

# Telemedicine: Transcending Barriers to Rural HIV Care

Medical AIDS Outreach of Alabama, Inc.  
Montgomery, AL

Alabama AIDS Education & Training Center



# Telemedicine: Transcending Barriers

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# Objectives

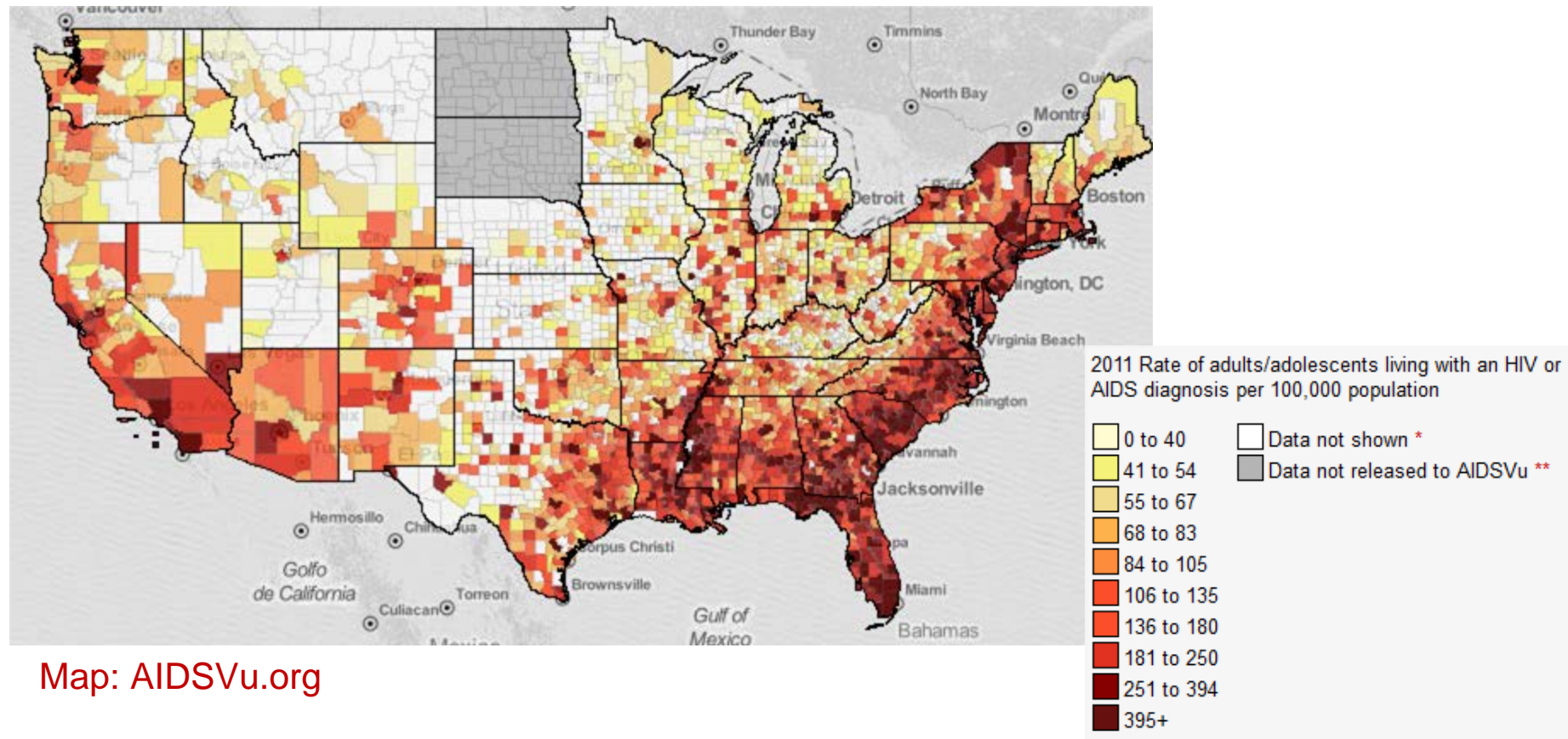
At the end of this webcast, attendees should understand the following:

