Telehealth Implementation of Trauma-Focused Treatment for Underserved Youth in Low-Resourced Contexts in the U.S. and Puerto Rico

Regan Stewart, PhD
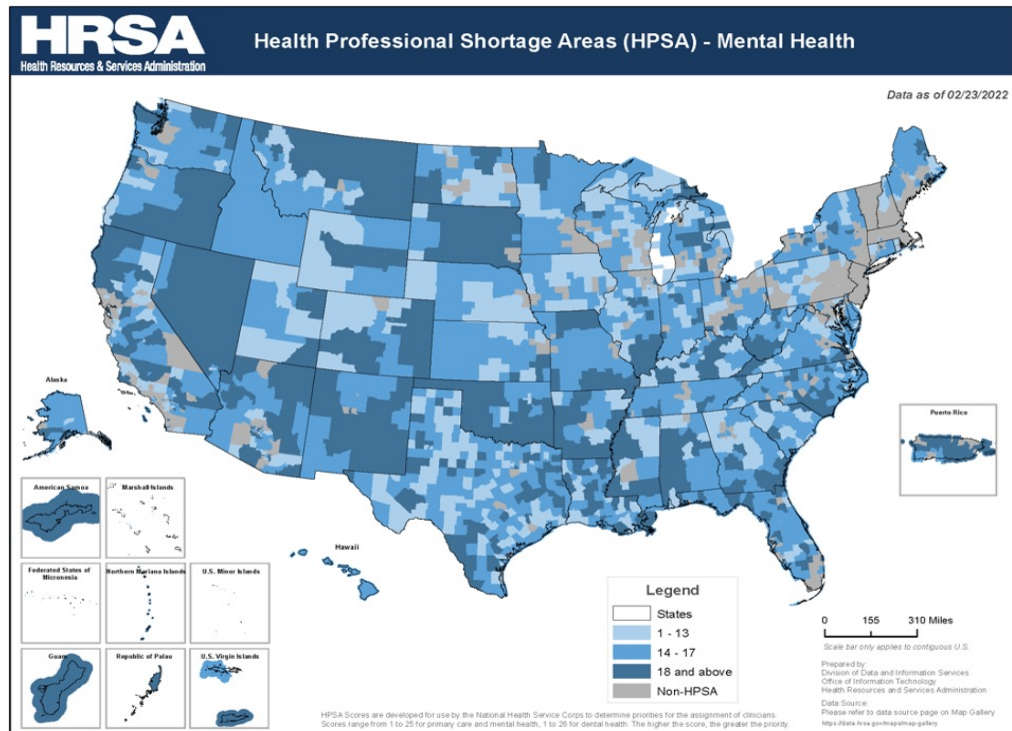Rosaura Orengo-Aguayo, PhD
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Disparities in Access to Mental Health Care

Health Professional Shortage Areas (HPSA) - Mental Health

Very few receive services

- People don't get the services they need: Less than 1/2 of individuals with mental health problems are estimated to receive needed services (NAMI, 2021)

- Significant disparities exist for mental health access for ethnic minorities and rural populations

Even fewer complete services

- High premature termination in community treatment
  - 28%-75% depending on the study (de Haan et al., 2013)

- Hispanic and African American children are at greater risk for treatment dropout (Pellerin et al., 2010)

- Attrition rates in office-based TF-CBT are still a problem (25-50%) (Cohen et al., 2011; Olfson et al., 2009, Scheeringa et al., 2011; Sprang et al., 2012)

The Bottom Line:

We are only serving the tip of the iceberg!

Is telehealth effective?
Is telehealth as good as in-person therapy?

Effective in the U.S. & globally[1]

As effective as in-person treatment[2]

High satisfaction[2,3]

Standard of care is the same as in-person treatment[4]

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2. Barshur, R., Shannon, G., Barshur, N., & Yellowlees, P. (2016). The empirical evidence for telemedicine interventions in mental disorders. Telemedicine and e-Health, 22, 1-27.
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4. American Psychological Associations. (2013). Guidelines for the practice of telepsychology. American Psychologist, 68, 791-800.

