GLOBAL PARTNERSHIP FOR
TELEHEALTH

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Use Cases for Autism: The Telehealth Program at the Marcus Autism Center

Felissa P. Goldstein, MD

4th Annual Telehealth Summit of South Carolina

October 2015

Objectives

1. Describe 3 ways telehealth may help children with autism
2. List 3 benefits of telehealth
3. Identify 3 programs that use telehealth to facilitate care for children with autism spectrum disorders

What is Telehealth?

- Use of electronic information and telecommunications technologies to support and promote:
  - Long-distance clinical health care
  - Patient and professional health-related education
  - Public health
  - Health administration

Health Resources and Services Administration

Why Design a Telehealth Program for Children on the Autism Spectrum ?

"I think autism is a good illness in some respects to use telemedicine for. The kids actually interact well with technology and more naturally than they do if you're in the room. They're not good with social relationships and they may find it easier to find someone talking to them from a television than they do face-to-face, which might make them more anxious." (Peter Yellowlees at UC Davis, in Terry 2009)

Marcus Autism Center

- Multispecialty Center
- Subsidiary of Children's Healthcare of Atlanta and a part of the Children's Telemedicine Program
- 1 of 3 NIH Autism Centers of Excellence
- Over 5500 patients treated annually

Why Use Telemedicine With Children With Developmental Disabilities?

- Neurodevelopmental disorder affects 1 in 68 individuals
- Average age of parental concern is about 13 months
- Median age of diagnosis in rural areas is about 7 years
- Due to a gap between parental concern and formal diagnosis, children do not receive interventions during key developmental years

Benefits of Telemedicine for Children with ASD

- Improved patient outcomes
  - –Decreased time to first appointment
  - –Earlier identification and treatment of autism spectrum disorder
  - –Increased access to specialized programs for children with developmental disabilities
- Education and Support
  - –Community doctors
  - –Schools and families throughout the state

How is Telehealth Currently Used ?

- Psychopharmacology
- Psychotherapy
- Data Collection
- Behavioral Therapy
- Implement Functional Communication Training
- Conduct Functional Behavior Analysis

How is Telehealth Currently Used ?

- IEP Development
- Developmental Intervention
- Limited usage in Autism Spectrum Diagnosis

How is Telemedicine Provided for Children on the Autism Spectrum?

The need is there

How do we provide it?

Here is one example –

Collaboration between

- Marcus Autism Center (MAC)
- Georgia Partnership for Telehealth (GPT)

