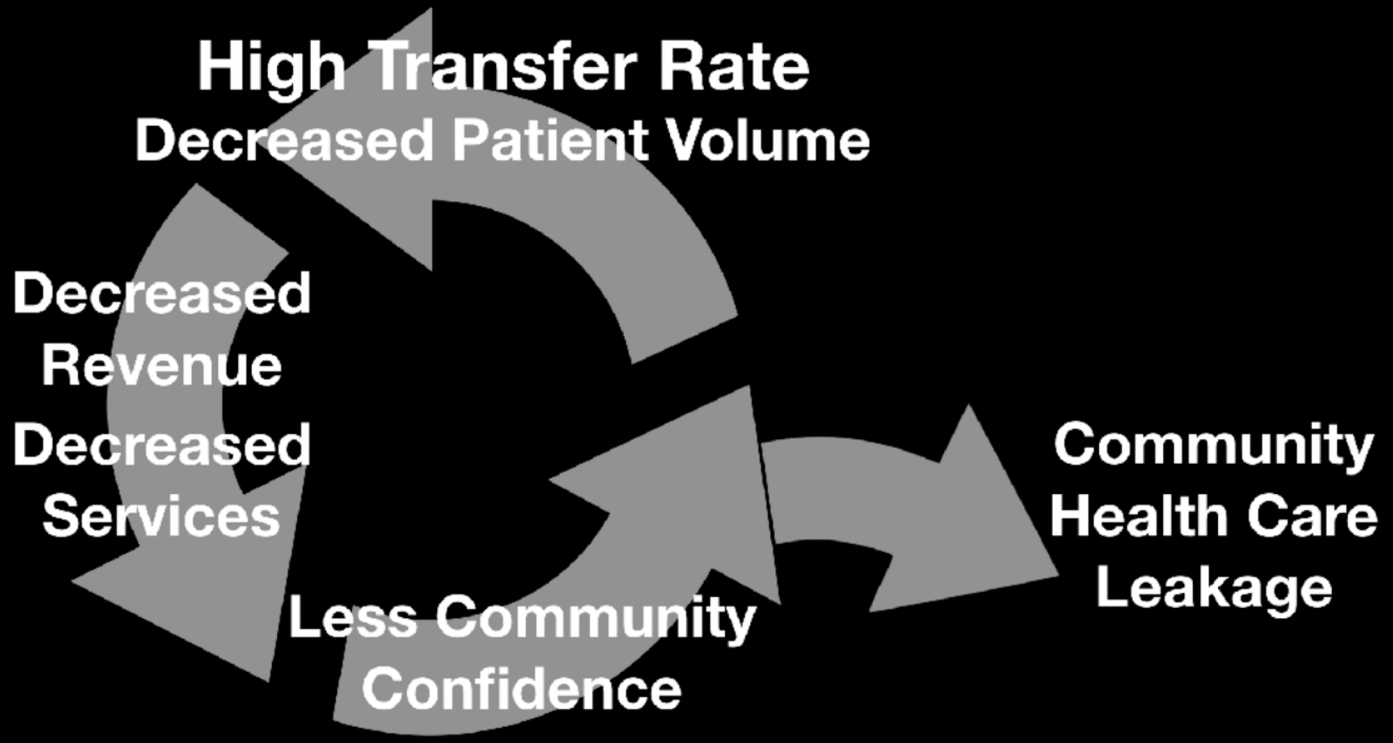
Rural Hospital Virtual Care Network

Matt Lyon, MD

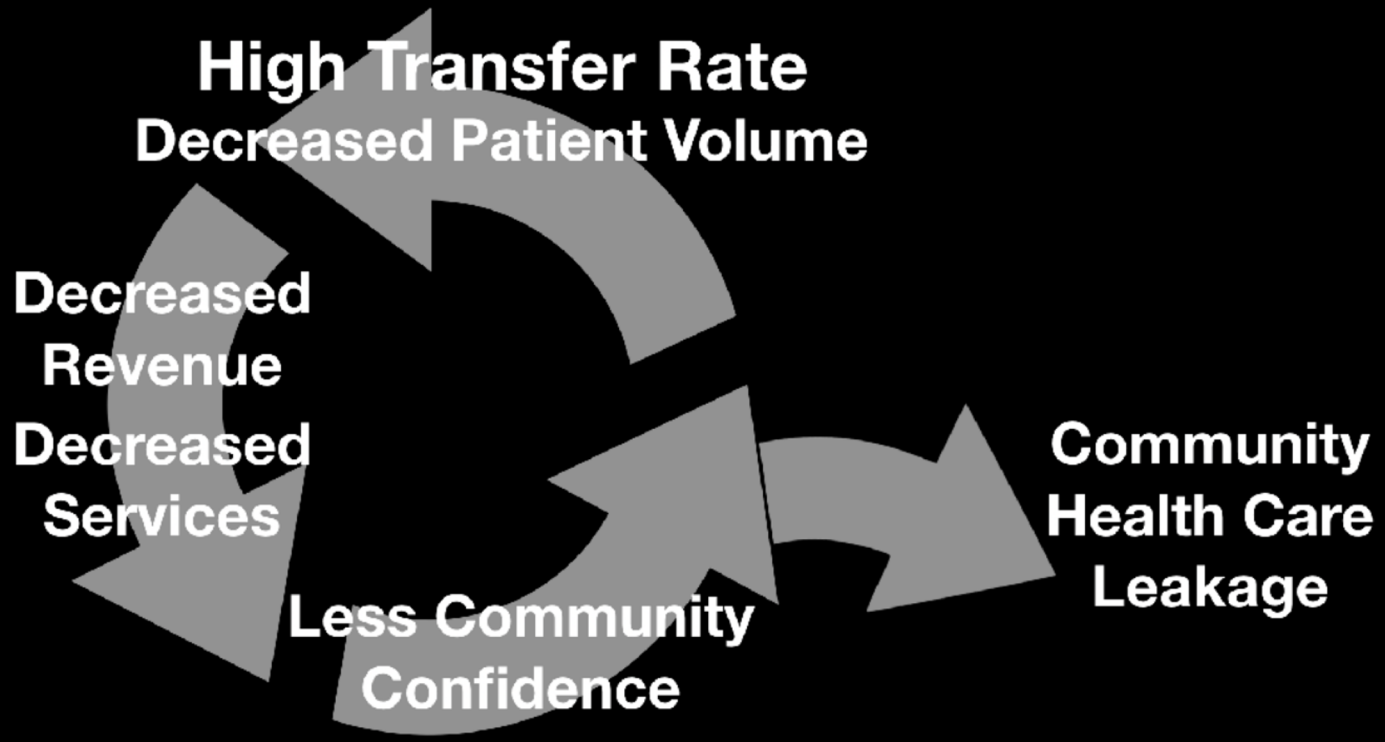
The Rural Community Hospital


Smaller Population
Less Business Population
Less Economic Resources
The Rural Community Hospital
Rural Exodus
Less Life Expectancy
Worse Health Outcomes
Less Physicians &
Other Health Care Resources