Trauma Treatment via Telehealth for Adults

Prolonged Exposure
- **Clinic-based** *(Gros et al., 2011; Strachan et al., 2012; Tuerk et al., 2010)*
- **Home-based** *(Gros et al., 2011; Strachan et al., 2012; Tuerk et al., 2010)*

Cognitive Processing Therapy
- **Home-based** *(Maieritsch et al., 2016; Moreland et al., 2015)*

Meta-Analysis
- **Telehealth treatment for PTSD symptoms is effective** *(Sloan et al., 2011)*

Trauma Treatment via Telehealth for Children

Evidence-Based Treatment Protocols with Published Telehealth Studies

 Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)

 Parent Child Interaction Therapy (PCIT)

Other Evidence-Based Treatment Protocols

Child and Family Traumatic Stress Intervention (CFTSI)
Alternatives for Families Cognitive Behavioral Therapy (AF-CBT)
Problematic Sexual Behavior Cognitive Behavioral Therapy (PSB-CBT)

MUSC Telehealth Outreach Program for Traumatic Stress (2015)

- Established 2015

- Evidence-based trauma-focused treatment via telehealth for children across SC

- Goal of increasing access to care for populations that are underserved by office-based mental healthcare programs

    - Especially, rural populations, and racial/ethnic minorities

- School-based & home-based

Telehealth Centers of Excellence

How does it work?

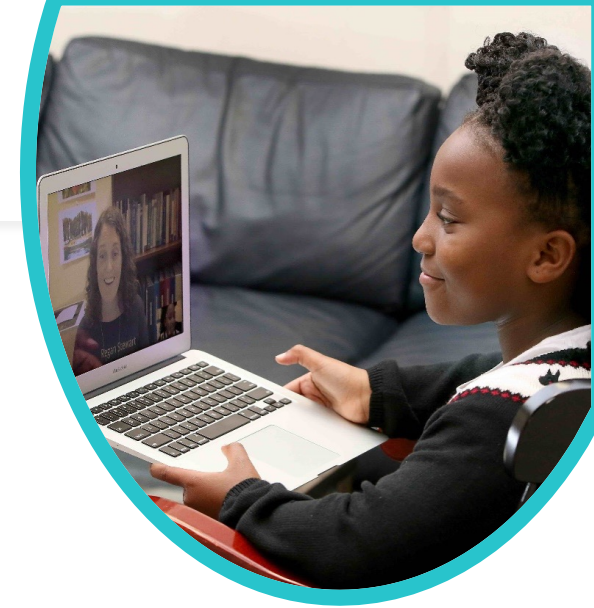|		
HIPAA compliant videoconference software	Use of laptop computer or tablet	Private location at school or home
Referrals from school staff members, children's advocacy centers, law enforcement, child welfare agencies, etc.	Weekly therapy visits (TF-CBT) & psychiatric medication management as needed	Access to interpreter services

TOP-TS Clinic

- Small training clinic
  - Multidisciplinary team: psychology interns, MSW, MD
- Approximately 500 visits per year
  - 70% school-based
  - 30% home-based

Program Evaluation/Outcome Data

- Over **3,700 visits** with over **400 clients** in **14 counties in South Carolina** to date (30% of all counties in SC)

- 60% school-based, 30% home-based, 10% combination

- **85% treatment completion rate**

- The **first ever studies documenting the feasibility, safety, and effectiveness of telehealth delivery of child trauma treatment** are published by our team at MUSC

Bottom line: Telehealth for child trauma treatment is feasible and it works!

TF-CBT Via Telehealth Pilot Study Participants and Context

- **70** children participated in the pilot study

19% **81%**

Ages 7 to 18
(*M*=12.73; *SD*=3.34)

88.6% Racial/Ethnic Minorities
- **58.6% Hispanic**
- **30% African American**

34%
Received TF-CBT in Spanish

7 Underserved Communities In South Carolina

63%
School-based

34%
Home-Based

Stewart, R.W., Orengo-Aguayo, R., Young, J., Wallace, M., Cohen, J, Mannarino, T., & de Arellano, M.A. (2020). Feasibility and Effectiveness of a Telehealth Service Delivery Model for Treating Childhood Posttraumatic Stress: A Community-Based, Open Pilot Trial of Trauma-Focused Cognitive Behavioral Therapy. *Journal of Psychotherapy Integration, 30(2)*, 274-289.

