

# Enhancing Early Intervention Children's Communication with their Depressed Mothers: Using LENA at the Crossroads of Early Intervention and Maternal Depression

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## INTRODUCTION AND BACKGROUND

- Early intervention services (EI) are provided nationwide to infants and toddlers with developmental delays and disabilities under federal law IDEA. EI services are critical for improving outcomes for children and families.
- Caregivers are most effective when implementing intervention activities during their normal daily routines.<sup>1</sup>
- Depressive symptoms may make it more difficult for parents to participate in these activities.
- More than 1 in 3 mothers of infants and toddlers enrolled in EI in a large central NC county had clinically significant depressive symptoms.<sup>2</sup>
- Teaching mothers concrete, attainable skills for improving interactions with their children can have an impact on depressive symptoms.
- Even when the child is cognitively compromised, focusing on the mother's child-centered speech and reciprocal communication improves child outcomes.

## PURPOSE

- To test the feasibility and efficacy of the LENA system on enriching the language environment of children in EI by increasing the number of words spoken by mothers with depression around the child

## METHODS: 3 Phase Study

### Phase 1

- Developed and tested a toolkit and educational module to prepare EI staff to identify, assess, engage, and provide resources to mothers with significant depressive symptoms using focus group & interviews.

### Phase 2

- Currently testing feasibility and acceptability of using LENA technology to enhance the child-centered speech of mothers with depressive symptoms and their infants and toddlers with varying disability profiles.

### Phase 3

- Once piloted, we will conduct a stratified randomized controlled trial based on mother's depressive symptoms (mild, moderate, moderately severe) with assignment to an intervention (LENA + Feedback) or wait-list control (LENA only) group.

Ultimately, this study will utilize the LENA technology to provide mothers with feedback and education on communication with their children. The LENA intervention will be delivered by EI Service Providers to embed it within EI services.