Negative Revenue Cycle



Negative Revenue Cycle

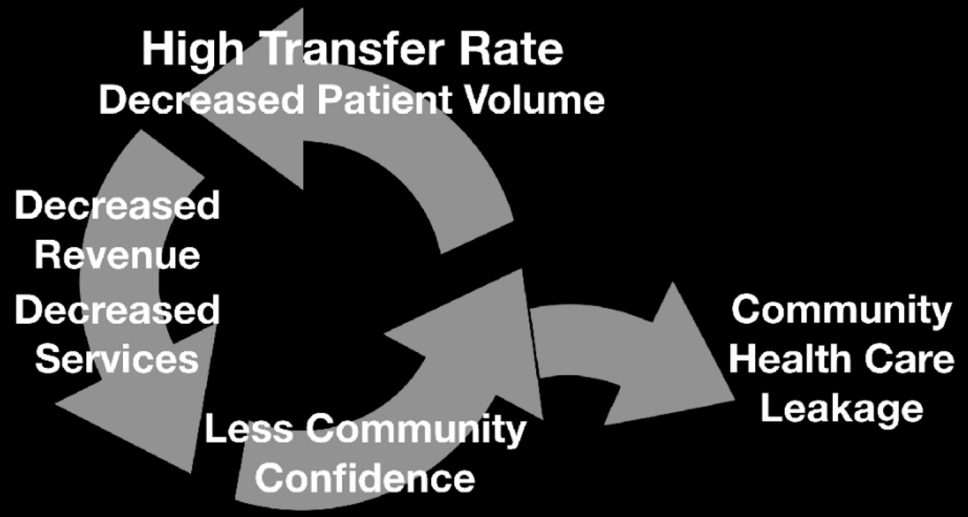


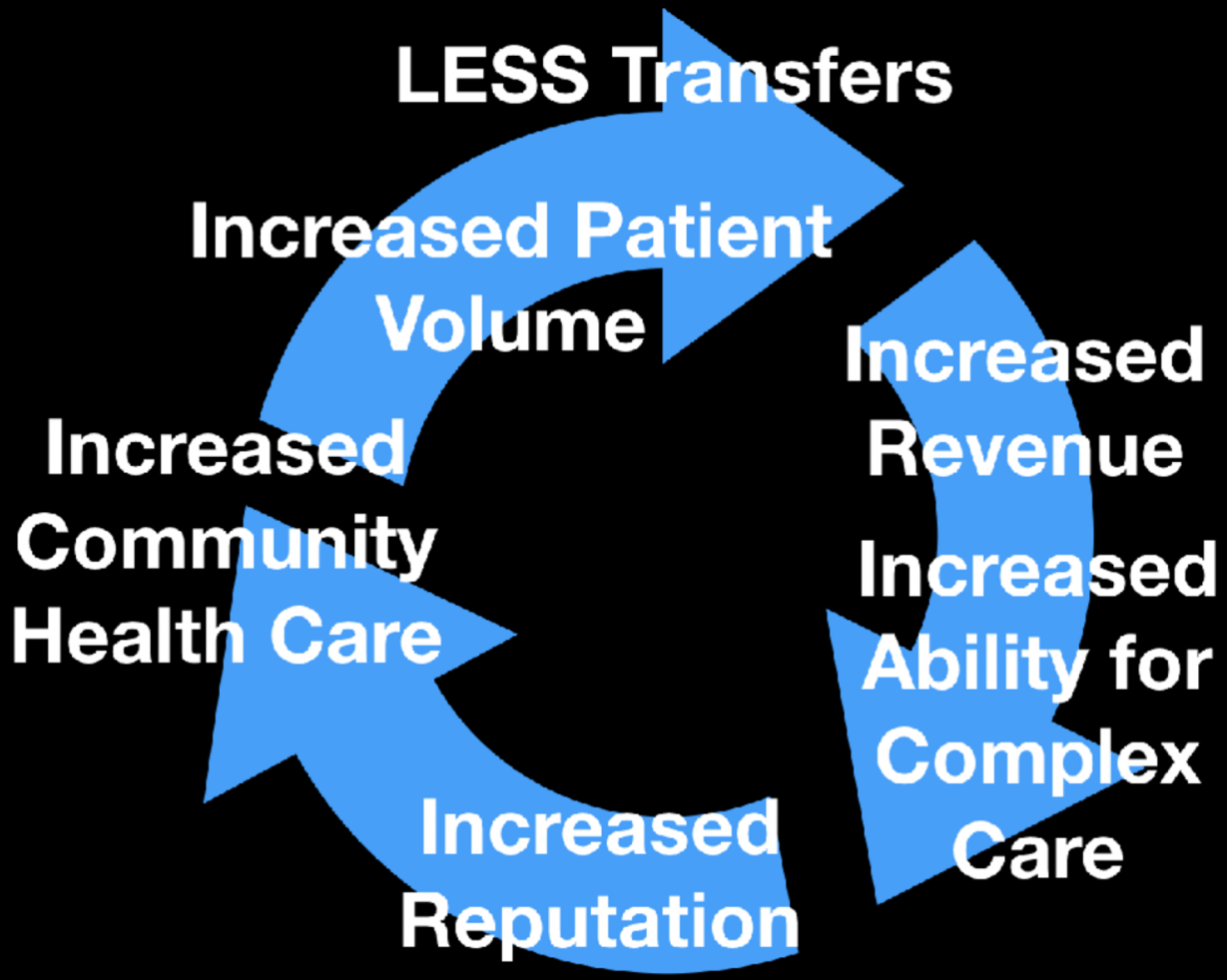
Effect on Disparities?

- Higher incidence of poorly controlled disease
- Increase in Delay in Emergency Conditions
- Delays in Specialty Treatments
- Less Coordination Care
- Higher Morbidity and Mortality

Rural Community Hospital - Focused Telemedicine

Community-Focused Telemedicine





Rural Hospital Virtual Care Network

ED-ED Tele-Critical Care Tele-Hospitalist Tele-Education

AU Health Virtual Care Works in a Spoke and Hub Fashion