- Discuss the disparities in access to healthcare in rural settings
- Define the role of telemedicine in transcending rural healthcare barriers
- Describe the benefits and challenges of telemedicine care
- Define the Alabama eHealth model and how it can be applied on a broader national scale

# Barriers to HIV Care

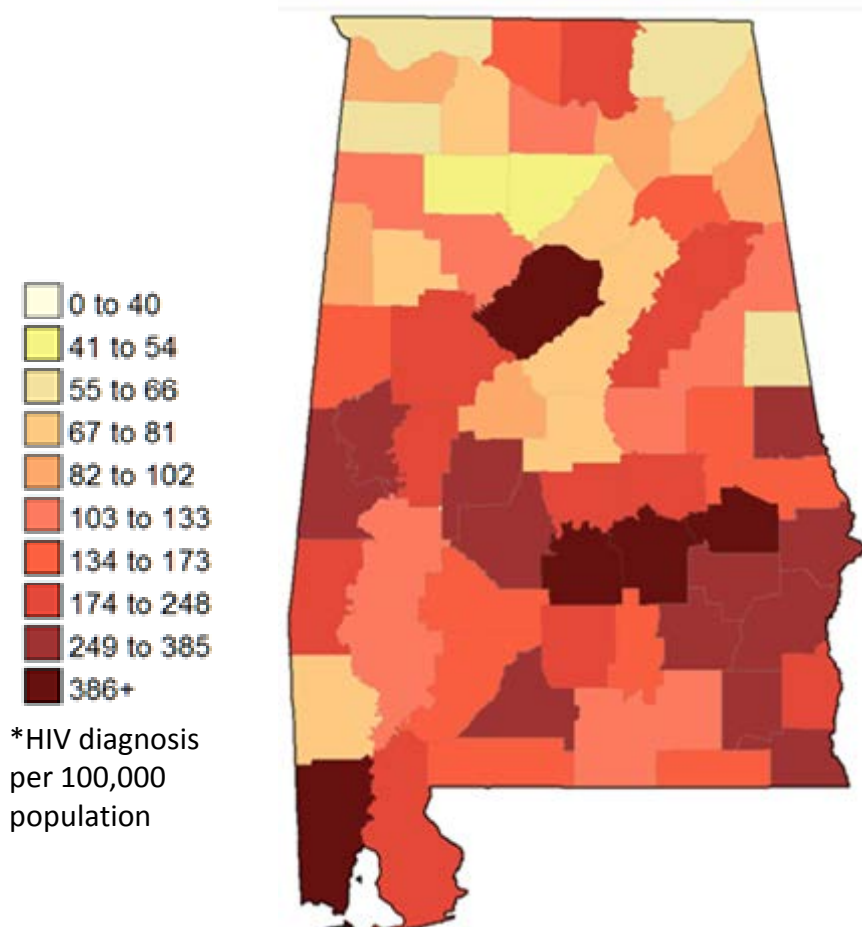
- Increasing number of HIV diagnoses
- Poverty
- Health Professional Shortage Areas
- Lack of transportation
- Stigma