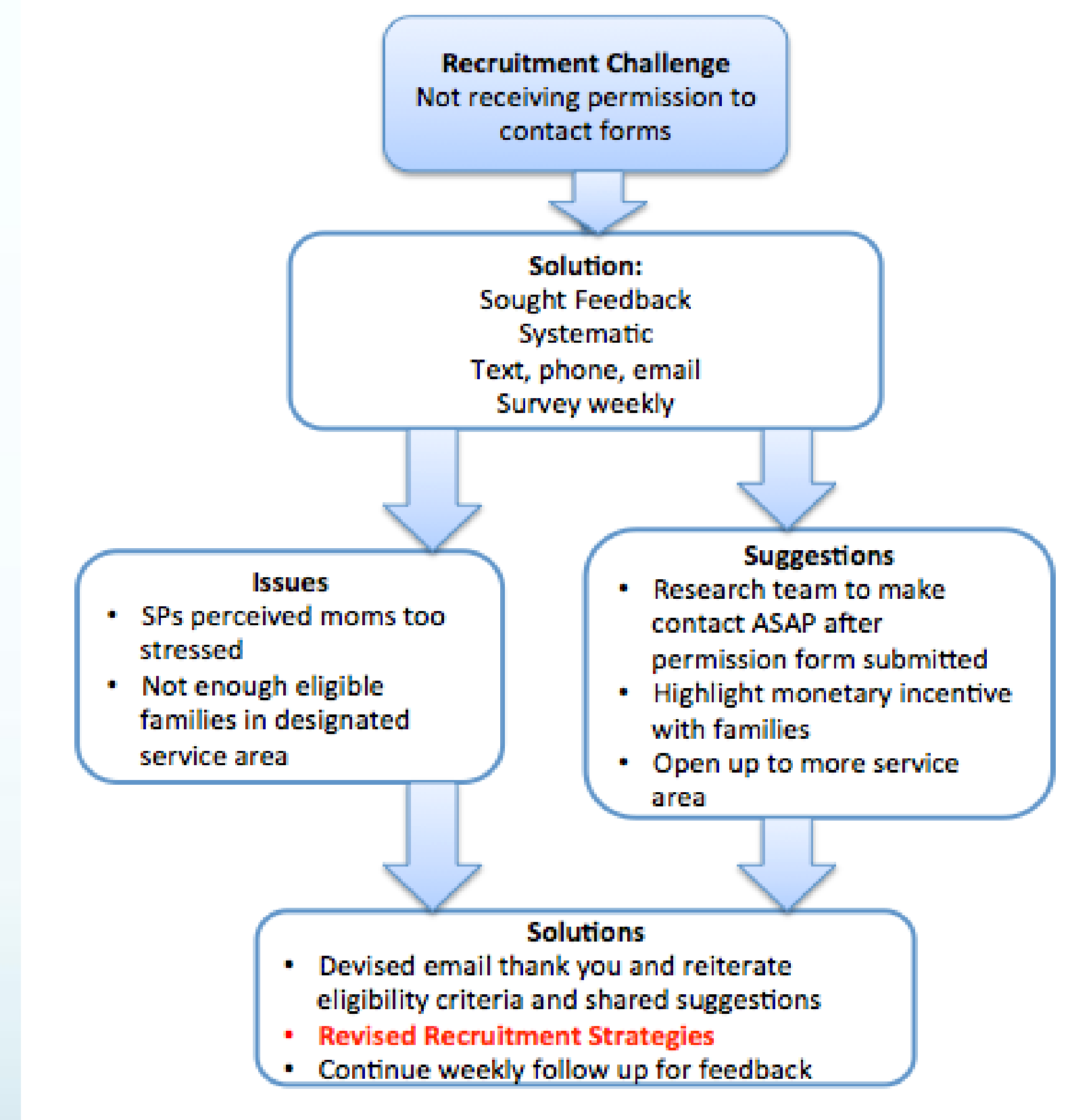
## PRELIMINARY RESULTS

### PHASE 1 - DEVELOPMENT AND TESTING OF TOOLKIT

- Maternal Depression Screening Toolkit developed for Early Intervention staff, based on staff input
- Six Early Intervention Service Coordinators trained to screen for maternal depression and anxiety and to refer and support as needed
- 88 parents screened as of 8/15/17