C O N N E C T I N G

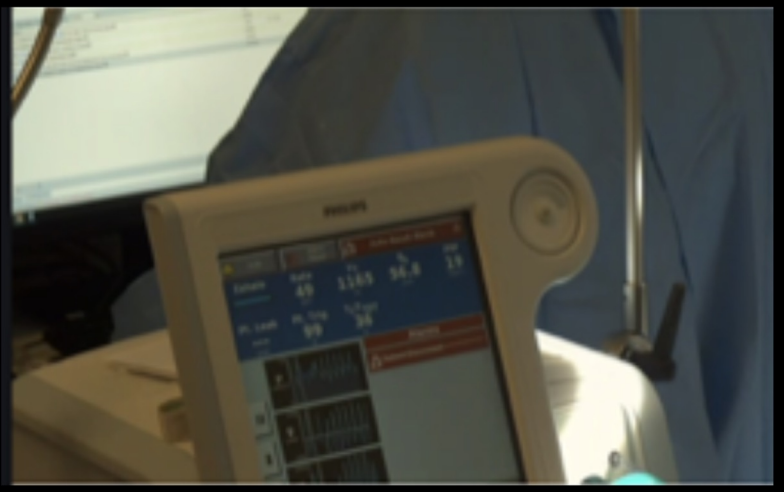
Rural Communities to an Academic Medical Center

Telemedicine Ecosystem Providing Specialized Care Remotely with the Goals:

- Decreasing Health Care Disparity
- Keeping Rural Patients in Rural Hospitals, if Possible
- Increasing Rural Hospital In-patient Volume for Financial Viability
- Expediting Transfer to Higher Level of Care When Necessary
- Decreasing Unnecessary Hospital Transfers
- Better Coordinated Care
- Providing Educational Support for Higher Complexity of Care

