Telemental Health Service Provision
The things you never thought about........

Marsha Waind, Altru Health System
The most disadvantaged and under-resourced communities are often those with the greatest need for mental healthcare providers, particularly child and adolescent specialists.

- Approximately **20% of young people in the United States (U.S.) ages 9 to 17, have diagnosable psychiatric disorders** (Centers for Disease Control and Prevention, 2013b).
- In addition, approximately **31% of children are affected by chronic medical conditions** (Newacheck & Taylor, 1992) who may benefit from behavioral health strategies.
- There are also pediatric psychology approaches to help children with **acute and chronic medical conditions and their families in coping with behavioral health concerns**
  
Using telemedicine in mental health emergencies increases access, lowers costs

- 500 individuals aged 18 years or younger who presented to five ED or urgent care sites with mental health emergencies: improved time to disposition
- 52% of individuals evaluated with telemedicine were discharged from remote sites directly home with a scheduled outpatient follow-up. P
- Pediatric mental health emergencies represent an escalating segment of pediatric psychiatric emergency services that impacts one in five children
- Telemedicine utilization in the pediatric ED/urgent care setting may represent the optimal system for [mental health emergencies] evaluation in the future
- Telemedicine was also associated with significant cost-savings
- The majority of patients and providers (97%) reported they were highly to extremely satisfied with telemedicine services.

2016 AAP National Conference and Exhibition
Type of Telemental Health Service may depend on setting or patient

- ER Crisis Services/Consult
- Inpatient Hospital/Partial Care
- Outpatient
- Long Term Care
- Correctional Institutions
- Residential Facilities
- Home based care
- School based services
- Post Traumatic Stress/VA “Doc in my pocket”
Altru’s Telemental Health Service

Service Line:
- ER Crisis Services/Consult
- Inpatient Hospital/Partial Care
- Outpatient
- Long Term Care

Location and best patient outcome:
- Correctional Institutions
- Residential Facilities
- Home based care
- School based services
- Mobile: Post Traumatic Stress/VA
  “Doc in my pocket”
Altru Telemental Health Growth
Telemental Health comparison to Top services
ATA Guideline for Child and Adolescent telemedicine + 4 sections

- Ethical Considerations
- Telemental Health Competencies
- Clinical Supervision in Telemental Health
- Future Directions
Differences in service provision

- Contend with disorders, developmental considerations, and environmental factors not addressed in adult practice, such as treatment of attention-deficit hyperactivity disorder (ADHD), evaluation for autism and developmental disabilities, or determination of abuse and trauma.
- Depend on input both from the youth and relevant adults, often multiple adults in the family and in the child’s systems of care (e.g., case managers, teachers, and other informants).
- Evaluation and treatment modalities, such as assessment of play or parent-child interactions, require site- and technology-based adaptations: a larger room is needed to observe a child’s motor activity, exploratory skills, and interactions; camera with pan/tilt/zoom feature to assess dysmophia and monitor a child’s affect.
- Behavioral providers vary widely by training, discipline, expertise, and practice: child and adolescent psychiatrists and psychologists, master’s trained therapists, pediatricians and family physicians, nurse specialists, behavior analysts, social workers, speech and language therapists, special education teachers and other school-based personnel, occupational therapists, and other professionals within the youth’s system of care.
Telepresence
Goal is to preserve clinical content equal to diagnostic content of bricks and mortar

- Although perceived image quality is important for pleasing the eye/ear, visual satisfaction is not the aim of telemedicine
- Resolution is needed if the clinical detail is very small, color precision is needed if clinical meaning is related to color, size, sound, etc.
- The real resolution of a system can be measured: it is not matter of preference.
Telepresenters need support less often = more support

- Training
- Testing
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Telepresence:
2 ends = Client & Clinician

- Privacy/Safety
- Room Environment
- Lighting
- Camera Position
- Camera Angle
- Sound
- Monitor
Privacy

- Provider: headset provides the optimal sound and enhances privacy. In Psychiatric based services, causes concerns in some patients.
- Videoconferencing with mike/speaker, people talk louder and there is magnification of sounds.
- Room positioned within the building – not a hallway
- Close to nurses station
- Sound proofing
- Client wear a headset, families and care coordinators.
Safety

- Policies summon help or security
- Parental release for care
- Equipment
- Psychotic situations.
Room Environment

- Chair(s)? Couch? Table?
- Numbers of people
- Color of walls  Wall decorations
- Comfort
- Movement
- Kids----Toys or props
LIGHTING: Essential to portray the facial expressions and appearance
Room lighting

- Incandescent light bulbs or compact fluorescent light bulbs help make a room appear warmer. Full spectrum lights are preferred. Overhead fluorescent lights cast a bluish tone, resulting in a harsh picture, casting shadows and making facial expressions difficult to read.
- Avoid room with windows
- Use indirect lighting without glare on the face.
- Lighting placed in front of patients can make their appearance seem pale and washed out.
Think ‘studio lighting’

Diffused light that doesn’t ‘wash’ out the subject

Figure B: Impact of Harsh Directional Lighting

Harsh directional lighting creates shadows and makes it difficult to see facial features.

Diffused lighting creates even lighting.
What’s in the background?

Figure E: Impact of Wall Color

A light-colored background makes the image appear too dark.

A dark-colored background makes the image appear washed out or too light.
Green/yellow wall cast a yellow tone on the skin, inaccurately sending information about skin color to the clinician.
Lighting: even and consistent. Color correct to warm, white light (3200-4000K).

Figure C: Impact of Backlighting

- Backlighting from windows and other concentrated light sources can create dark images and shadows.
- Diffused light placed in front of the patient allows for a more accurate depiction of the colors and features in the image.
Lighting

More is not better

Figure D: Impact of Supplemental Lighting

Images taken using only ceiling-mounted fluorescent light fixtures can lack dimension and contrast.

Supplemental lighting enables the subject in the image to stand out against the background.
Camera Angle

- Camera position on top of the monitor in such a manner that the clinicians’ and the patient’s images are captured straight-on.

- Provider’s image should fill most of the monitor screen without background clutter and personal details.
Camera Position

- PTZ - pan, tilt, zoom cameras
- Children - will be movement and must be observed
Where are your eyes?

Figure A: Impact of Camera Placement

Even though the patient is looking directly at the consultant, it does not appear that way because the camera is mounted too high. Mounting the camera too high makes it difficult for the consultant and patient to maintain eye contact.

When the camera is mounted at approximately the same height as the patient it produces a more precise view of the patient, allowing the patient and consultant to make eye contact.
Monitor size

- Clients should have a monitor that is comfortable in the room. A 32” monitor is suggested if the full patient image is requested by the provider.
- If a desktop session used, 19-20” size with client within 24” of the monitor is appropriate.
Sound: quality can make or break conversation.

- Turn microphone on or off
- Volume - know where the settings are
- Headset?
- Carpeted room - without pattern.
- Walls bare and hard?
MAN, THIS TELMEDECINE THING IS GREAT-- I DON'T EVEN HAVE TO PUT MY PANTS ON!
Access to quality care, close to home.

Discover Altru’s Telemedicine Services >>
Resources

- emedicine.arizona.edu/sites/telemedicine.arizona.edu/files/Fundamental_TelemedicineRoomDesign.pdf
- Mike Kuna, MD  The technical side of Telepsychiatry/Telemedicine - YouTube video
- Bashshur et al 2015 Telemental health proves it works