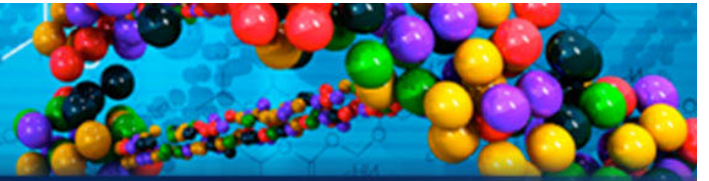




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# Reaching Families Through Telemedicine

## Vanderbilt's Early Assessment, Intervention, and Part C Mentorship Program for ASD

**Katie Wood (El Emory Valley Center)**  
**Karen Olson (El Emory Valley Center)**  
**Jamie Sharpe (Proud Parent)**

**Mary Fleck, MEd, BCBA (VKC TRIAD)**  
**Jeffrey Hine, PhD, BCBA (VKC TRIAD)**



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# Collaborators



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Department of  
**Intellectual &  
Developmental Disabilities**

Tennessee Early  
Intervention System

# The Guiding Question



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*How do we...*

- 1) Provide best-quality services in rural, underserved, and low resource communities
- 2) While optimizing innovation and efficiency for sustainable programming
- 3) Embed within existing systems of medicine, education, and care?



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## Objectives for Today

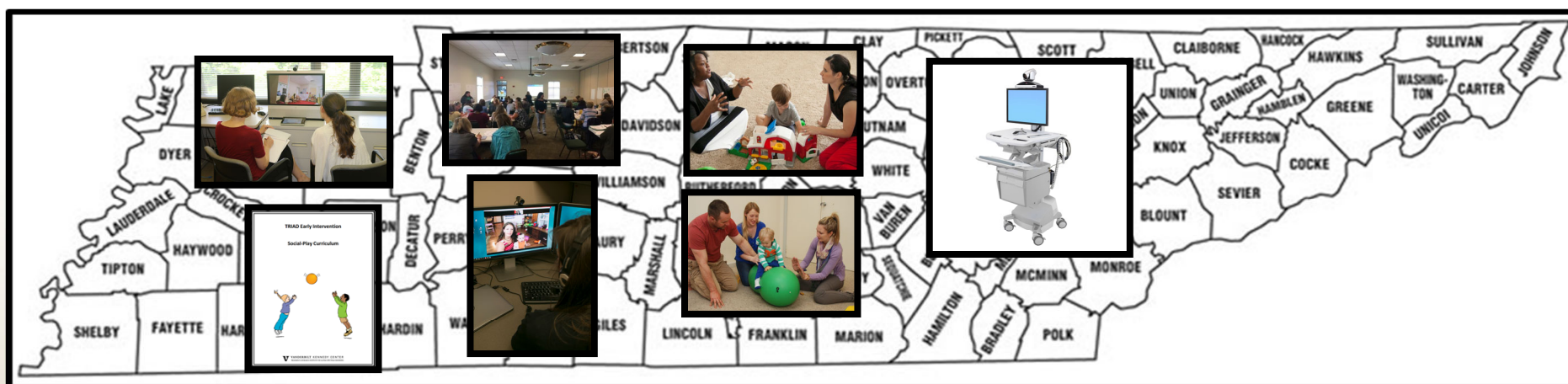
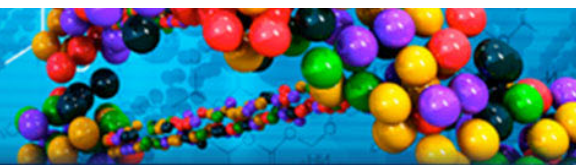
- Provide a brief history of TRIAD's partnership with TEIS
- Discuss use of telemedicine as a service delivery model for providers and families of young children with autism
- Early Interventionist and parent perspectives