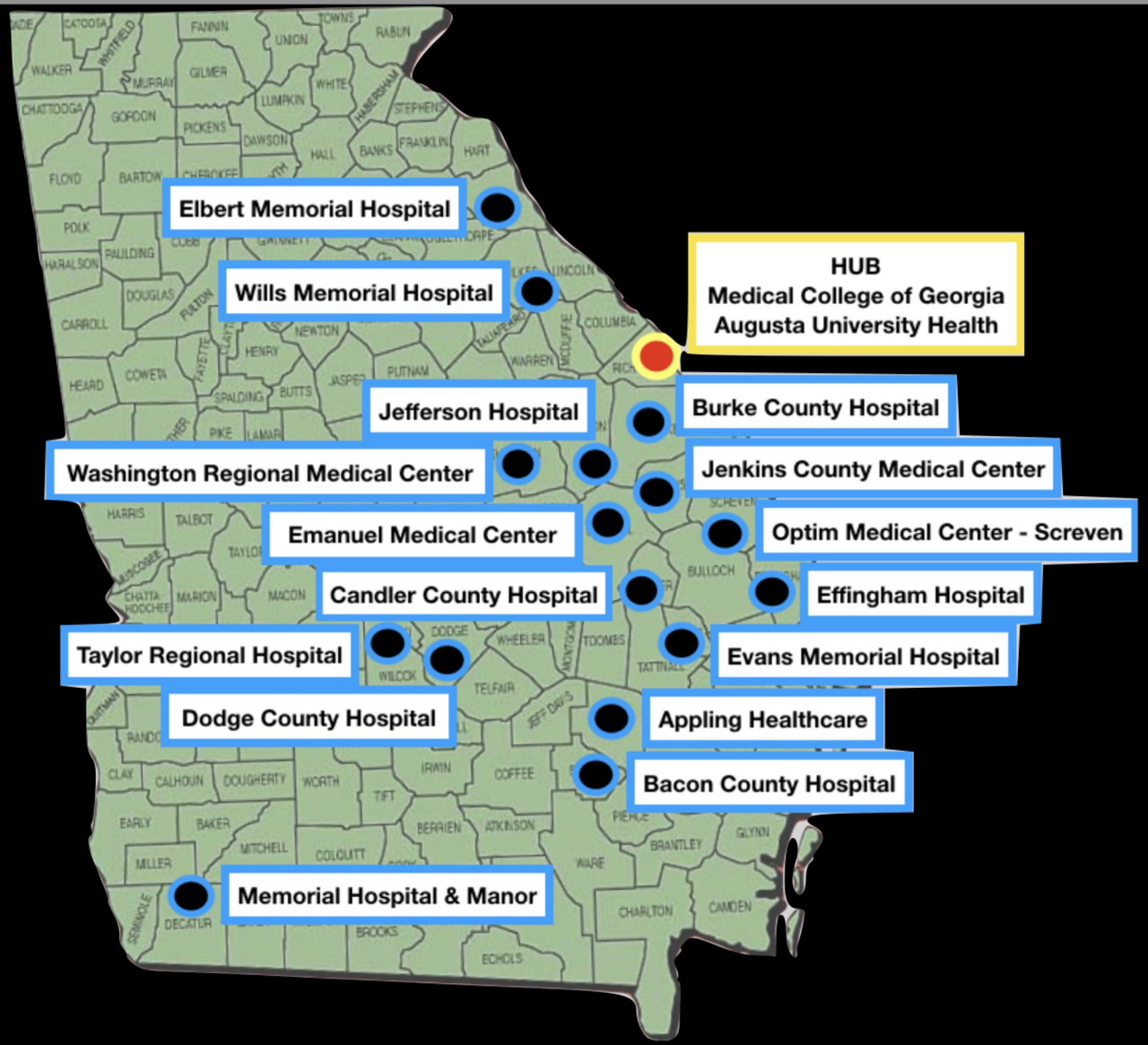
Anywhere in the C o n t i n u u m of Care

Triage to Discharge



Rural Hospital Virtual Care Network

ED-ED Tele-Critical Care Tele-Hospitalist Tele-Education



Rural Hospital Virtual Care Network

ED-ED Tele-Critical Care Tele-Hospitalist Tele-Education

Phase 1

- ER to ER Telemedicine Consults
- **Avoidance of Unnecessary Transfers**
- **Expedited Transfer when Necessary**

Phase 2

- Inpatient/Critical Care Telemedicine Consult
- Increase Rural Hospital Average Daily Census (ADC)
- **Fill Complex Care Gap**

Phase 3

- **Post-Acute Care Relationship**
- Return of transferred patients
- Increase Rural Hospital Average Daily Census (ADC)

Phase 4

- Optimize Relationship
- **Regional Care Coordination**
- Increase Opportunities for MCG Learners in Rural Medicine

