**Request for Proposals: The Effect of Treatment Intensity Using Dynamic Temporal and Tactile Cueing in Childhood Apraxia of Speech Treatment**

**Letters of intent due November 1, 2019**

The Once Upon a Time Foundation (a Fort Worth-based private foundation with $200 million in assets that has given away over $60 million) is pleased to announce a major multi-center research funding opportunity. Grants totaling $1 million will be awarded for a randomized, controlled treatment study investigating the effects of treatment intensity on outcome measures for children with moderate to severe childhood apraxia of speech (CAS) using Dynamic Temporal and Tactile Cueing (DTTC). DTTC is an evidence-based motor speech treatment method founded by Dr. Edythe Strand and recommended for treatment of moderate to severe CAS (Murray, et. al., 2014). This funding opportunity is designed to evaluate the efficacy of high dosage DTTC (4 hours per week) versus the more typically administered dosage (1 hour per week) on speech motor control and improvements in speech production accuracy. Some studies may also consider investigating whether frequency of treatment (4 times per week vs. 2 times per week) affects progress in the high treatment dosage condition.

We are now accepting letters of intent proposing clinical research studies relevant to this topic. Multiple grants may be awarded to support several concurrent research projects, with the most effective and cost-efficient proposals being funded beginning as early as June 2020. Generalization and maintenance of treatment effects should be included. The study must include an adequate sample size for statistical power to allow generalization of results to the population of children with CAS in order to influence clinical practice guidelines and insurance reimbursement practices. Participation in the program will include attendance at quarterly, one-day investigator meetings in the DFW area at the Foundation’s expense.

**Background**

The Foundation supports a variety of medical research and education partnerships, including a $10 million grant to support several faculty members’ research at UT Southwestern School of Medicine, and a $3 million multi-center research study involving Harvard, Johns Hopkins and the University of Pennsylvania on the use of electronic data and social media in a therapeutic setting. In addition to financial support, the Foundation provides researchers with access to its business contacts and organizes quarterly meetings to foster collaboration among research partners. Since 2011, the Foundation has provided almost a million dollars of funding for projects related to communication disorders, with most of those funds directed toward CAS projects. The Foundation has partnered with Dr. Edythe Strand, an internationally recognized expert in assessment and treatment of CAS, to develop free educational programs for parents and speech-language pathologists, including online videos for parents, professional conferences and online videos offered for ASHA CEUs, and two-day advanced training workshops at 12 locations across the country. Our partnership with Dr. Strand has provided various formats for her to share her expertise with parents and SLPs around the world, thereby benefiting children with CAS and giving CAS treatment the global attention it deserves.
Purpose of the Project

In a systematic review of treatment outcomes for children with CAS, Murray et. al. (2014) evaluated 42 experimental treatment studies published between 1970 and 2012 including treatment methods and structure (intensity and dosage) and treatment outcomes to explore the evidence for different treatment approaches. The authors found that DTTC was one of three approaches with preponderant evidence of efficacy, but this was based on multiple small-scale studies. The authors further concluded that larger scale, well controlled research studies were critically needed to provide conclusive evidence regarding efficacious treatment methods.

Although intensive treatment is often recommended to optimize outcomes for children with CAS, there is very little evidence to guide decisions regarding treatment intensity. A high treatment dosage, consistent with the principals of motor learning, is frequently recommended by experts. Strand et al. (2006) found positive effects of intensive treatment (10 half hour sessions per week) using DTTC as the treatment method in a small sample size of subjects (N=4). In a larger scale study (N=37) of the effect of treatment intensity on outcome measures, Namansivayam et al. (2015) reported that intensity of 2 times per week resulted in significantly greater outcome than 1 time per week. In an experimental study of six children ages 4 to 11, Maas et al. (2019) found most children with CAS show greater speech motor learning with more practice, and more robust improvement using a massed practice regimen. Although small scale studies indicate that children with CAS demonstrate better speech motor learning with more practice suggesting that higher dosage of therapy is optimal for children with CAS, it is unclear how dosage interacts with frequency of treatment (how many times each week treatment is administered). Since parents often travel significant distances to seek treatment with SLPs experienced in CAS treatment, understanding the interaction of dosage and treatment frequency could be important to parents.

Because children with CAS, especially those with moderate to severe impairment, are often described as “slow to progress”, it is important that the potential benefits of providing intensive treatment be evaluated. If, in fact, intensive treatment (4 to 5 hours per week) results in significantly better improvement in motor speech control and speech production accuracy, then adopting this dosage as the “clinical standard” has the potential to result in significantly faster progress and potentially less long-term impairment. Furthermore, since evidence exists that children with CAS are more likely to have poor phonological awareness and reading delay (McNeil et al., 2007; Miller et al., 2019), understanding the ideal treatment intensity for CAS that leads to the fastest improvement in motor speech control and speech production also has the potential to positively impact later academic achievement.