TF-CBT Via Telehealth Pilot Study Results

- **62** of 70 completed all components of TF-CBT **(88.6%)** ➡️

Vs. 25-60%

Typical completion rate for TF-CBT in studies in the United States

96.8% of children
No longer had PTSD after completing telehealth TF-CBT

Tx effects similar to in-person TF-CBT
Kids got better (effect size=2.42)

81% of caregivers
Participated in TF-CBT with their child

High caregiver satisfaction

[1] Stewart, R.W., Orengo-Aguayo, R., Young, J., Wallace, M., Cohen, J, Mannarino, T., & de Arellano, M.A. (2020). Feasibility and Effectiveness of a Telehealth Service Delivery Model for Treating Childhood Posttraumatic Stress: A Community-Based, Open Pilot Trial of Trauma-Focused Cognitive Behavioral Therapy. *Journal of Psychotherapy Integration, 30(2)*, 274-289.   http://dx.doi.org/10.1037/int0000225

High Caregiver Satisfaction

100% **satisfied with telehealth**

86% said telehealth equipment was easy to use

100% said level of rapport with therapist was as good as in-person

100% would recommend telehealth to a family member or friend.

Villalobos, B.T., Dueweke, A., Orengo-Aguayo, R., & Stewart, R.W. (2023) Patient Perceptions of Trauma-Focused Telemental Health Services Using the Telehealth Satisfaction Questionnaire (TSQ). *Psychological Services 20*(1), 107-121.
https://doi.apa.org/doi/10.1037/ser0000605

Expansion of the TOP-TS Program (2017)

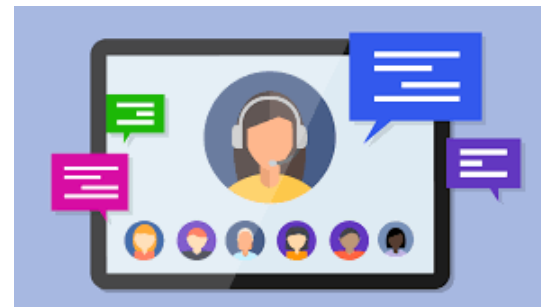- AND THEN….we receive several other grants and additional funding to expand the program

SAMHSA
Substance Abuse and Mental Health Services Administration
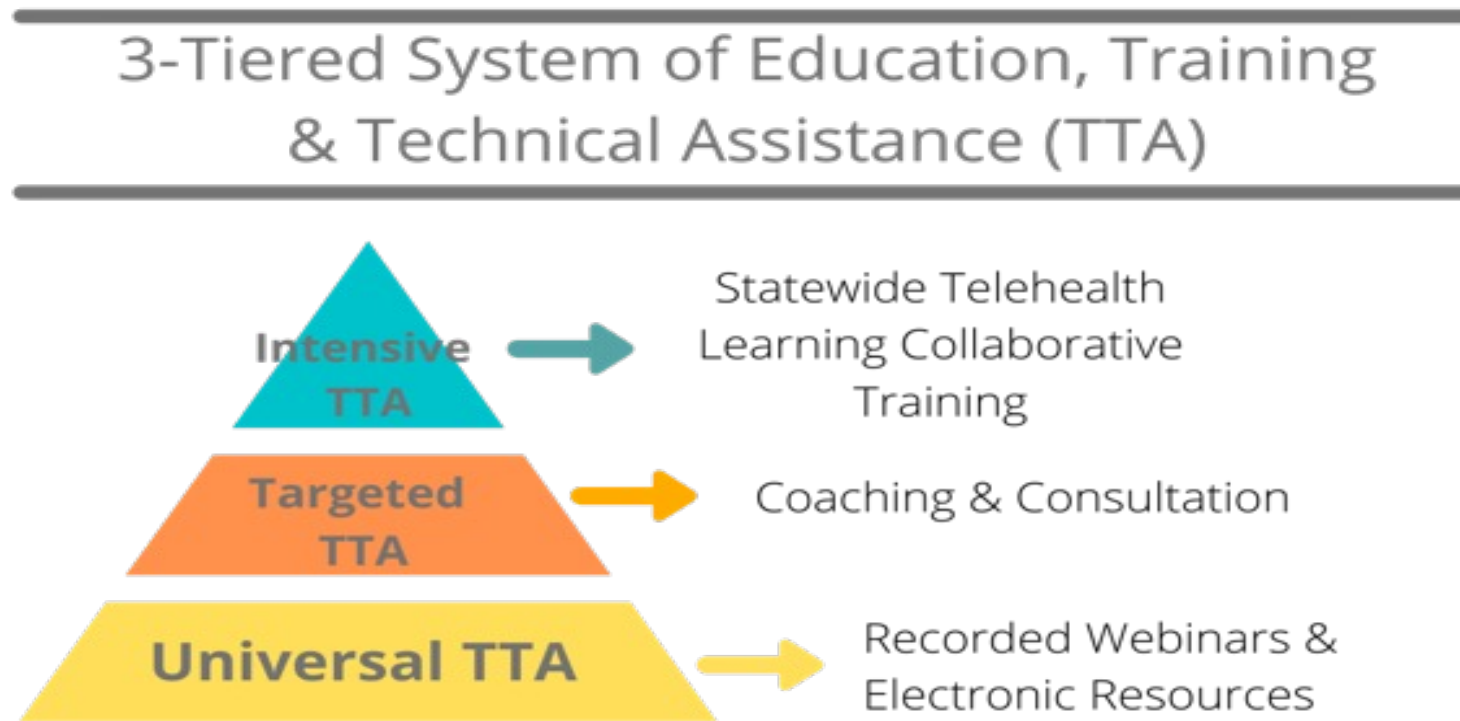
HRSA
Health Resources & Services Administration