### PHASE 2 - TESTING OF FEASIBILITY AND ACCEPTABILITY OF EMBEDDING USE OF LENA IN EARLY INTERVENTION SERVICES-

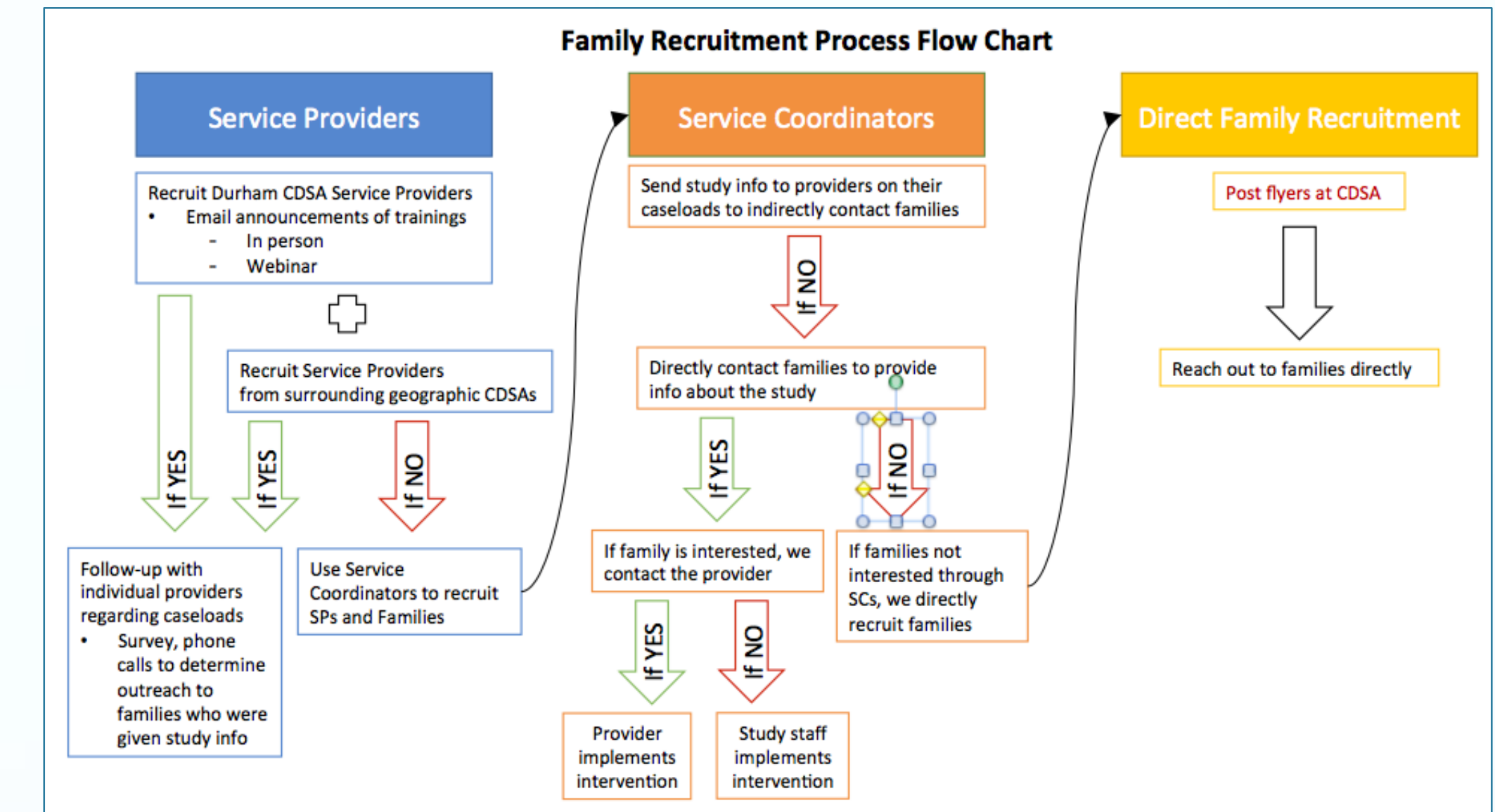
- Currently enrolling
- Recruitment challenges detailed below



Eligible*	Permission to Contact* Forms Distributed	Moms who Expressed Interest*	Contact Forms Signed by Mom
34	24	19	9

\*SP survey responses 8 weeks

## PRELIMINARY RESULTS (continued)



## IMPLICATIONS

- Expands the LENA system's efforts with diverse families in a people-centric design.
- Focuses on parent engagement and innovations in early childhood workforce development.
- EI service settings are an ideal place to integrate screening, referral, and teaching of targeted skills to mothers to improve parent-child interactions and ultimately, child outcomes.
- Preliminary results support the feasibility of identifying families who might benefit most from behavioral activation using the LENA intervention to address depressive symptoms.
- Positive outcomes of the project will support further testing.
- Could lead to a sustainable addition of LENA to EI programs in every US state.

## REFERENCES

Alvarez S.L., Meltzer-Brody S., Mandel M., Beeber L. (2015). Maternal Depression and Early Intervention: A Call for an Integration of Services. *Infants & Young Children*, 28(1):72-87  
 Beeber, L., Meltzer-Brody, S., Martinez, M., Matsuda, Y., Wheeler, A., Mandel, M., LaForett, D. R., & Waldrop, J. (2016). Maternal depressive symptoms: An opportunity and need to treat in early intervention programs. *Maternal and Child Health Journal*, 1-10.

## SUPPORT

1 R03 HD086330-01. Enhancing Communication between Children in EI and their Depressed Mothers (Beeber, L & Wheeler, A.) NC TRACS. Integrating the Language Environment Analysis (LENA) system in Early Intervention to Support Mothers of Infants and Toddlers with disabilities. (Wheeler, A. & LaForett, D.)