Study Proposal

Proposals must be for a randomized, controlled treatment study (RCT) investigating the impact of high dosage DTTC treatment on improvement in speech production accuracy in children ages 2.5 to 7 years with moderate to severe CAS, and possibly children 7 to 10 years with moderate to severe CAS and not a speech sound disorder characterized primarily by residual articulatory errors. The Foundation will consider funding proposals that test any of the following hypotheses: 1) DTTC is an effective treatment method for improving speech motor control resulting in improvement in speech production accuracy 2) High dosage DTTC treatment (4 hours per week administered over eight thirty minute sessions) vs. low dosage treatment (1 hour per week administered over two 30 minute sessions) leads to significantly better progress in children with CAS; 3) DTTC can be administered over fewer visits (e.g. during multiple 30 minute practice sessions over several hours twice per week) with the same effectiveness as high frequency visits (4 times per week).
To facilitate fidelity in treatment, we will be able to share a paper in press on DTTC with grant finalists.

**Application Instructions**

**Letter of Intent (LOI) Stage**

An LOI should be mailed to the Once Upon a Time Foundation by November 1, 2019, at the following address:

Once Upon a Time Foundation  
Attn: Pat Dunne, President  
301 Commerce Street, Suite 3200  
Fort Worth, TX 76102  
Or emailed to fundingrequests@onceuponatime.org

The LOI should contain:

1. The names and institutional affiliations of the principal investigator and any collaborators, along with their proposed roles and brief biographical summaries including current professional titles, affiliations, and education backgrounds.
2. Timing for identifying patient populations and obtaining IRB approval and patient consents. Proposals should include the number of children to be enrolled in the study and a plan for obtaining patient consents within three months of funding approval and commencement of the study. A brief description of the methods that will be used to identify and recruit study participants should also be included.
3. Specific methods for identifying the characteristics and severity of each participant with CAS, including exclusionary and inclusionary criteria.
5. A brief (no more than 1 page) description of how DTTC will be used in the study.
6. A timeline with major milestones identified.

**Full Proposal Stage**

Principal Investigators invited to submit full proposals will be notified in January. Further details on the proposal submission process will be communicated to PIs who advance to the final stage. A description of items that will be required for full proposal submissions is listed below. Additional details on each of these items will be provided when full proposals are invited.

1. Cover Sheet  
2. Table of Contents  
3. Project Summary (one page)  
4. Project Description  
5. Project Timeline  
6. Curriculum Vitae  
7. Detailed Budget  
8. Budget Narrative
Eligibility

The Principal Investigator must have a doctoral degree (or equivalent) and be affiliated with an accredited non-profit university, medical school, or other major research or clinical organization that can receive and manage grants. Initial projects must be accomplished within a two-year timeframe. Investigators must be able to attend quarterly, one-day investigator meetings in the DFW area at the Foundation’s expense.

Evaluation of Proposals

The final proposals will be evaluated on the following criteria:
1. Fit with the intent of the RFP.
2. Likelihood that the proposal will receive timely IRB approval, will enroll an adequate number of participants in the study, and will be completed in a timely fashion.
3. Specificity of the study plans.
4. Effectiveness and efficiency of the study proposal – what is the estimated cost per consenting patient?
5. Quality of the investigative team.

NOTE: The most effective and cost-efficient studies will be funded. The Foundation has interest and funding to underwrite MULTIPLE qualifying proposals as well as collaborative proposals. Thus, if the Foundation receives numerous complete and compelling proposals, it is likely it will fund multiple projects in parallel at different sponsoring institutions with collaboration regarding design and procedures.

Application and Estimated Project Timeline

Letters of Intent: Due November 1, 2019
Invitations for Full Proposals: January 2020
Full Proposals: Due March 2, 2020
Notice of Award: April 2020
Funding (Conditional on IRB approval of the research project): June 2020
Project Completion: in or before September 2022
Key Personnel and Contact Information

For more information about proposal procedures, eligibility, deadlines, resources, or any related questions, please contact us at:

Kathy Thomas, M.S., CCC-SLP
Once Upon a Time Foundation
301 Commerce Street, Suite 3200
Fort Worth, TX 76102
817-332-9500
kthomas@onceuponatime.org

Kathy Thomas is an OUAT staff speech-language pathologist with 35 years of experience treating children and adults with neurogenic communication disorders, including CAS. In collaboration with Dr. Strand, she is the co-creator of most of the CAS content and curriculum supported by the Foundation and is responsible for CAS partnerships across the nation, creation of content for the CAS website (childapraxiatreatment.org) and recruiting additional CAS experts to further the reach of the Foundation’s CAS projects.

Cristina Desmond
cdesmond@onceuponatime.org

Cristina is OUAT’s Program Director responsible for the oversight of grant logistics and facilitation of collaboration across research institutions. She manages the Foundation team’s administrative and strategic responsibilities related to the expansion of CAS programming and other medical and education partnerships.

For questions regarding DTTC and other CAS projects with OUAT, you may contact:

Edythe Strand, Ph.D., CCC-SLP
edythestrand@gmail.com

Dr. Strand is the Emeritus Professor in the Mayo College of Medicine and former Head of the Division of Speech Pathology, Department of Neurology at the Mayo Clinic, and founder of DTTC. She has partnered with OUAT since 2011 to share her vast expertise with parents and SLPs around the world.

About the Once Upon a Time Foundation

For more information on OUAT’s speech therapy initiatives, including expert partners and training programs, please visit our website childapraxiatreatment.org.

To view other research grants the Foundation has sponsored, including a current study across three major research institutions, please see donate.utsouthwestern.edu/pages/donor-stories/donor-story-once-upon-a-time...march2017 and onceuponatime.org/.