MUSC Telehealth Outreach Program for Traumatic Stress

Making a Difference No Matter the Distance

Help, I'm New to Telehealth! – Requests for Training (2018-2019)

- Calls & emails from across the country

- Telehealth webinars & presentations

TOP-TS Expands: Education, Training, and Technical Assistance

3-Tiered System of Education, Training & Technical Assistance (TTA)

- Intensive TTA → Statewide Telehealth Learning Collaborative Training
- Targeted TTA → Coaching & Consultation
- Universal TTA → Recorded Webinars & Electronic Resources

- The TOP-TS team has trained over 7,000 individuals in telehealth delivery of evidence-based trauma-informed practices in 23 U.S. states/territories and 3 countries since 2019.

TOP-TS Expands to a Consortium - North Dakota

First Children's Advocacy Centers that TOP trained (2018-2019)

After 2 years of working with ND, they started working with us in a train-the-trainer model

Telehealth Outreach Program Consortium is Created

TELEHEALTH OUTREACH PROGRAM

MUSC
Medical University of South Carolina

RED RIVER CHILDREN'S ADVOCACY CENTER

Dakota Children's ADVOCACY CENTER

Making a Difference
No Matter the Distance

COVID-19 Pandemic Increased Demand for Telehealth (2020)

- Significant increase in requests for training and resources

- Created website to share resources

- Applied for additional grant funding to expand training & technical assistance
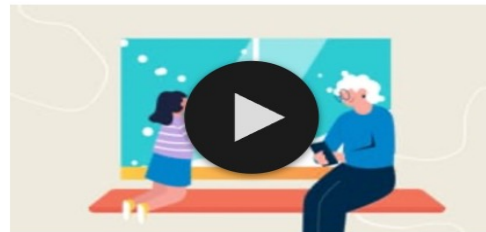

