Telemedicine: Transcending Barriers to Rural HIV Care

Medical AIDS Outreach of Alabama, Inc.
Montgomery, AL

Alabama AIDS Education & Training Center

Alabama eHealth

Medical AIDS Outreach of Alabama
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

2011 Rate of adults/adolescents living with an HIV or AIDS diagnosis per 100,000 population:
- 0 to 40
- 41 to 54
- 55 to 67
- 68 to 83
- 84 to 105
- 106 to 135
- 136 to 180
- 181 to 250
- 251 to 394
- 395+

Data not shown *
Data not released to AIDSVu **
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.
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.
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.

Contains areas that are designated as HPSAs

Entire County is designated as a HPSA

Alabama eHealth
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 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

MIND THE GAP
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, Sipsey, 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/AIDS 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, 9.5Mbs 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.
A 128-bit key, can have more than 300,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000 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
americantelemed.org