# HIV Burden in the Deep South



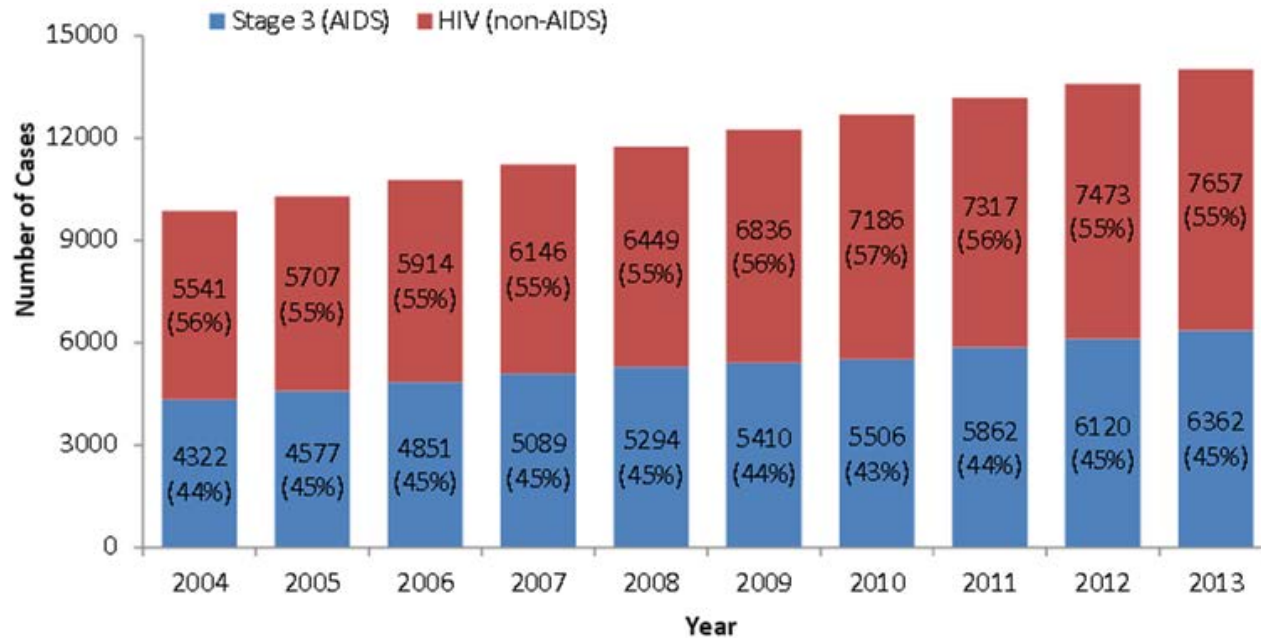
Map: AIDSvu.org

# Rates of Individuals Living with an HIV Diagnosis in Alabama



- At the end of 2013, 14,019 Alabama residents were known to be living with HIV and 6,362 (45%) of these had progressed to Stage 3 (AIDS) infection.
- CDC estimates 1 in 7 (14%) HIV positive individuals are unaware of their infection. Applying this prevalence estimate suggests as many as 16,301 Alabama residents may be infected with HIV.