www.telehealthfortrauma.com
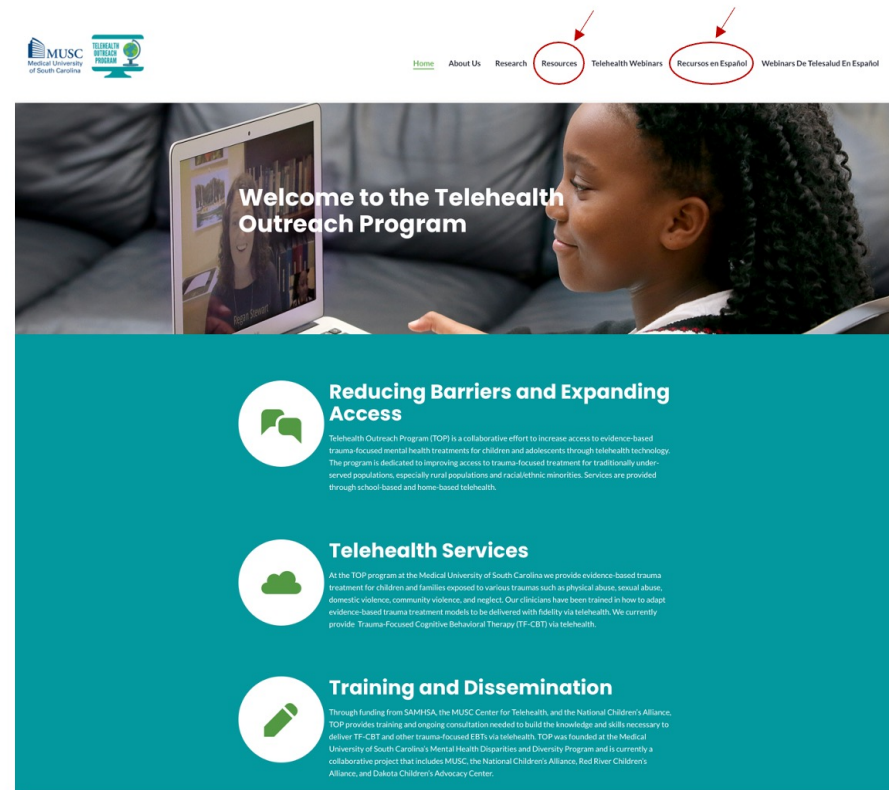
Videos & Fact Sheets for Caregivers & Therapists

- Worked with National Children's Alliance to create fact sheets & brief animated videos about benefits of telemental health (English & Spanish)

https://learn.nationalchildrensalliance.org/telehealth

TOP-TS Expands to Puerto Rico (2019)

- Collaboration between MUSC, Puerto Rico Department of Education, University of Puerto Rico Medical Sciences Campus, Albizu University-Mayagüez Campus

- Created the first school-based telepsychiatry consultation program in Puerto Rico

- 5 under-served schools in the Mayagüez region of Puerto Rico
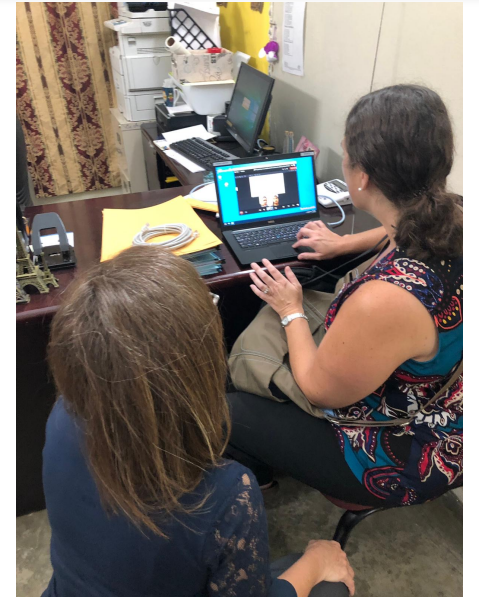
Significant Events Impacting Puerto Rico

Colonial Context

Corruption

Poverty

Systems Collapsing (health, education, energy)

Fiscal Board Imposing Austerity Measures

Zika Endemic

Sept 2017
Hurricanes
Irma y María

Jan-Feb 2020
Earthquakes &
Aftershocks

March 2020- Ongoing
COVID 19 Pandemic

2021-Ongoing
Energy Crisis

- 3,000+ deaths
- 90+ billion in damages
- Lack of access to food, water, shelter, communications
- School Closures
- Delay in aid

- Destruction of infrastructure
- School Closures
- New type of disaster
- Uncertainty and fear

- New type of disaster
- Daily impact on routines, economy, health, life
- School Closures
- Disparities in access to mental/physical healthcare and education

- Daily power outages
- Impacts healthcare, education, well-being
- Decaying infrastructure
- Mismanagement on behalf of sole energy company in PR (i.e., Luma)