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2014

Caregiver  
follow-up

2015

Co-treating

2016

Professional  
Development &  
Tele-consultation

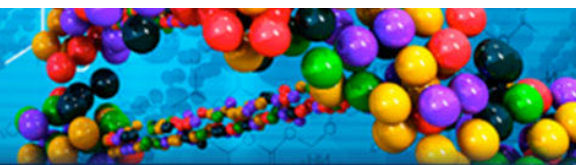
2017

Curriculum  
Development &  
Tele-diagnostic  
Consultation

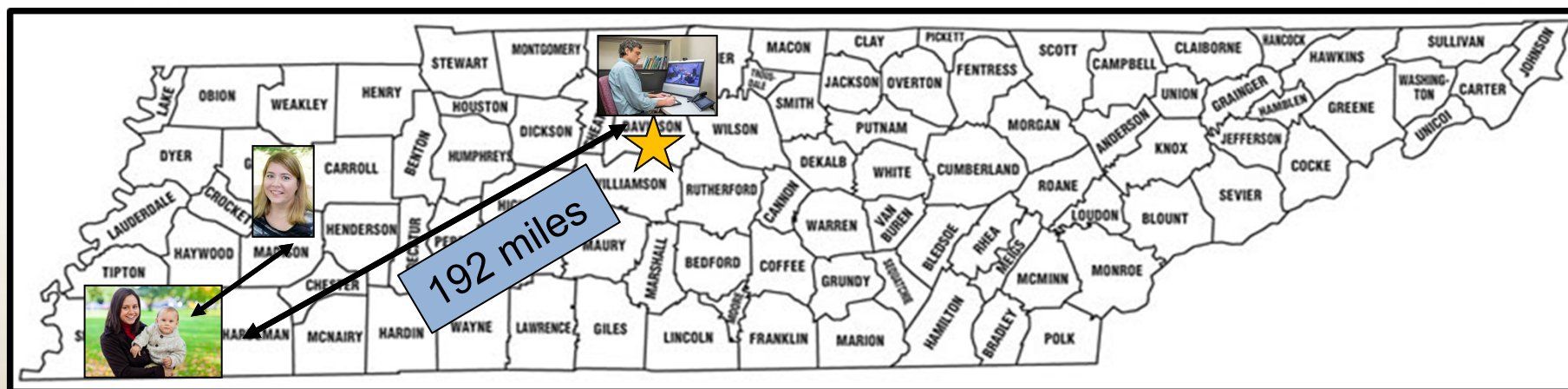
2018

2019 and on

Tele-  
extensions  
and district  
level experts



# Tele-diagnostic Consultation Service Model



- Telediagnostic program designed to:
  - Streamline care in an efficient manner
  - Rapidly and accurately identify ASD (or clearly rule out)
  - When clear/pressing issue for family
  - Not for those where more substantial evaluation is needed over time (family offered choice)

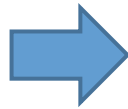
## Triage

- Families enrolled in State's Part C
- ASD concerns identified



### Triage

- Families enrolled in State's Part C
- ASD concerns identified



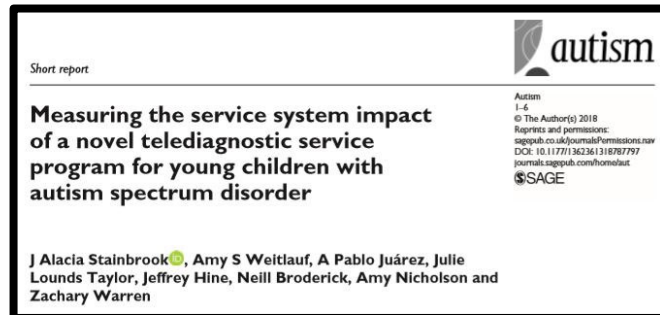
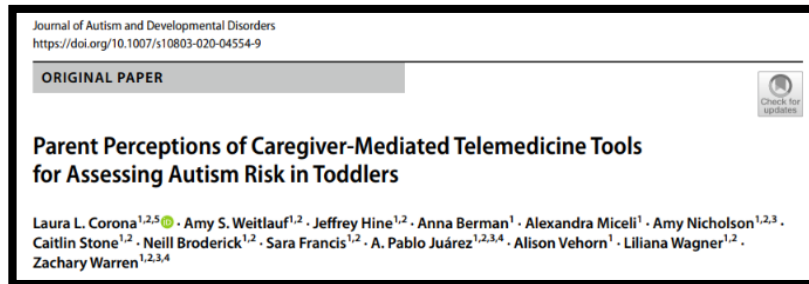
### Streamlined Telediagnostic Evaluation

- STAT
- Record review
- Caregiver Interview
- Structured behavior observations
- Feedback and next steps
- Home follow-up





## TELE-SUPPORT, RESEARCH, & SERVICE



### We have found:

- It is feasible and valid to use an abbreviated autism evaluation process
- *Families* highly prefer telediagnostic services over traveling to a distant diagnostic center
- We are increasing the number of families we serve
- We are decreasing wait times
- We save *families* time/financial costs
- We start intervention for *families* faster

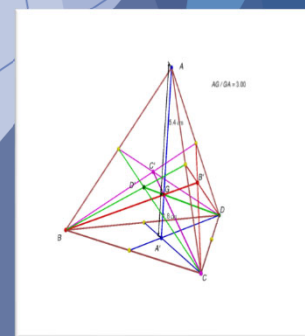
## *“Can Novel Telemedicine Tools Reduce Disparities Related to Early Identification of Autism?”*

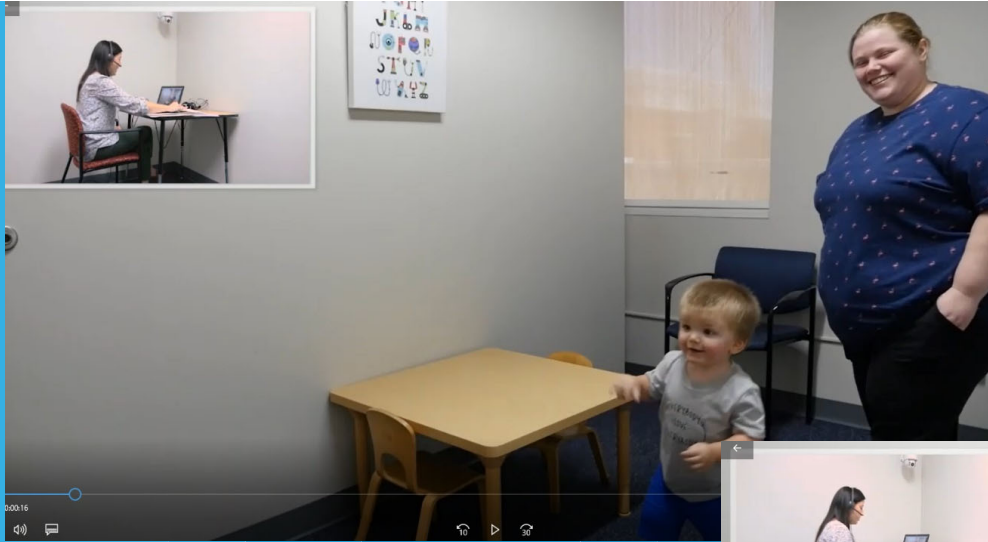
(1R21MH118539-01 /ClinicalTrials.gov: NCT03847337)