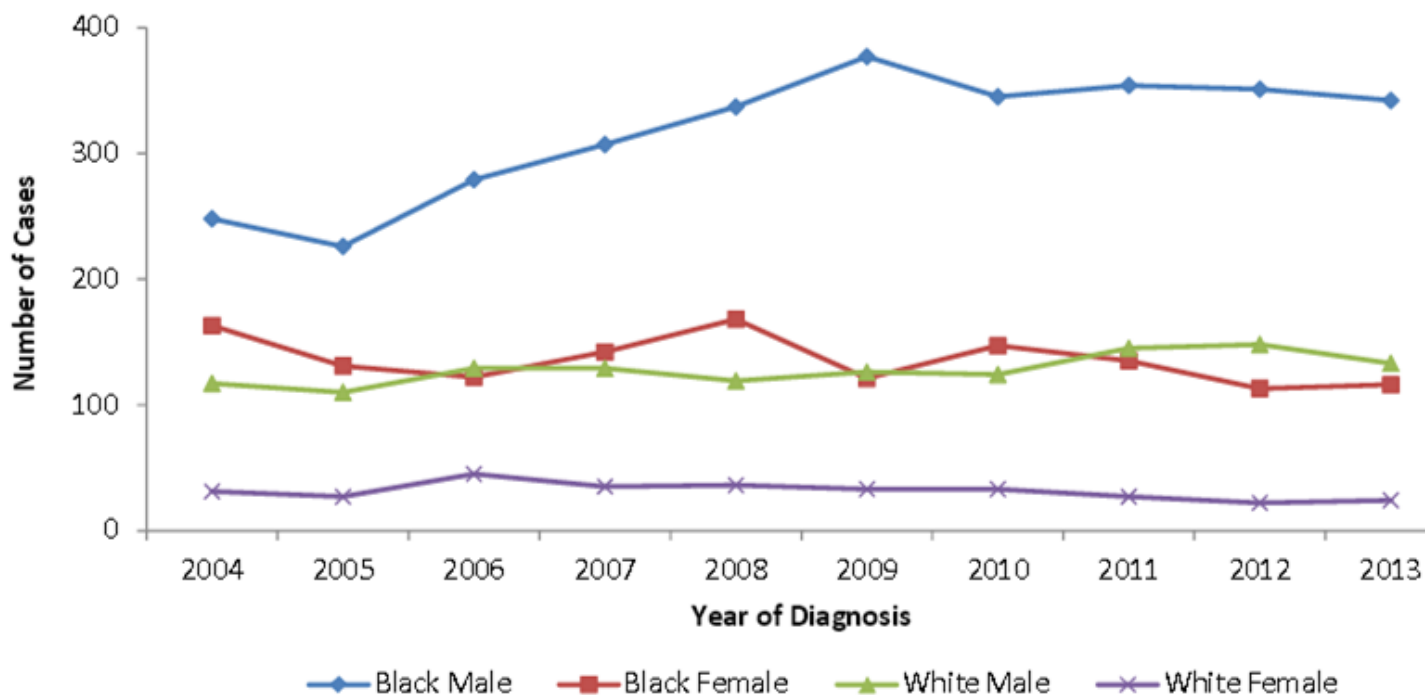
# Recent Trends



Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.  
Persons living with HIV (non-AIDS) and AIDS include persons living as of December 31st for the year reported.

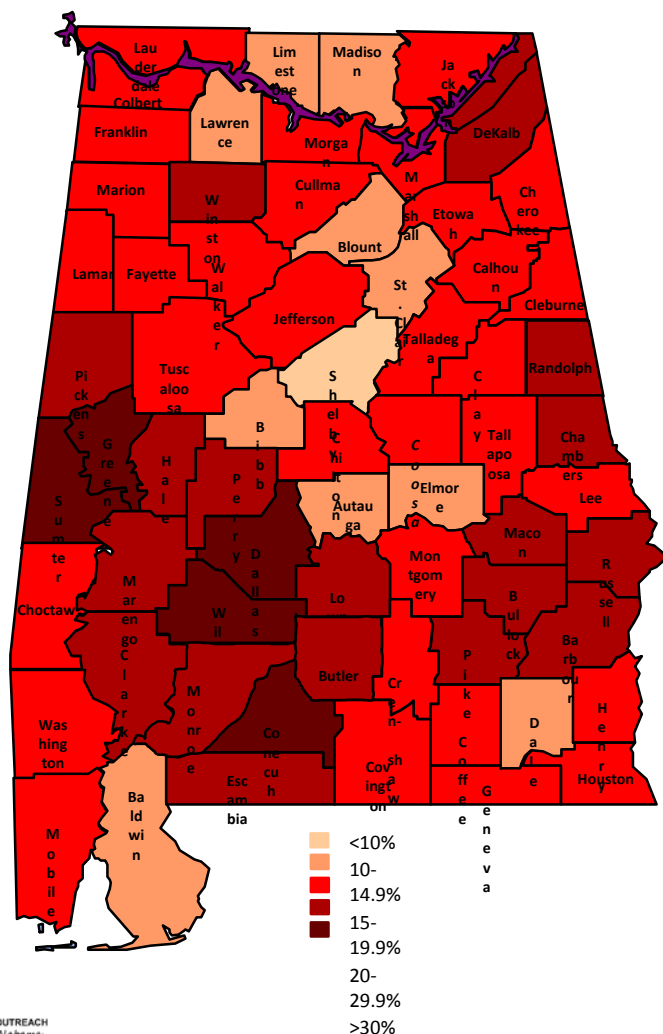
# Demographics

African Americans continue to be disproportionately affected by the HIV epidemic compared to other racial and ethnic groups. Although only 27% of Alabama's population was African American during 2013, according to United States Census Bureau population estimates, 71% of newly diagnosed HIV cases and 63% of all persons living with HIV were African American during 2013.



Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

# Poverty Rates in Alabama



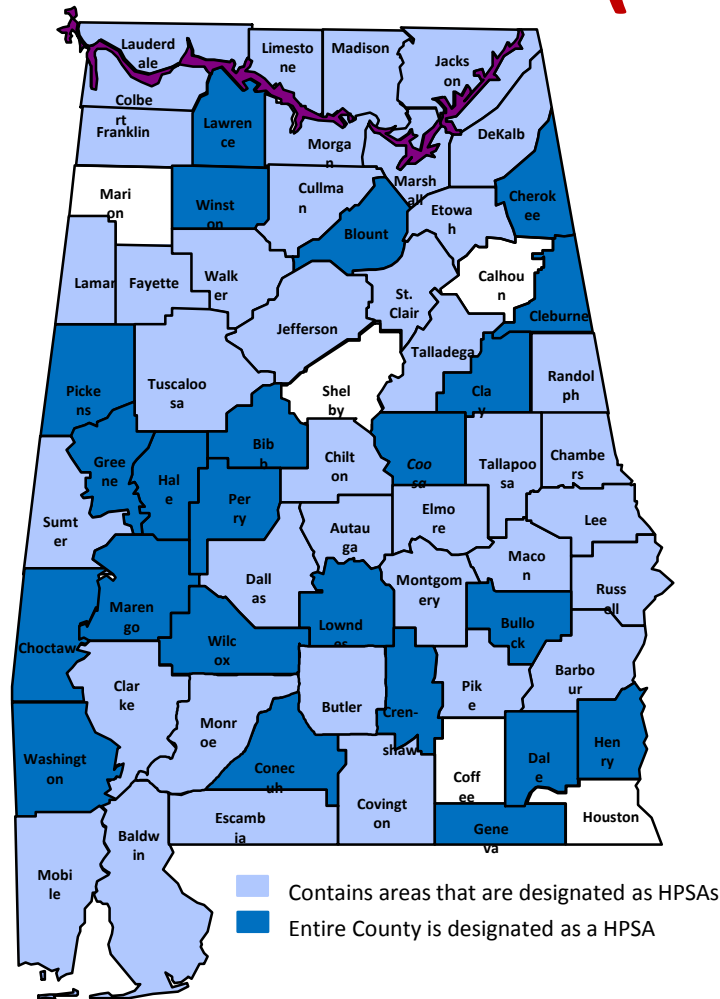
## Out of Alabama's 67 counties...

- 46 counties have poverty rates that are higher than the national average.
- 23 counties have poverty rates above 20%.
- 5 counties have poverty rates above 30%.
- Wilcox County has the highest poverty rate in Alabama, with 38.5% of its population living below the poverty line.
- According to the US Census Bureau, the average household income in Alabama is less than 200% of the federal poverty definition.
- Fully 17.1% (or roughly 1 out of every 6 of Alabama's 4.8M residents) live below the federal poverty line

(Updated Jan 2015)

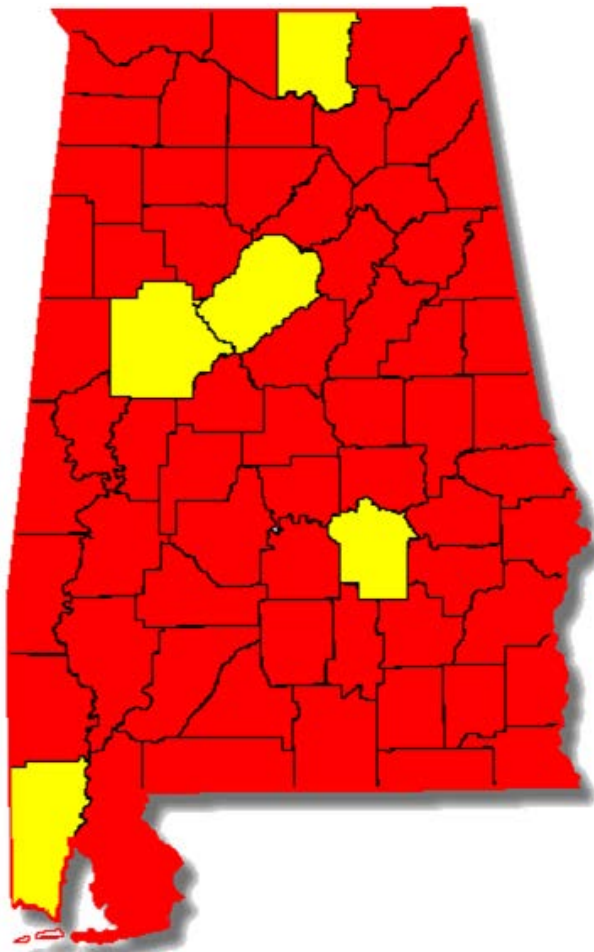


# Health Professional Shortage Areas (HPSA)



- 62 of Alabama's 67 counties are, either partially or whole, Health Professional Shortage Areas.
- HIV treatment centers are located in urban areas, while new infections increase in rural counties.