Project Goals

Partner with Puerto Rico's Largest Managed Behavioral Health Organization (MBHO) to **listen** and see how we could help

Tailor TF-CBT training and implementation materials for the Puerto Rican context

Train Puerto Rican mental health providers in TF-CBT and provide ongoing implementation **support**

Evaluate feasibility of implementation and effectiveness of TF-CBT in the Puerto Rican context

Implementation Timeline

Partnership & Tailoring Based on Needs

APS Healthcare, largest Managed Behavioral Health Organization (MBHO) in PR + MUSC team

Training of 15 Psychologists

In TF-CBT with cultural and linguistic tailoring based on Needs Assessment & Partnerships Meetings

Technical Assistance and Consultation

With implementation, fidelity to the model, metrics, consultation calls, adaptation of protocols, *shift to telehealth when pandemic started*

SUPPORT

Spring/Summer 2019

Fall 2019/Spring2020

Fall 2020

~18 Months

Participants and Context

- **56** children participated in the pilot study

52% **48%** **Ages 5 to 18** (*M*=10.75; *SD*=3.43)

100% Puerto Rican Sample
98% Received TF-CBT in Spanish

Started as Office-Based Services

Telehealth

Transitioned to Telehealth
89.6% of active cases successfully transitioned within 1 month of pandemic

Types of Index Traumas

Index Trauma (N=56)	#	%
Traumatic loss/grief	12	21.4
Sexual Abuse	11	19.6
Domestic Violence	10	17.9
Hurricane Maria	7	12.5
Physical Abuse	7	12.5
Earthquakes	4	7.1
Community Violence	2	3.6
Severe Bullying	2	3.6
Other	5	8.9

Note: Four patients reported being unable to decide between two index traumas (both were counted).

9 out of 10
Endorsed Polyvictimization
4
Average # of Traumas
($SD=2.23$; Range: 1-9)

TF-CBT Pilot Implementation

•36 of 56 completed all components of TF-CBT **(64%)**

5 unable to transition to telehealth (no equipment, internet, or preferred to wait for in person services)

2 left treatment (moved)

2 left treatment (medical reasons/hospitalization)

11 left treatment for unknown reasons (likely due to pandemic-related stressors)

Vs. 40-60%
Typical completion rate for TF-CBT in studies in the US

Vs. 86%
Completion rate for TF-CBT pilot in El Salvador

6 out of 10 children
Completed all components of TF-CBT

100% of caregivers
Participated in TF-CBT with their child

18 Sessions
(average for child/teens)

13 Sessions
(average for caregivers)

PTSD Results Pre/Post
TF-CBT: Did Children Get Better?

Metrics	Before M (SD) N = 56		After M (SD) N = 56	
	Child	Caregiver	Child	Caregiver
CPSS-5 (>31 Clinically Significant for PTSD)	33.13 (12.70)	34.67 (14.30)	11.90*** (9.24)	10.78*** (8.95)

Large Effect
Youth report
d=1.32
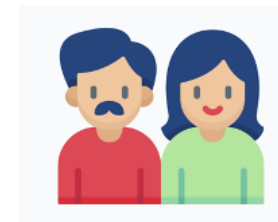
Large Effect
Caregiver report
d=1.85

Note: CPSS-5= Child Posttraumatic Stress Scale for DSM-5 (Spanish version)
***P<0.001

Depression and Anxiety Results Pre/Post TF-CBT: Did Children Get Better?

Metric	Before M (SD) N = 56		After M (SD) N = 56	
RCADS-R (T-Score >70, elevated)	**Child**	**Caregiver**	**Child**	**Caregiver**
Depression	57.30 (12.36)	67.42 (12.81)	42.30*** (9.83)	51.61*** (11.99)
Anxiety	56.17 (11.75)	65.97 (13.79)	40.40*** (7.38)	50.44*** (10.09)

Large Effects
Youth report
Depression
d=1.32
Anxiety
d=1.18
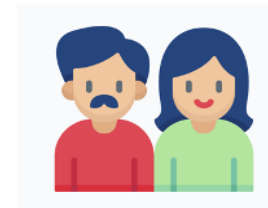
Large Effects
Caregiver report
Depression
d=1.28
Anxiety
d=1.26