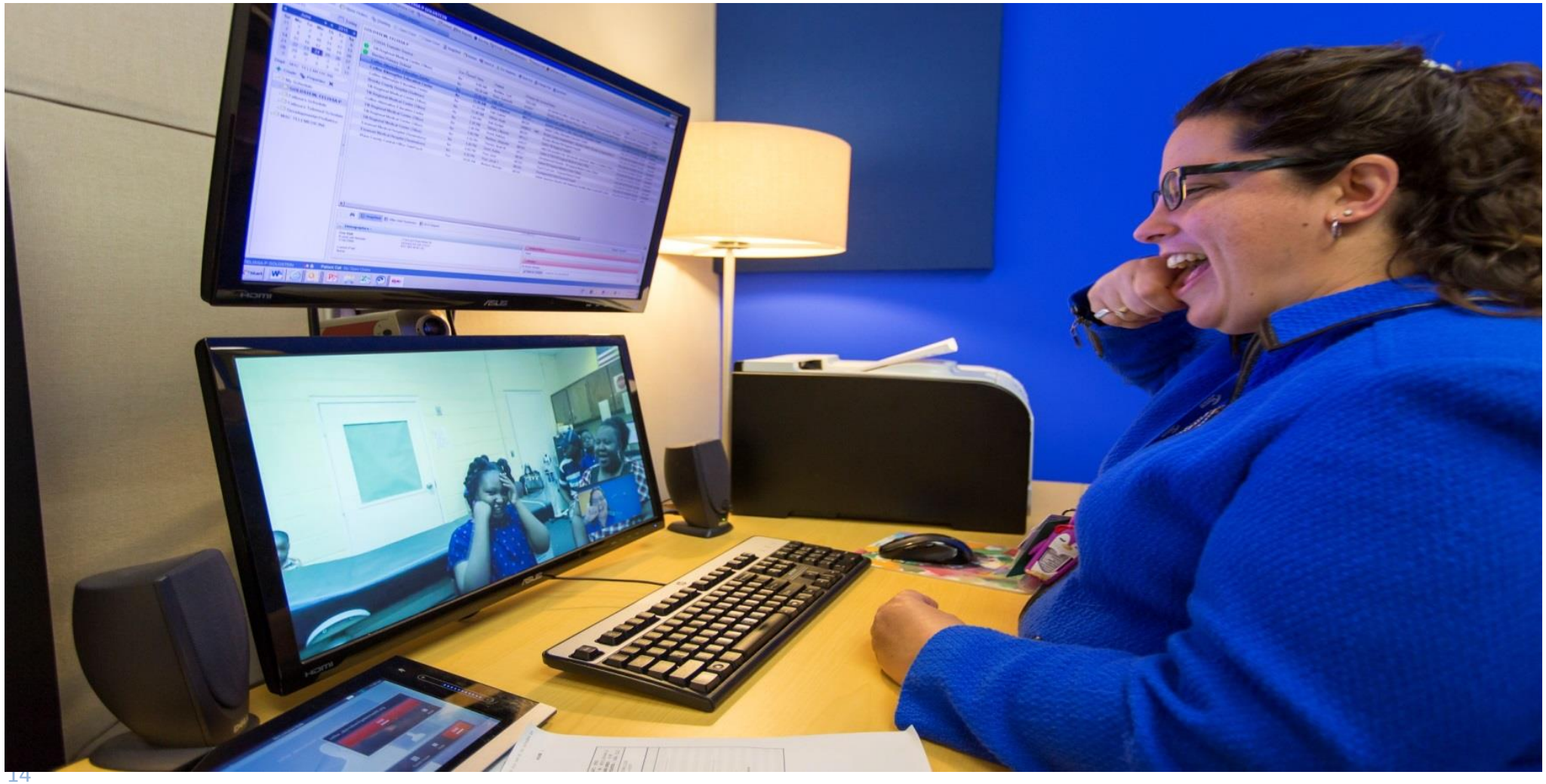
Georgia Partnership for TeleHealth
Connecting Healthcare to All of Georgia

Marcus AUTISM CENTER

The Evolution of a Telehealth Program

- Began in collaboration with Ga. Partnership for Telehealth in 2009
- In November 2010 Marcus Telemedicine Program became a part of the Children's Healthcare of Atlanta Telemedicine Program
- 2011 Marcus and CHOA collaborated with Cisco and Georgia Tech Research Institute to develop an ideal telemedicine system to facilitate the diagnosis and treatment of children with Autism Spectrum Disorders