Tele-ER & Tele-Critical Care Stats

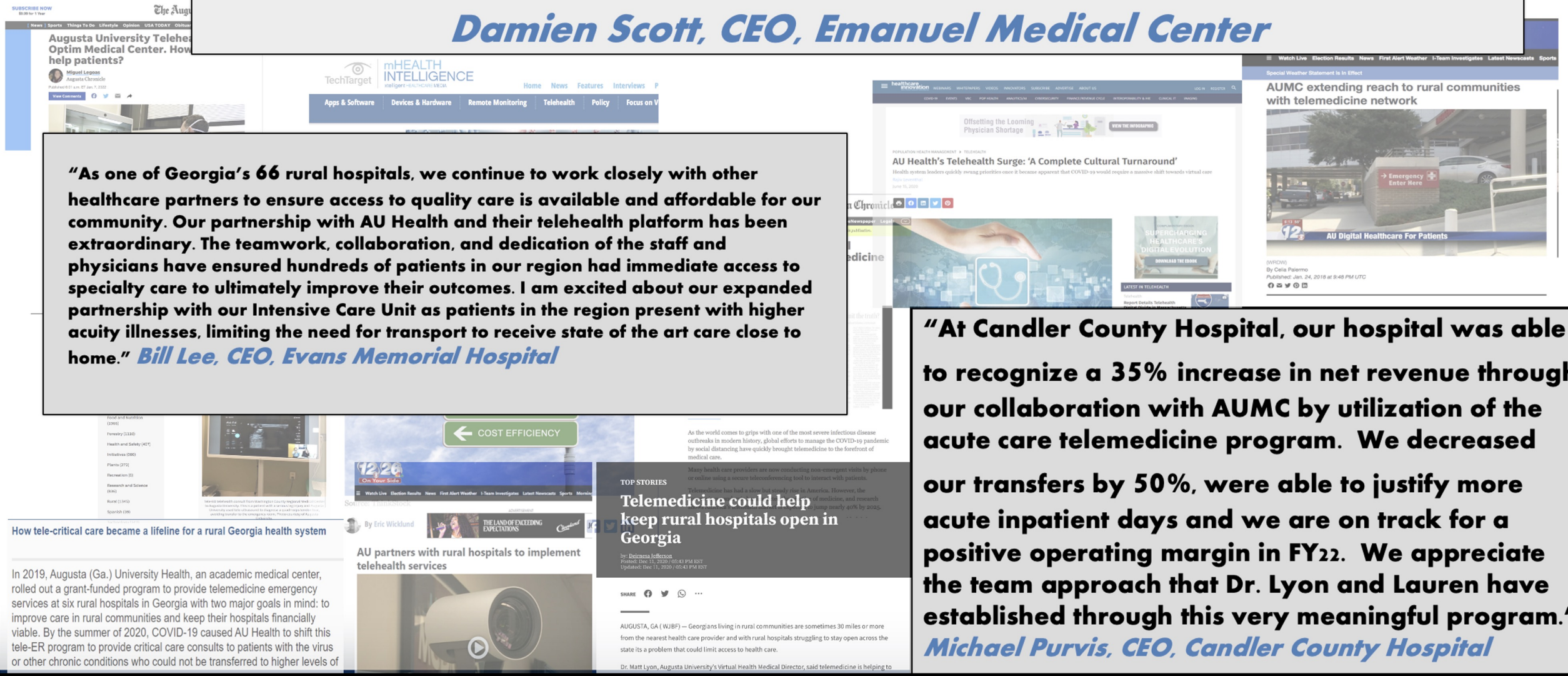
	FY2021	FY2022	FY2023	FY Totals
Total Patients	724	1186	976	2886
Total Encounters	3097	4203	2332	9632
Overall Transfer Rate	21.55%	27.40%	33.71%	28.07%
Transfer Rate to AUMC	90%	67%	77%	76%
End of Life Care	7.68%	10.06%	0.85%	6.61%

" This is a phenomenal program and is the future for rural hospitals in the state of Georgia." –

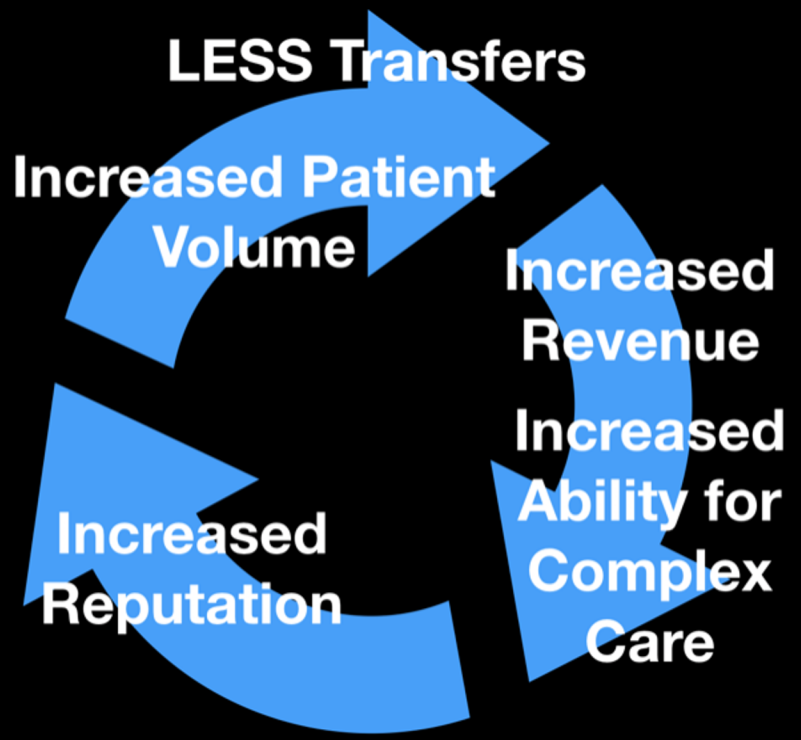
Damien Scott, CEO, Emanuel Medical Center

"As one of Georgia's 66 rural hospitals, we continue to work closely with other healthcare partners to ensure access to quality care is available and affordable for our community. Our partnership with AU Health and their telehealth platform has been extraordinary. The teamwork, collaboration, and dedication of the staff and physicians have ensured hundreds of patients in our region had immediate access to specialty care to ultimately improve their outcomes. I am excited about our expanded partnership with our Intensive Care Unit as patients in the region present with higher acuity illnesses, limiting the need for transport to receive state of the art care close to home." ***Bill Lee, CEO, Evans Memorial Hospital***

"At Candler County Hospital, our hospital was able to recognize a 35% increase in net revenue through our collaboration with AUMC by utilization of the acute care telemedicine program. We decreased our transfers by 50%, were able to justify more acute inpatient days and we are on track for a positive operating margin in FY22. We appreciate the team approach that Dr. Lyon and Lauren have established through this very meaningful program."
Michael Purvis, CEO, Candler County Hospital



Why Is this Important In Disaster Preparedness?