- Designed for use by during a telemedicine-based assessment
- Designed for open and free use
- Uses widely available/cheap materials
- Time-sensitive
- Play-based procedures could be performed by novel users

<https://vkc.vumc.org/vkc/triad/tele-asd-peds>

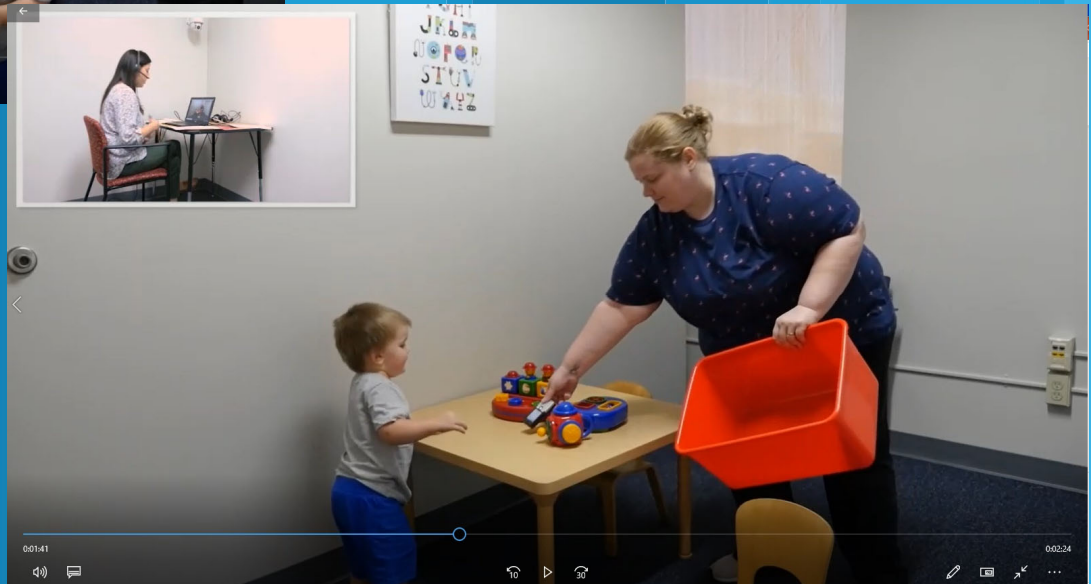
TELE-ASD-PEDS





Parent is walked through a set of play tasks that can be modified, repeated as needed

- Prepare/orient families for visit
- Call/info in advance
- EI joins via Zoom



## TELE-SUPPORT, RESEARCH, & SERVICE

Journal of Autism and Developmental Disorders (2021) 51:476–486  
<https://doi.org/10.1007/s10803-020-04554-9>

### ORIGINAL PAPER

#### Parent Perceptions of Caregiver-Mediated Telemedicine Tools for Assessing Autism Risk in Toddlers

Laura L. Corona<sup>1,2,5</sup> · Amy S. Weitlauf<sup>1,2</sup> · Jeffrey Hine<sup>1,2</sup> · Anna Berman<sup>1</sup> · Alexandra Miceli<sup>1</sup> · Amy Nicholson<sup>1,2,3</sup> · Caitlin Stone<sup>1,2</sup> · Neill Broderick<sup>1,2</sup> · Sara Francis<sup>1,2</sup> · A. Pablo Juárez<sup>1,2,3,4</sup> · Alison Vehorn<sup>1</sup> · Liliana Wagner<sup>1,2</sup> · Zachary Warren<sup>1,2,3,4</sup>

Journal of Autism and Developmental Disorders  
<https://doi.org/10.1007/s10803-020-04767-y>

### ORIGINAL PAPER

#### Use of the TELE-ASD-PEDS for Autism Evaluations in Response to COVID-19: Preliminary Outcomes and Clinician Acceptability

Liliana Wagner<sup>1,2</sup> · Laura L. Corona<sup>1,2</sup> · Amy S. Weitlauf<sup>1,2</sup> · Kathryn L. Marsh<sup>5</sup> · Anna F. Berman<sup>1</sup> · Neill A. Broderick<sup>1,2</sup> · Sara Francis<sup>1,2</sup> · Jeffrey Hine<sup>1,2</sup> · Amy Nicholson<sup>1,2,3</sup> · Caitlin Stone<sup>1,2</sup> · Zachary Warren

### We have found:

- Providers
  - Comfortable completing assessments
  - Making diagnoses
  - Providing feedback
- Families
  - Comfortable playing with child
  - Instructions easy to follow
  - Took right amount of time
  - Comfortable discussing diagnosis
  - Provider had seen behaviors of concern





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## Increasing Access to Specialized Early Intervention Services