The Telehealth Suite in Action…



Models of Telehealth at Marcus

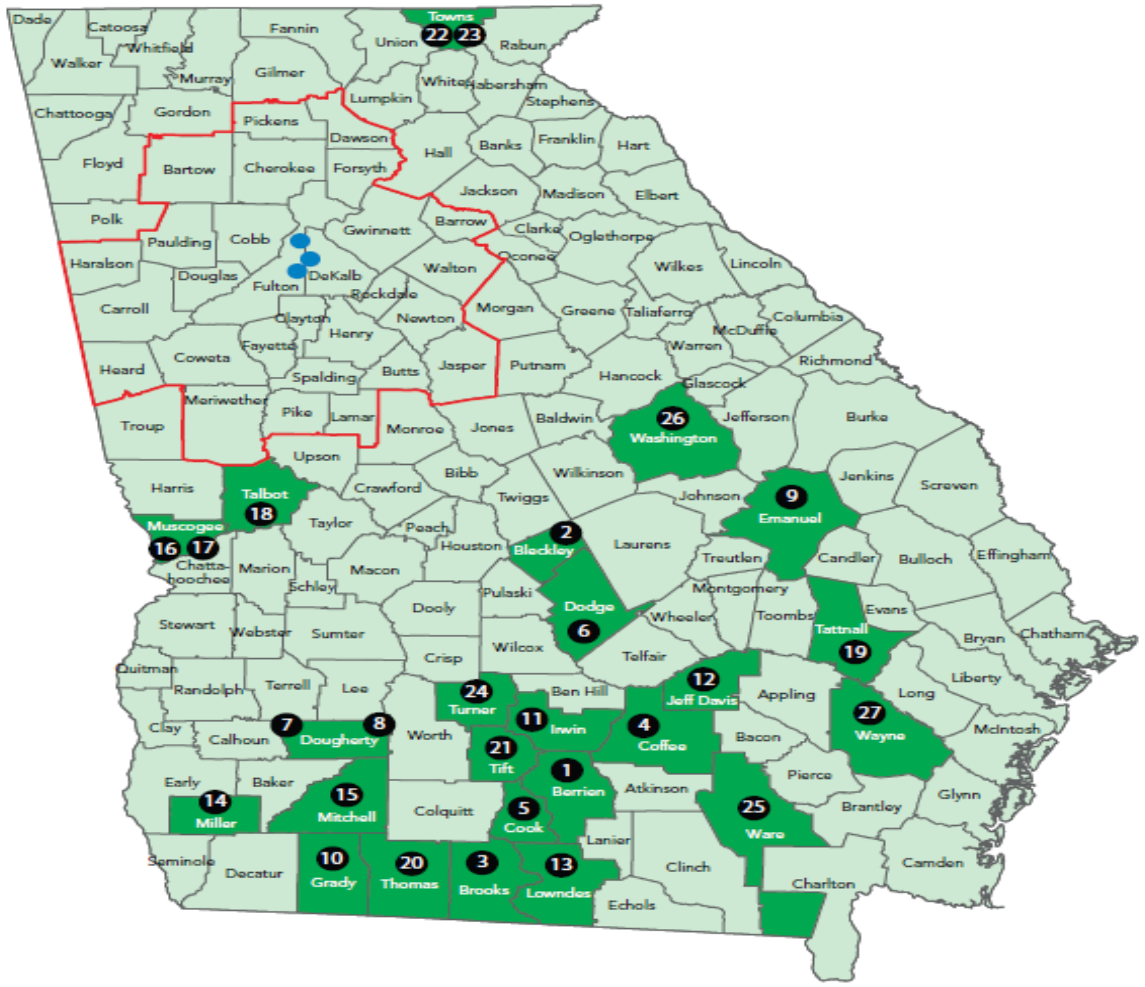
- Clinic to Clinic
- Clinic to Home
- Research

CLINIC TO CLINIC

Marcus Child Psychiatry Telemedicine Program

- Over 3000 encounters since inception
- I am the highest volume provider of Telemedicine services in the state
- Patients have been seen at over 85 different sites through the, Georgia Partnership for Telehealth network
- Same psychiatric care as provided in person

Current Sites



*Map and total does not include Child Advocacy Centers

- Participating with 85 presenting sites throughout Georgia*
  - Healthcare Organizations
  - Private Practices/clinics
  - Community Health Sites
    - Schools
  - Public Health Departments
    - Child Advocacy Centers