# Transportation Barrier



- Only 4 of Alabama's 67 counties have any public transportation at all, and even those systems are very limited.
- Telemedicine transcends some geographic and scheduling barriers, but transportation is still a burden for many PLWH/A in rural areas.

# The Washington Post

“The **stigma** surrounding AIDS is a key reason that the South is the **epicenter** of new HIV infections in the United States. **Half** of all new infections in the United States are in the **South...**”



David Kohn, Washington Post, 2012



# Legal Considerations

- HIPAA Compliance
  - Business Associates
  - Internet Security
  - Electronic Health Records
- Anti-Kickback Statute
- State Telehealth Rules



# HIPAA

- Business Associate – a person or entity, outside the covered entity's workforce, that performs certain functions or activities that involve the use or disclosure of protected health information on behalf of, or provides service to, a covered entity
- Telemedicine providers must have BA agreements with collaborating partners at the patient/remote site.

# HIPAA

- Internet security:
  - Encrypted connections
  - BA agreements for IT support individuals who have access to PHI
  - Electronic Health Records: Providers should conduct a risk assessment and enforce proper safeguards
- Telesteth software uses unique session identifiers & password for each session
- MAO uses 256 bit encryption

# Anti-Kickback Law & Telemedicine

- Anti-kickback: providers cannot pay for referrals
- Safe harbor exemptions:
  - Space and equipment rental: allows telemedicine providers to pay rent to the remote location, so long as it is within fair market value and not contingent upon referrals
  - Any exchange of money should be outlined in the MOU between the two agencies

# Sherman Anti-Trust Act

- Promotes competitive behavior in order to prevent monopolies.
- Telemedicine providers are at risk of being challenged because they often provide services otherwise not available in rural areas where they operate.
- A monopoly is not a violation. Providers should document the lack of competition in the area prior to their telemedicine presence in order to avoid/refute challenges.

# Gaps Analysis

## Every State is Different



# Insurance Reimbursement

- Although surrounding states have enacted private insurance parity laws, AL currently has no such legislation
- Medicaid:
  - Eligible providers include MDs/DOs, PAs, and NPs for physician and mental health services.
  - Written informed consent required. Medical AIDS Outreach incorporated this into our intake process for all clients.
  - Telepresenter required on site, but not in room



# Insurance Reimbursement

- Medicaid:
  - Patient setting in AL is limited to established medical facilities such as hospitals, physicians offices and FQHCs. Alabama eHealth collaborated with approved patient settings for this project.
  - Eligible Technology: There are many alternate models for telemedicine care, such as store and forward technology. Coverage varies by state.

# Telemedicine in Action



The provider perspective  
Dr. Prashanth Bhat  
Provider, MAO

“Success is  
through  
collaboration”