**Caregiver and Provider Support Services (EI CAPSS)**




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# Basic Online Training Resources Resources

**Challenging Behavior Five:  
Preventing Challenging  
Behavior and Planning for  
Change**

RESUME COURSE

DETAILS ▾

 Aislynn Kiser

**From Early Intervention to  
Preschool: A Toolkit for  
Parents**

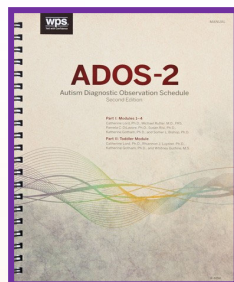
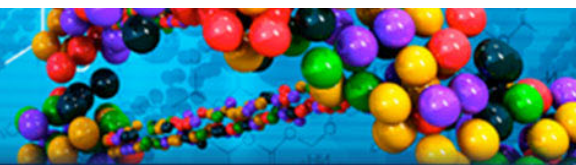
START COURSE

DETAILS ▾

[Vkclearning.org](https://vkclearning.org)



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Diagnostic Evaluation  
Traditional or  
Telemedicine

6 follow-up visits (in  
person or via  
telemedicine) in  
collaboration with the EI  
provider.



Ongoing support and  
consultation as  
needed from TRIAD.





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**The potential of  
telemedicine...**



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**Program Mission: Increase access to autism  
evaluation and intervention services for  
families while mentoring rural providers**





## Pre-COVID Telemedicine Efforts

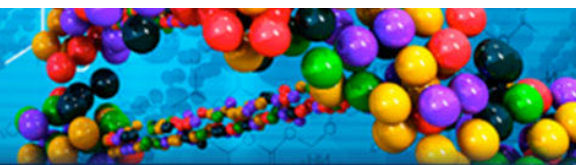
- Tele-diagnostic consultation
- Hybrid behavioral intervention services

## COVID Response Telemedicine Efforts

- 100% tele delivery of services
- Development of new tools/trainings for other service providers



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## Outcome Data Comparisons

### In-person Only



N = 49

### Hybrid



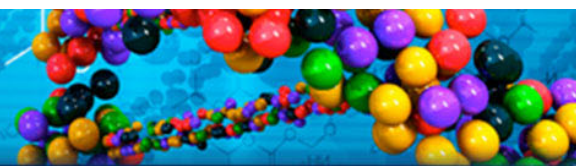
N = 20

### Telemedicine Only

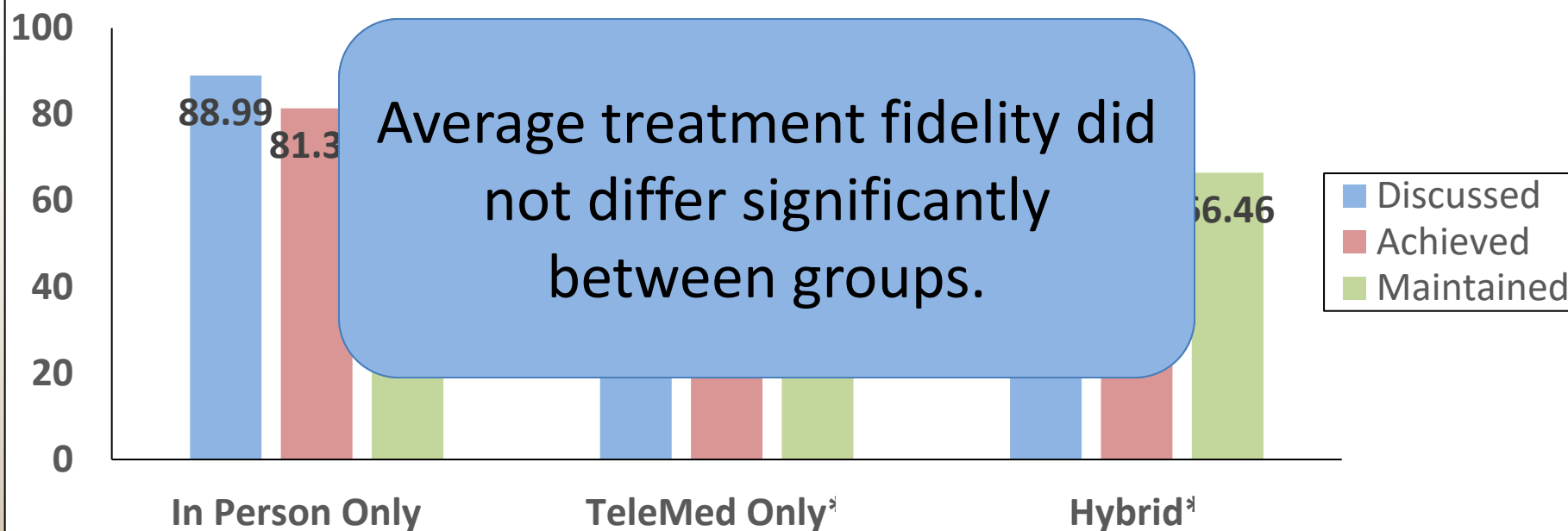


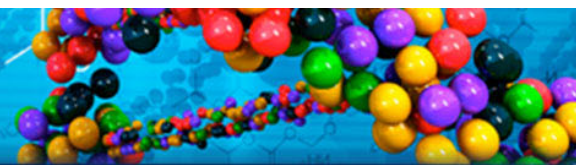
N = 46

Corona et al. (in review). *Utilization of Telemedicine to Support Caregivers of Young Children with ASD and their Part C Service Providers: A Comparison of Intervention Outcomes Across Three Models of Service Delivery*