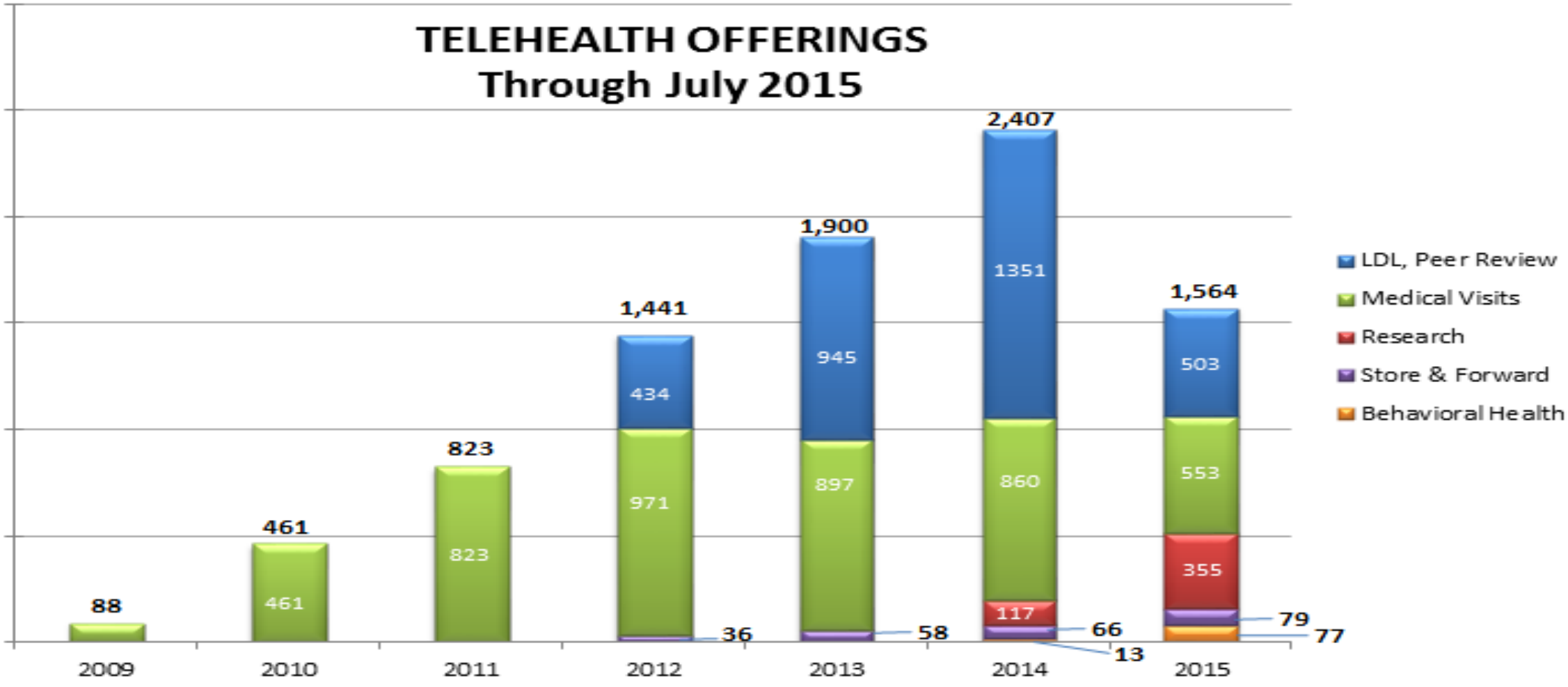
Active telemedicine site

Atlanta metropolitan statistical area

Children's Healthcare of Atlanta hospital locations

*Not all services available at all locations. Call 404-785-1111 for complete list of services available. Locations are subject to change. Child advocacy centers not included.

Volumes


TELEHEALTH OFFERINGS
Through July 2015
2009
2010
2011
2012
2013
2014
2015
88
461
461
823
823
1,441
434
971
36
1,900
945
897
58
2,407
1351
860
117
66
13
1,564
503
553
355
79
77
LDL, Peer Review
Medical Visits
Research
Store & Forward
Behavioral Health

CLINIC TO HOME

Clinic-to-Home

- Benefits
  - No transportation required for family or clinician
  - In natural setting
    - Use typical materials
    - Include observation of behaviors that may not occur in other settings
    - Incorporates other family members

Clinic-to-Home

- No others (e.g., coordinators) needed for sessions
- Decreases distractions for client
- Recording built-in via Webex
- Reduces drive time/mileage reimbursement

Clinic-to-Home

- Clinical Services at MAC:
  - Language and Learning Clinic (LLC)
    - Focus on skill acquisition and language development
  - Severe Behavior Clinic (SB)
    - Focus on reduction of behavioral excesses

Language and Learning Clinic (LLC)

- Using Telehealth in 3 distinct ways
    1. Community Autism Program
        - 12-week, structured caregiver training program
        - Develop and foster social skills, language and communication, independence, routines, and preacademic skills
        - 5 slots per week via Telehealth

Language and Learning Clinic (LLC)

- Future Research
  - Feasibility of CAP Telehealth
  - Comparison of program in-person vs Telehealth
  - Predictive factors for success with Telehealth

Language and Learning Clinic (LLC)

2. To augment LLC direct services
   - Consult or Follow-up with parents
   - Observation of clients/staff
   - Training for new protocols and procedures
3. Mand Training - Telehealth grant
   - A Pilot Study to Train Caregivers to Increase Functional Expressive Language in Children with Autism Spectrum Disorder: An Evaluation of Telehealth Services

Mand Training - Telehealth Grant

- Feasibility study
- 15 caregiver/child dyads
- Preverbal phase of Spoken language
- Initial request training
- 12 weeks (up to 24 visits)
- All assessments and evaluations will be completed via Telehealth
- Outcomes to include satisfaction surveys (technology & training), attendance records, measures of language, etc.