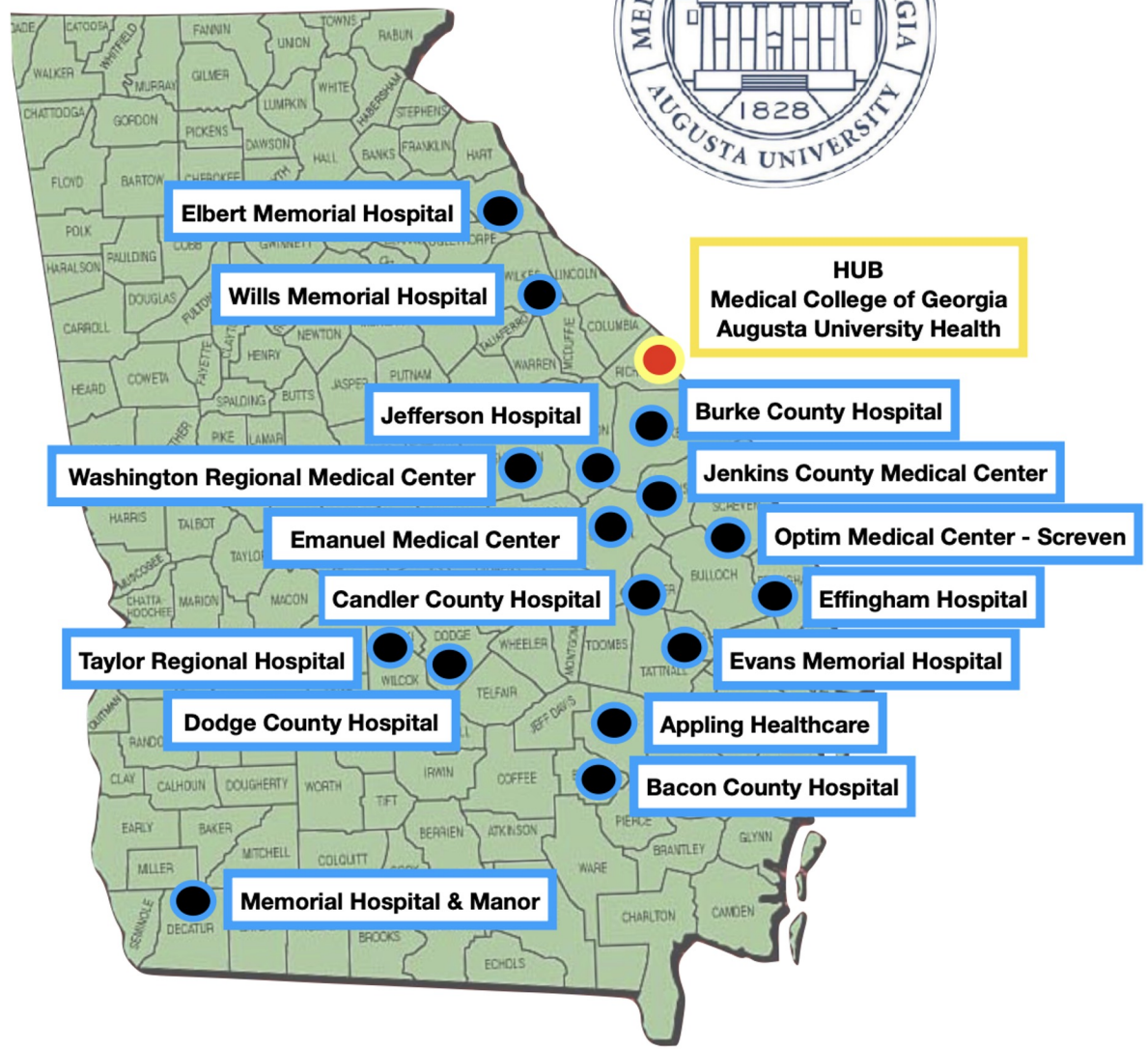


- **Increased Ability for Complex Care**
  - More equipment and supplies
  - Better trained staff
- **Increased Connectivity**
  - Disaster Coordination
  - Surge management
  - Better understanding of capabilities
  - Avenues for education and training

Questions, Comments, Discussion

Virtual Care
AUGUSTA UNIVERSITY HEALTH

AUGUSTA UNIVERSITY
MEDICAL COLLEGE OF GEORGIA
CENTER FOR TELEHEALTH



Southern Regional Disaster Response System

HHS Region 4

Executive Committee

Alexander Isakov, MD, MPH – Emory University – SRDRS Principal Investigator

Senem Hinson, MPH – Emory University – SRDRS Program Director

Keith Wages – Emory University – SRDRS Associate Program Director

Curtis Harris, PhD – University of Georgia Institute for Disaster Management – SRDRS Executive Director