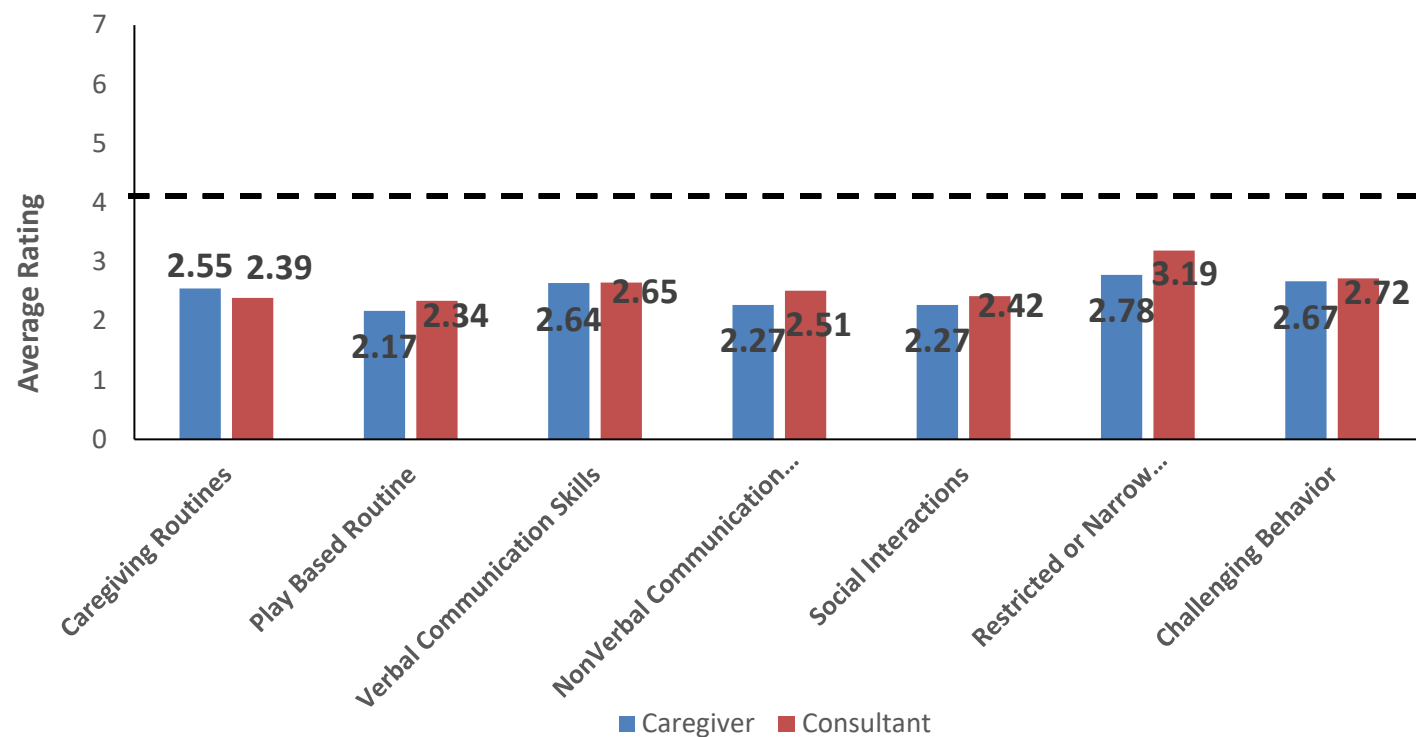


## Fidelity Averages by Treatment Modality



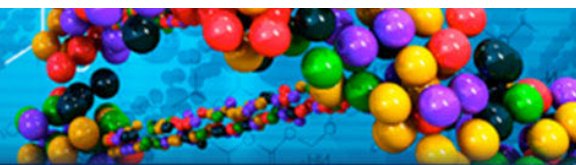


### CGI Improvement Caregiver/Consultant Comparison



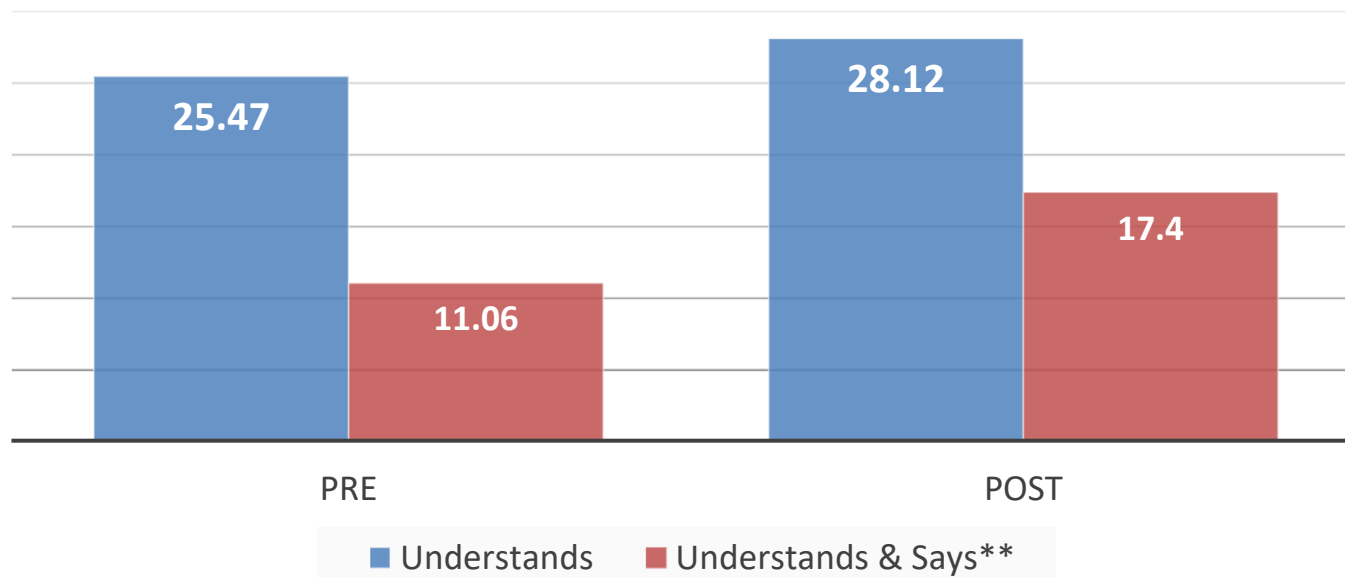
*More improvement reported by the in-person group*





### CSBS Communication Pre vs. Post Overall

#### MCDI Pre vs. Post Overall



*\*No significant differences between groups on the CSBS-DP or MCDI*



## Service Provider Satisfaction



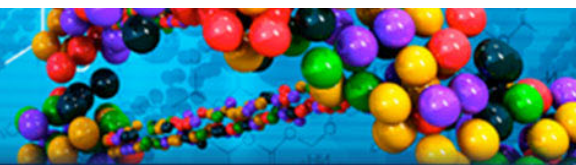
*Higher ratings in the telemedicine only group vs. the hybrid group/in person groups*

	Overall	In-Person	Tele-Medicine	Hybrid	Total
The objectives of the consultation were clear.	3.72	3.58	3.91	3.00	3.55
Appointments and home visits were appropriate in length and were scheduled at convenient times.	3.72	3.58	3.91	3.00	3.55
The consultant was knowledgeable about interventions.	3.76	3.67	3.96	3.00	3.60
The consultant was knowledgeable about child development and the child's specific developmental challenges.	3.76	3.67	3.96	3.00	3.60
The consultant understood and addressed the family's needs.	3.74	3.67	3.91	3.00	3.58
The consultant was well prepared and well organized.	3.77	3.67	3.96	3.00	3.60
The consultant communicated clearly throughout the process.	3.84	3.91	3.96	3.00	3.68
The consultant provided recommendations that were useful.	3.74	3.64	3.91	3.00	3.57
The child's target behavior(s) and skills improved during this service.	3.7	3.62	3.87	3.00	3.55
The final report provided was understandable and useful.	3.7	3.62	3.87	3.00	3.56
I was pleased with the outcome of TRIAD services for me and this family.	3.7	3.62	3.87	3.00	3.61
I would recommend TRIAD services to other parents of children with ASD or related developmental delays.	3.8	3.734	3.94	3.00	3.63
Was the amount of time spent on this service realistic?	3.92	4.00	3.92	No Response	3.95
Was the amount of time and support adequate for your needs?	4.00	4.00	4.00	No Response	4.00
Did this service meet your expectations of it?	4.00	4.00	4.00	No Response	4.00
<b>Total</b>	<b>3.80</b>	<b>3.734</b>	<b>3.94</b>	<b>3.00</b>	<b>3.67</b>