Severe Behavior Clinic

- Using Telehealth in 4 distinct ways:
    1. Brief Behavior Intervention Program
        - 10-week, individualized treatment program
        - Focus on reduction of problematic behaviors and development of adaptive replacement behaviors:
            - Aggression
            - Self-Injurious Behavior
            - Disruptive Behavior
            - Noncompliance
        - Caregiver must be able to manage behavior

Outcomes

- Since March, four clients have had BBI - Telehealth admissions
  - Two clients have successfully discharged (met treatment goals identified by caregiver)
  - Two clients discharged early (funding issues, health issues)
- Begun using Telehealth for follow-up from Day Treatment Clinic
  - Two clients in follow-up currently

Severe Behavior Clinic

2. In-Home Observations for Day Treatment Program
   - Most intensive service in severe behavior
   - All kids are at imminent risk of harm to themselves or others
   - Admission includes 6 hours a day, 5 days a week appointments
   - Approximate admission length of 3 months
   - Staffing of 3:1 during admission with extensive caregiver training after development of a successful treatment package

Severe Behavior Clinic

3. Intakes
   - Important for a trained clinician to observe problem behavior to determine the appropriate placement
   - Referrals come from all across the country
     - Distance often increases the importance of an appropriate referral

Telehealth Grant for Severe Behavior

4. Evaluation of Functional Analyses

- R01 multisite grant evaluating the necessity of functional analyses in the treatment of problem behavior
- Participants will be randomly assigned to a multielement functional analysis and also to a more general structured observation
  - Compare based on behavior reduction following functional communication training and acceptability

Telehealth Grant for Severe Behavior

- All sessions via Telehealth (no face-to-face contact)
  - Allows for a larger sample more representative of different regions (e.g., rural)

RESEARCH

Parent Training Via Telehealth Grant

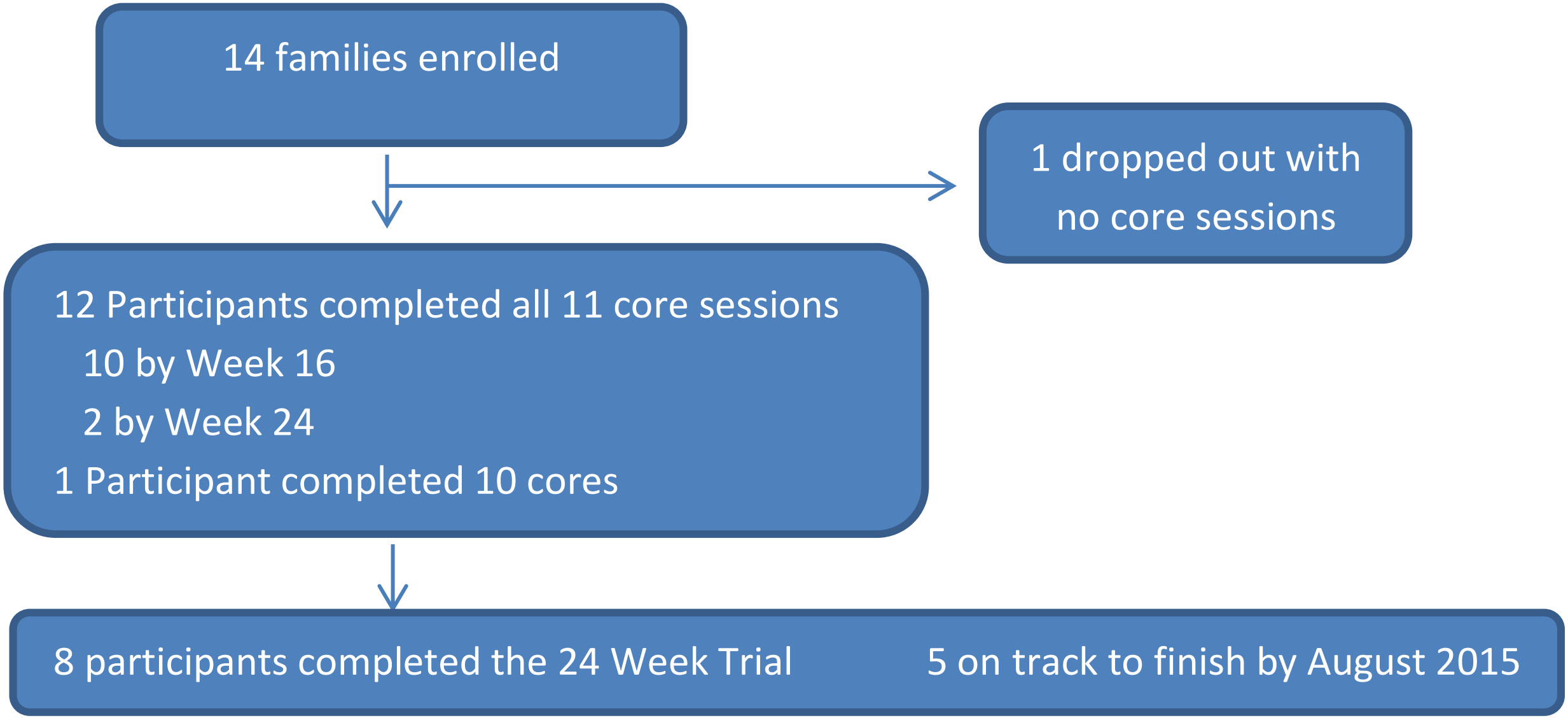
- Parents need specific instruction on techniques to:
  - Address core symptoms of Autism Spectrum Disorders
  - Reduce challenging behaviors
  - Improve adaptive functioning
- Background: A 24-week parent training (PT) program for children with ASD and disruptive behaviors is effective in reducing disruptive behaviors when delivered *in-person* to families