Richard Schwartz, MD – Augusta University Health System – SRDRS Medical Director

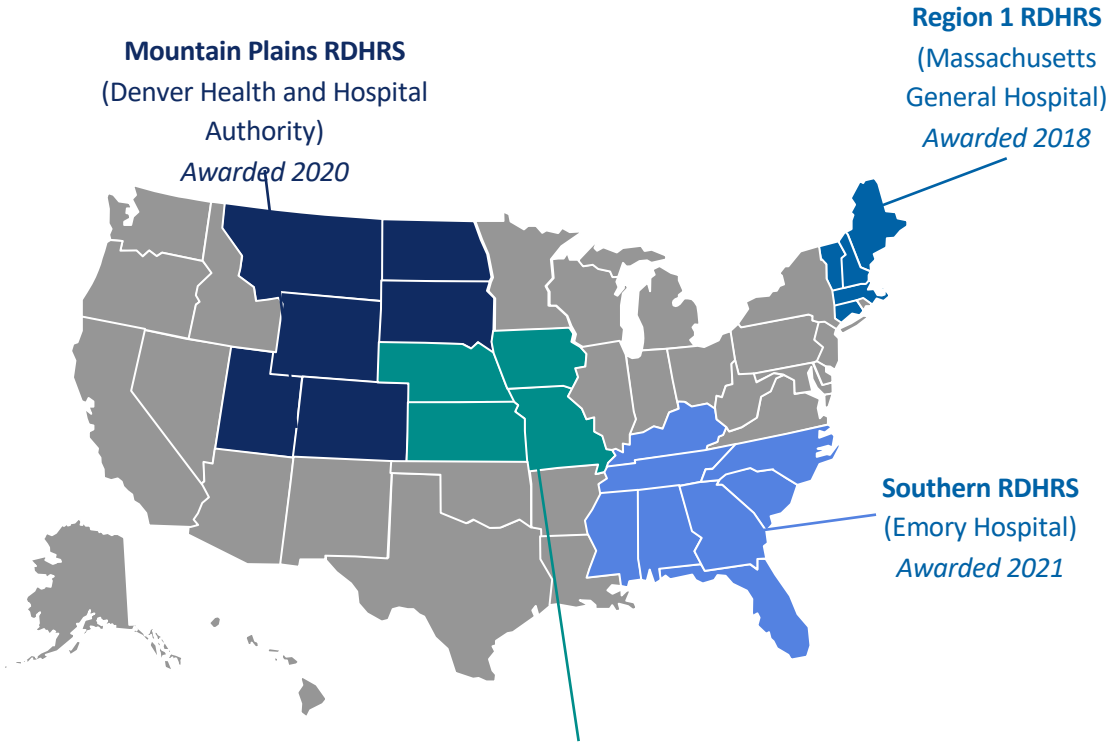
Ziad Kazzi, MD – Emory University – SRDRS Associate Medical Director

Kelly Nadeau, RN, MN, EMHP – Georgia DPH- Healthcare Preparedness Program Director

Lori Wood, MBA, MSEM, EMHP–Grady Health System–Emergency Management Executive Director

Where are the RDHRS Sites?

ASPR has awarded four demonstration sites to address health care preparedness challenges, establish promising practices for improving disaster readiness across the health care delivery system, demonstrate the potential effectiveness of an RDHRS, and make progress toward building a national system for readiness built on regional collaboration.



- **Build** a partnership for disaster health response
- **Align** plans, policies, and procedures related to clinical excellence in disasters
- **Increase** statewide and regional medical surge capacity, coordinate regional medical response, expand specialty care
- **Improve** statewide and regional situational awareness
- **Develop** readiness metrics to integrate measures of preparedness
- **Test** capabilities through exercises

SRDRS Aims

Augment

Augment horizontal and vertical integration of key stakeholders

- Champion public-private partnerships
- Align preparedness and response plans, policies, and procedures

Improve

Improve bidirectional communication and situational awareness

- CBRNE response
- Health care organizations and government partners

Facilitate

Facilitate greater access to highly specialized clinical expertise and capabilities to improve medical surge capacity

SRDRS Select Initiatives

- Develop regional partnerships
- Develop a medical operations coordination cell (MOCC) capability
  - Track out-of-hospital patient movement
  - Improve visibility of health system capabilities and capacities by enhancing an existing health systems dashboard
  - Support patient destination decisions based on patient need and hospital capability and capacity
  - Improve access to highly specialized clinical expertise in CBRNE mass casualty management
- Expand telemedicine systems
  - Tele-Critical Care, Tele-Emergency Medicine, Tele-Observation Medicine, and Tele-EMS
  - Telephonic consultation services offered by the regional poison centers
- Develop and maintain a repository of resources for CBRNE mass casualty management

Medical Operations Coordination Cell (MOCC)

Housed at Georgia Coordinating Center (GCC)

- GCC will serve as the MOCC to:
  1. Monitor bed availability in and around their operational area to assure a common level of saturation.
  2. Provide policies that guide actions when a facility is considered overwhelmed compared to others, resulting in load-balancing.
- Partnership with ImageTrend (currently under development) will increase the capabilities and capacity of the GCC/MOCC by:
  1. Enabling SRDRS specialist connectivity with prehospital personnel to assist with out-of-hospital care .
  2. Providing triage to hospitals based on level of care needed in a CBRNE incident.
- Mobile app will launch in the next quarter
  1. Identifies EMS location and closest appropriate resources.
  2. Prefills trip report for those agencies using ImageTrend.

Collaborative Goals:

The goals of the SRDRS R4P3C are to increase the surge capacity and enhance the capability of Region IV poison control centers in providing technical and clinical consultation to medical providers, public health, emergency management, and the public during and after chemical or radiological disasters.