# The Alabama eHealth Story



# Telemedicine - Beginning

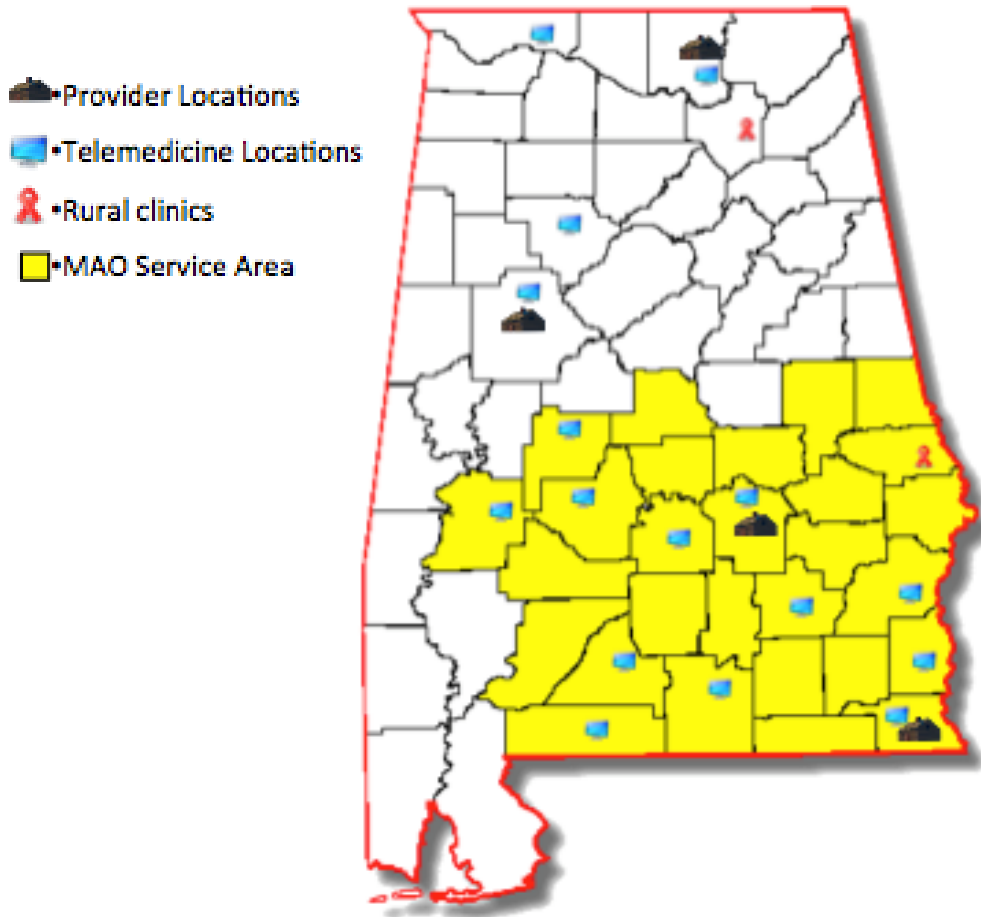


- Alabama eHealth created “spoke” telemedicine clinics in Selma, Sipsy, and Florence, Alabama, with corresponding “hubs” in Montgomery, Tuscaloosa, and Huntsville, Alabama.

- Using encrypted, high-speed data connections, spoke-site RN support, and high-definition video/diagnostic tools, our interdisciplinary hub-site providers are able to hold real-time encounters more frequently and more consistently, increasing both access to care and the fullness of care available to our rural HIV patients.



# Telemedicine - Today



- Linking the hubs and beyond.....

- MAO collaborations: 4 Models

# How a Telemedicine Encounter Works

- Telemedicine is a video chat environment between a doctor and a patient
- High definition camera and video screen with 1080p capability
- Bluetooth peripheral equipment
- 100% secure: telemedicine uses 128+ bit encryption
- Transcends almost all of the barriers most PLWH/A face in accessing care



# Efficacy

- 1/4 of our clinic patients are telemedicine patients
- Every patient has the right to see the provider in person
- Most patients found the technology nondisruptive and not significantly different than traditional care
- Patients did not view telemedicine as negatively impacting patient-provider relationship
- Concerns about telemedicine care were minimal
- >90% reported being extremely satisfied
- >95% virologic suppression rate
- >94% retention rate