TF-CBT Puerto Rico Pilot Conclusions

- **Feasible to train** Puerto Rican mental health providers to fidelity on the TF-CBT model

- **Feasible to implement** TF-CBT within the largest MBHO in the island

- **Clinically significant and large effects** pre to post on PTSD, Depression and Anxiety outcomes via child and caregiver report

- **Comparable treatment completion rates** to US-based TF-CBT trials

- **Feasible to implement** TF-CBT both **via office-based and telehealth services** but access to equipment and internet and implementation support is crucial

TF-CBT was <u>feasible</u>, <u>acceptable</u> and <u>effective</u> in Puerto Rico despite significant disasters and hardships affecting the island before and during the project.

First School-Based Telepsychiatry Clinic in Puerto Rico: Culebra, PR (2023)

- First school-based telehealth site in Puerto Rico
- Connecting to psychiatrists in San Juan, PR to Culebra, PR

TOP-TS Expands to Colombia

- Collaboration between MUSC and Fundación Los Pisingos starting in January of 2019 at the The Annual San Diego International Conference on Child and Family Maltreatment.

- Re-connected in 2020 during pandemic to provide training and technical assistance with telehealth

- Now Colombia has its first ever child-focused telemental health program in the country!

Lessons Learned along the Way

1. **Listen** to your partners and **follow the need**

2. **Team up** (e.g., North Dakota team and PR team)

3. **Address barriers** as they show up (e.g., Ipad & hotspot loaner program/telehealth boxes)

4. If there isn't a resource, **create it and share it** (e.g., telehealthfortrauma.com/ webinars/ bilingual resources)

5. **Equitable access** to broadband internet and telehealth equipment is the greatest challenge of the future of telehealth implementation. We must work collaboratively to address these disparities in access.

6. **Partnerships with schools** are crucial for successful telehealth programs

7. Its ok if things don't work out (at first)… some of our most successful initiatives faced roadblocks for 2-3 years…**persistence is key**
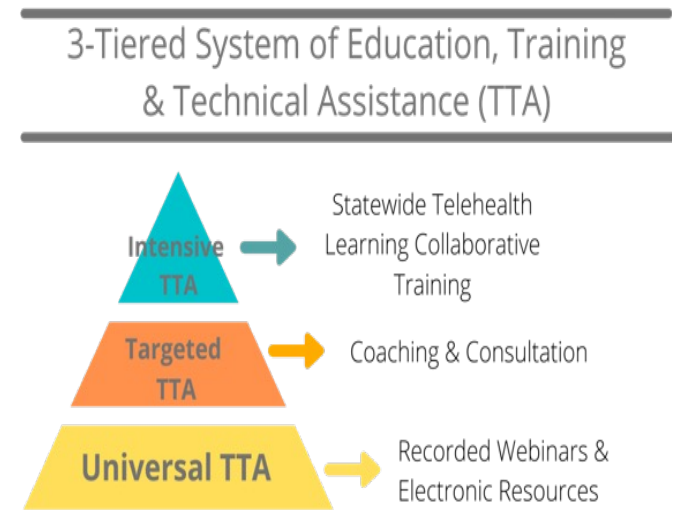
What our TOP-TS team can offer you!

The mission of the *Telehealth Outreach Program for Traumatic Stress (TOP-TS)* is for children & families to have access to evidence-based trauma services regardless of location, SES, or language.

TOP-TS will provide expert guidance to <u>educate</u>, <u>train</u> and <u>support</u> the mental health workforce in best practices for implementation of TF-CBT via telehealth to better reach underserved children/families in the mainland United States and Puerto Rico.

We will provide:
1. Training & Technical Assistance
2. Resources
3. Ongoing consultation

3-Tiered System of Education, Training & Technical Assistance (TTA)

Intensive TTA → Statewide Telehealth Learning Collaborative Training

Targeted TTA → Coaching & Consultation

Universal TTA → Recorded Webinars & Electronic Resources

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The Telehealth Centers of Excellence(COEs) develop resources for telehealth organizations, researchers, providers, and staff based on their experience, research, and innovation.

TelehealthCOE.org

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