Southern Regional Disaster Response System
HHS Region 4

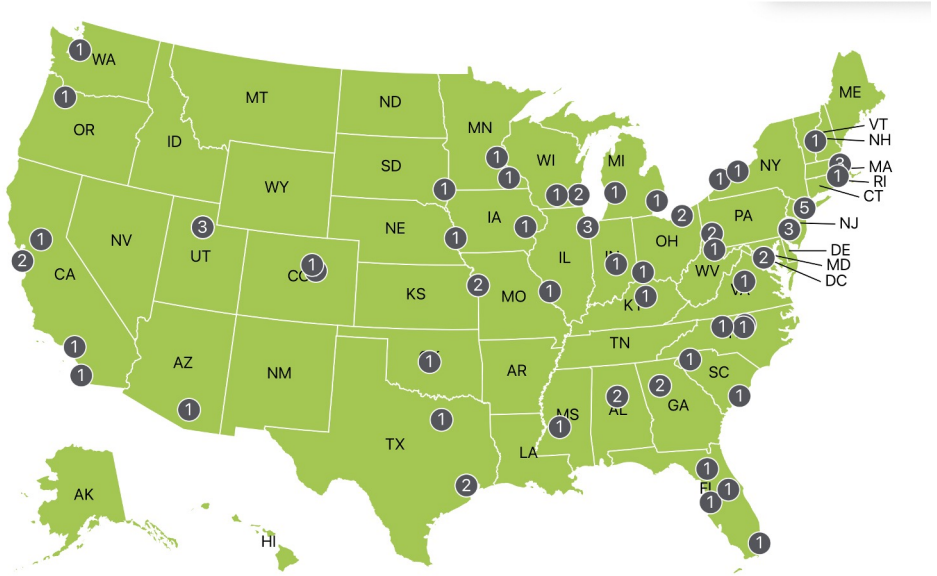
R4PC3 Participants

1	Louisville, KY	Kentucky Poison Control Center of Norton Children's Hospital
2	Nashville, TN	Tennessee Poison Center
3	Charlotte, NC	North Carolina Poison Center
4	Jackson, MS	Mississippi Poison Control Center
5	Birmingham, AL	Alabama Poison Information Center
6	Atlanta, GA	Georgia Poison Center
7	Columbia, SC	Palmetto Poison Center
8	Jacksonville, FL	USVI Poison Information Center - Jacksonville
9	Tampa, FL	Florida Poison Information Center - Tampa
10	Miami, FL	Florida Poison Information Center - Miami

Radiation SMEs in Region 4

Building:

- Partnership with RITN, RITN Centers, Radiation Control Program Officers, and Poison Control Centers
- Roster of radiation expert volunteers through SRDRS



Southern Regional Disaster Response System
HHS Region 4

RADIATION INJURY TREATMENT NETWORK SM
RITN

Biothreat SMEs in Region 4

NETEC

Regional Treatment Centers

Region 4
Emory University Hospital / Children's Healthcare of Atlanta

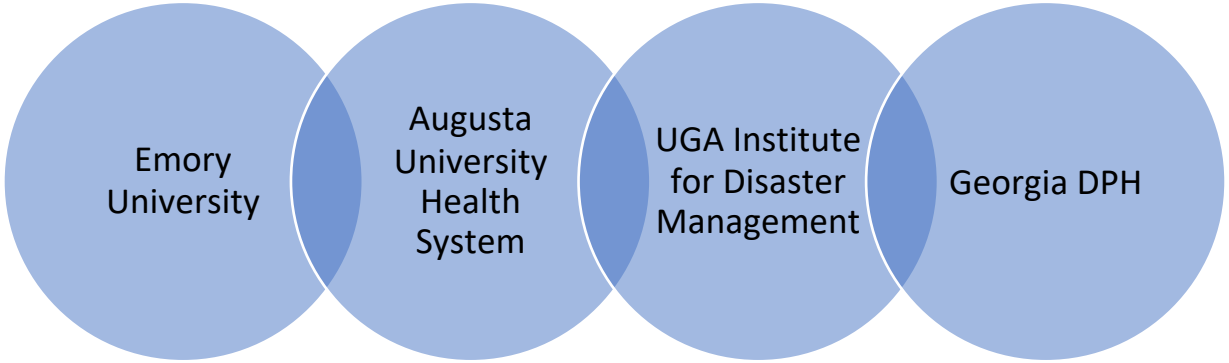
Region 4
University of North Carolina at Chapel Hill

Building a Partnership for Disaster Health Response

Partners for collaboration include:

- Designated trauma centers
- Burn centers
- Pediatric specialty care centers
- Regional Emerging Special Pathogens Treatment Center (RESPTC)
- Radiological Injury Treatment Network Center (RITN)
- Georgia Poison Center
- National Disaster Life Support Education Consortium
- NETEC
- Health Care Coalitions (HCC)

Collaboration Leaders



Southern Regional Disaster Response System
HHS Region 4

Questions? Comments?

Southern Regional Disaster Response System
HHS Region 4

THANK YOU

HOW CAN WE WORK TOGETHER?

THANK YOU

Dialogue on how we can work together to better prepare for disaster response by:

- Emailing us
- Visiting our website

srdrs@emory.edu

www.srdrs4.org

SOUTHEASTERN telehealth RESOURCE CENTER

ASPR
ADMINISTRATION FOR STRATEGIC PREPAREDNESS AND RESPONSE

EMORY UNIVERSITY SCHOOL OF MEDICINE
Department of Emergency Medicine

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Health AUGUSTA UNIVERSITY

Wellstar HEALTH SYSTEM