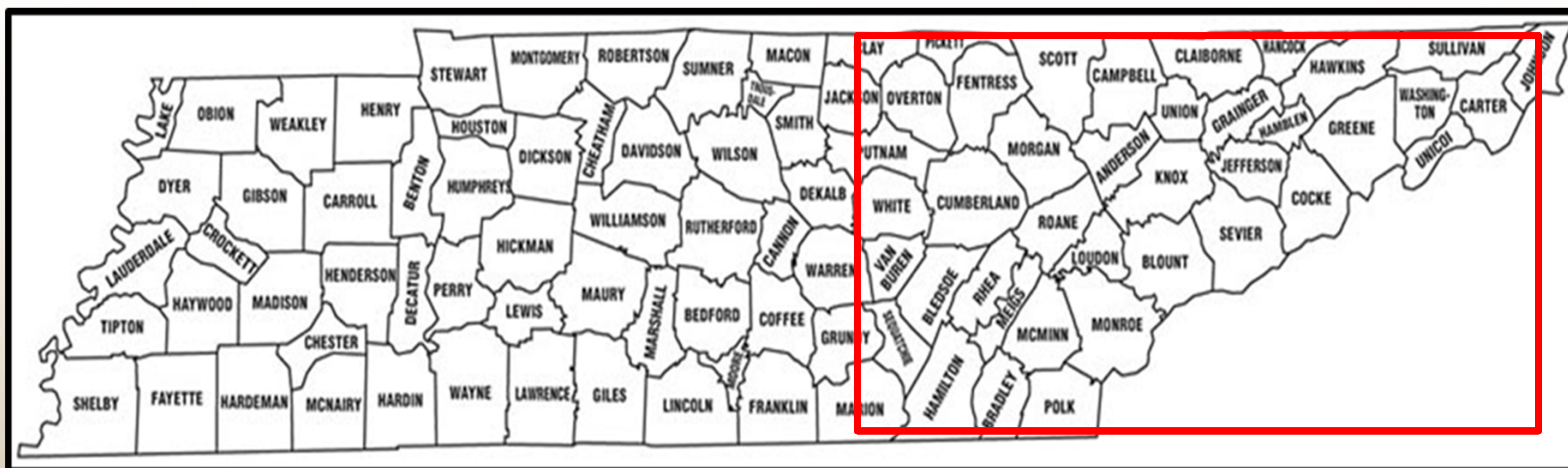
Overall rating of  
3.8 out of 4



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## TRIAD's TN Early Assessment and Mentorship Opportunity (TEAM Opp)



*How do we reach families when a specialist isn't available to administer the assessment?*

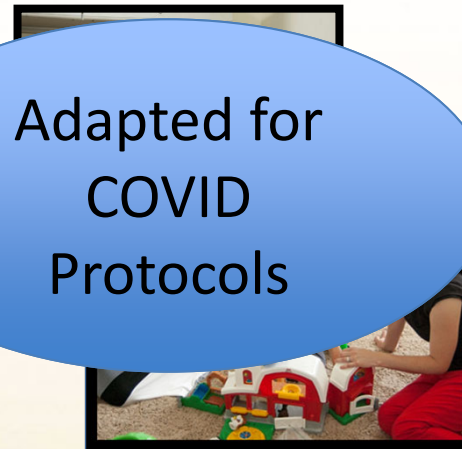


## STAT Training Procedures for DTs

### TRAIN



### IMPLEMENT



Adapted for  
COVID  
Protocols

### SUPPORT

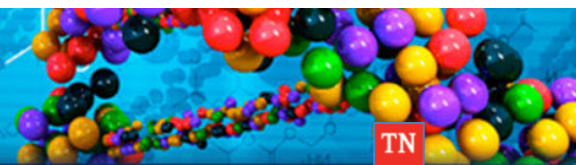




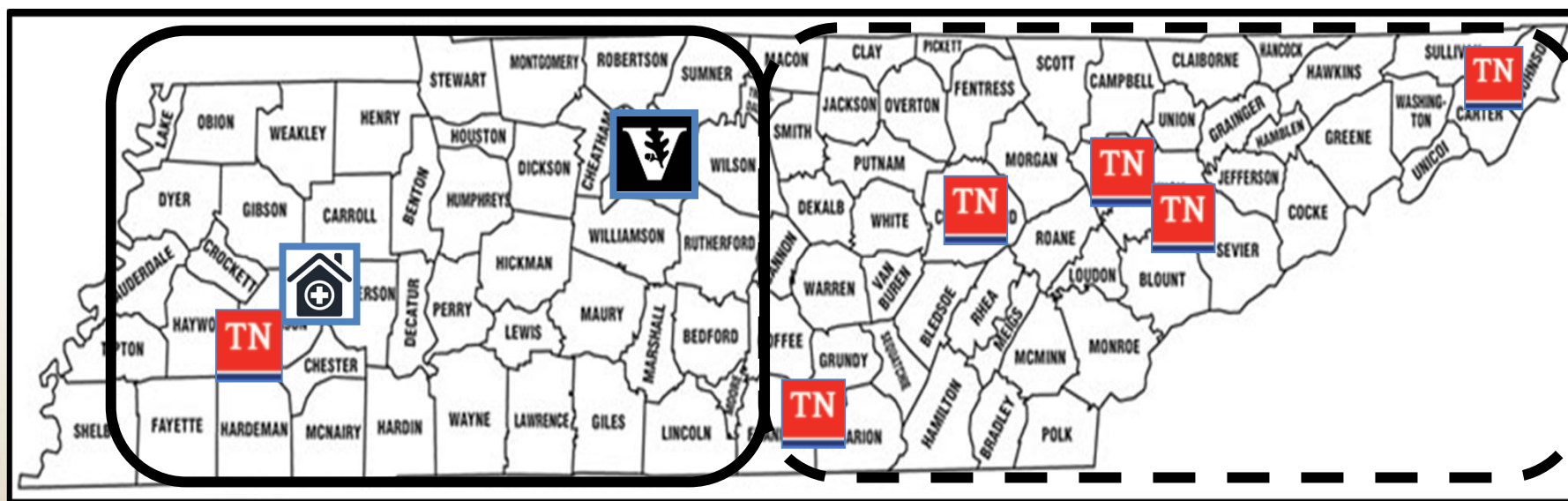


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TN



Established Contracted Sites



TEAM Opp



## Provider Satisfaction

Providers were asked to rate their agreement with statements about the telediagnostic evaluation on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree)

**Satisfaction with Tele-Diagnostic  
Evaluation**

4.78



## Provider Satisfaction

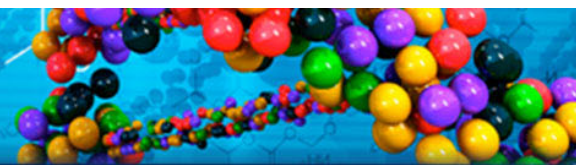
Providers were asked to rate their agreement with statements about the professional learning community on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree)

“Shorter wait time, they don't have to travel, child can be seen in his/her natural environment.”