# Telemedicine Technology

## Billy Sample – IT Director, MAO

Specifications  
Security  
Misconceptions

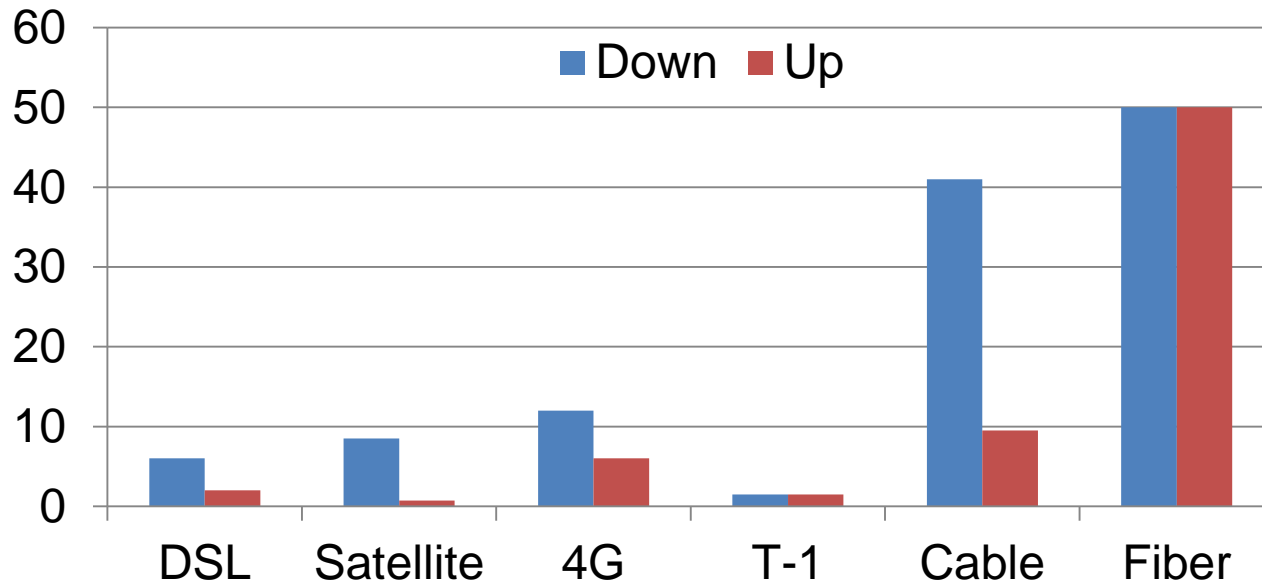


# Bandwidth Requirements

- **500 Kbps** in each of the downlink and uplink directions is the bare minimum bandwidth allocation to have a successful call. Such services **should** provide a minimum of 640 x 480 resolution at 30 frames per second. Depending on the service provided, higher bandwidth speeds **may** be needed, as determined by the health professional.

- Different technologies provide different video quality results at the same bandwidth. Each endpoint **shall** use bandwidth sufficient to provide at least the minimum resolution quality during normal operation.
- Security settings must also be taken into account when deciding on bandwidth allocations.
- Determining available bandwidth in your markets needs to be your first priority when deciding on a new Telemedicine project or location.

# Bandwidth Resources



**DSL** – 6Mb down, 2Mb up – Best effort

**Satellite** – 8.5Mb down, 0.72Mb up – Best Effort – Data Limitations

**4G** – 12Mb down, 6Mb up – Best effort – Data Limitations

**T-1** – 1.5Mb down, 1.5Mb up – Can be bonded with add. T-1 lines

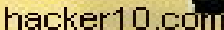
**Cable** – 41Mb down, 9.5Mbps up – Not available in most rural areas

**Fiber** – 200Mbs down, 200Mbs up – Limited availability

# Security

- An AES 128-bit encryption key is considered very strong and suitable to withstand most future attacks,
- U.S. Government requires 192 or 256-bit AES encryption keys for highly sensitive data, AES is the standard US Government encryption algorithm for data encryption.
- An encryption algorithm key length indicates its size measured in bits, the length indicating the algorithm strength in bits will always be even, these keys are used to control the operation of a cipher.

# 0 key combinations.



# Telemedicine problems related to equipment

- Problems with perceived convenience, reliability, security and quality of equipment.
- Lack of time to learn the correct use of complicated hardware and or software.
- Equipment purchase decisions based on grant or other financing requirements rather than appropriateness.

- Lack of flexibility with proprietary systems.
- Lack of available bandwidth.
- Large capital investment and large maintenance costs for purchased equipment.
- Constantly changing sales representatives and vendor product lines.
- Lack of market influence by small purchasers over vendors.
- Difficulty incorporating telemedicine into existing practice.

# Questions



# Contact

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For more information on telemedicine:  
[telehealthresourcecenter.org](http://telehealthresourcecenter.org)  
[americantelemed.org](http://americantelemed.org)