Parent Training Via Telehealth Grant

- This open-label pilot study focuses on the ***feasibility*** of delivering the PT intervention via Telehealth by therapists from the Marcus Autism Center
- Living near one of 4 GPT collaborating sites

SESSIONS	SKILLS/ACTIVITIES
Basic Behavioral Principles	- Introduce overall treatment goals - Introduce concepts of functions of behavior, antecedents and consequences of behavior
Prevention Strategies	- Discuss antecedents to behavior problems and develop preventive strategies
Daily Schedules	- Develop a daily schedule and identify points of intervention (including use of visual schedules) to decrease behavior problems
Reinforcement 1	- Introduce concept of reinforcers – to promote compliance, strengthen desired behaviors and teach new behaviors
Reinforcement 2	- Introduce “catching your child being good.” - Teach play and social skills through child-led play
Planned Ignoring	- Explore systematic use of extinction (via planned ignoring) to reduce behavioral problems
Compliance Training	- Introduce effective parental requests and the use of guided compliance to enhance compliance and manage noncompliant behaviors
Functional Communication Training	- Through systematic reinforcement, teach alternative communicative skills to replace problematic behaviors
Teaching Skills 1	- Using task analysis and chaining, provide tools to replace problem behaviors with appropriate behaviors and how to promote new adaptive, coping and leisure skills
Teaching Skills 2	- Teach various prompting procedures to use while teaching skills
Generalization & Maintenance	- Generate strategies to consolidate positive behavior changes and generalize newly learned skills
Optional Sessions	- Provide instructions on optional topics or review materials
Telephone Boosters	- Review implementation of intervention strategies - Develop interventions for any newly emerging behavior concerns

Study Enrollment



Feasibility Outcomes

Feasibility Measure	%
Therapist Fidelity to the Manual	96.7%
Parent Engagement in Treatment	88.4%
Parent Understanding of In-Session Material	91.5%
Parent Homework Completion	77.9%
Parent Attendance to Core Sessions	92.2%
Attrition Rate	7.1%

Study Conclusion

- Therapists reliably administered the PT intervention via Telehealth.
- Parents found it an acceptable modality of treatment delivery.
- The low attrition rate and high parent satisfaction suggest that parents enjoyed the program and found it helpful in reducing disruptive behavior in their children.

Summary

- Telehealth enables children with autism spectrum disorders to be seen sooner
- Telehealth enables patients and families to have access to specialized programs
- Telehealth is a vehicle to provide support and education about autism spectrum disorders to all
- Videoconferencing provides the means to deliver psychiatric care, language and skill development instruction, behavioral treatment, and parent training

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Questions???

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