### Satisfaction with Tele-Diagnostic Evaluation

4.78

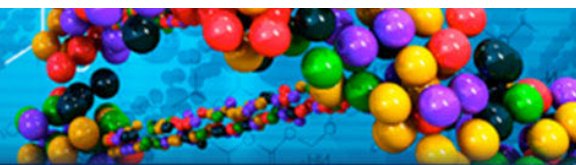
“It allows be to be part of the evaluation. I get to see what specific things the evaluator saw to issue/not issue a diagnosis.”



## Caregiver Satisfaction - Evaluation

Survey	Average Rating (1-Strongly Disagree to 5-Strongly Agree) (n=5)
Telemedicine made it easier and more convenient for me to visit with a provider.	5
My telemedicine visit was just as private as an in-person visit.	5
I felt it was important that my child's DT/EI was able to participate in the evaluation	5
I am likely to recommend telemedicine to others.	5





## Satisfaction with Telemedicine Follow-up Services

	Families (n=7)	Providers (n=8)
Program Design (n=2)	3.86	3.94
Consultant Knowledge and Skill (n=6)	4	3.92
Child Outcomes and Program Benefits (n=4)	3.86	3.94
Overall Average (n=12)	3.93	3.93

4= Strongly Agree 3= Agree 2= Disagree 1= Strongly Disagree



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## Next Steps

- Return to in-person service delivery as needed/appropriate
- Replication and extension of DT-mediated evaluations
- Pilot alternative models of follow-up consultation



© Vanderbilt TRIAD

For more information visit [vkclearning.org](http://vkclearning.org) > TRIAD > Early Intervention





# Special Thanks!

## TRIAD Directors:

- Zachary Warren, Executive Director
- Pablo Juárez, Director
- Amy Nicholson, Director of Clinic and Research Operations

## TRIAD Psychologists

- Neill Broderick, Ph.D.
- Tori Foster, Ph.D.
- Jeff Hine, Ph.D.
- Caitlin Stone, Ph.D.
- Amy Weitlauf, Ph.D.

## TRIAD Early Intervention Consultants:

- Kristin Dorris
- Shaunna Foell
- Tori Foster
- LaTamara Garrett
- Stephanie Kretzer
- Marie Martinez
- Mary Morton
- McKenzie Peeler
- Amanda Spiess
- Ashley Vogel

***And to TEIS and  
all the families  
that have  
welcomed us into  
their homes and  
lives.***

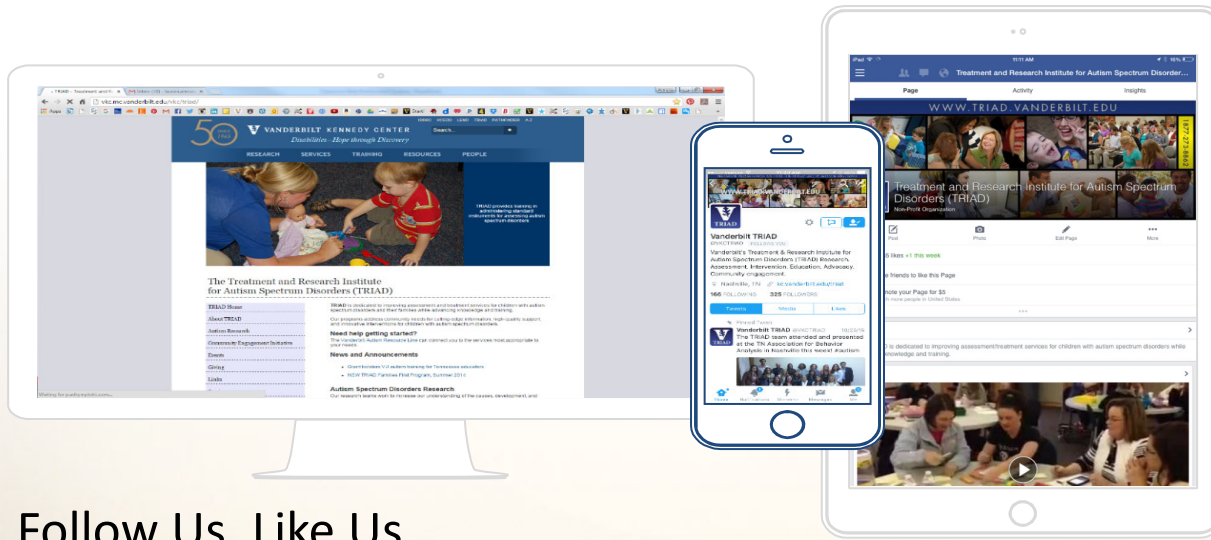


- What perceived difference did you observe from live assessments and teleassessments/interventions?
- What differences in enrollment did you experience after going from in-person to virtual services? Do you think decreases could be because families are overwhelmed? Financially hurting? Other reasons?
- Have you asked parents for feedback on the differences between in-person and virtual services? How did you do this?
- How did you address equity and inclusion in going from in-person to virtual services?





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# Thank You!

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