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Plan Overview for the Baby TALK Home-Visiting Pilot Efficacy Study

AIR has considerable expertise related to understanding, evaluating, and supporting the education of children from birth through college. AIR's Education program focuses on improving teaching and learning to ensure that all students—particularly those facing historical disadvantages—have access to a high-quality, effective education. Our reputation is built on a solid foundation of providing research, analysis, technical assistance, assessment, and strategic planning to school districts, states, the federal government, industry, organizations, and foundations. AIR has conducted dozens of research, evaluation, consulting, and technical assistance projects related to infants, toddlers, and preschoolers, and their families in home, school, and/or in community settings. One distinguishing characteristic of AIR is our multidisciplinary problem-solving capability. We select from the full range of social science methods and use the approaches best suited to the particular problems we are called on to address. We have more than 1,500 research, technical, administrative, and clerical personnel. Nearly 60 percent of our U.S.-based program staff hold advanced degrees, and 39 percent of these hold doctorates or equivalent terminal degrees. We have numerous staff with extensive expertise in early childhood learning and development.

AIR's Early Childhood Education practice area in our Education program offers expertise on a range of topics: program quality improvement and accountability; child development and school readiness assessment; family engagement; learning and program standards; early literacy and mathematics instruction; prevention services; school transitions; and teacher professional development, leadership, and mentoring. We provide early childhood research, evaluation, consultation, and technical assistance services using rigorous multiple-methods strategies. We design and conduct formative evaluations, descriptive studies, development of measures, and qualitative and quantitative data collection and analyses. AIR is a leader in the design and implementation of randomized controlled trial (RCT) efficacy studies, including ones focused on early childhood and family engagement. In addition, we guide strategic planning and logic model development processes; inform policy and program decisions by analyzing needs, costs, and benefits in an array of implementation strategies; and improve early childhood practice by developing and disseminating evidence-based resources, training, and tools.

Our clients include schools, school districts, nonprofit organizations, foundations, associations, and government agencies. Illinois clients and/or partners include the Action for Illinois Children; Chapin Hall Center for Children; Chicago Public Schools (CPS); Collaborative for Academic, Social, and Emotional Learning; the Illinois Early Learning Council; Illinois State Board of Education; and the University of Chicago Consortium on Chicago School Research (Chicago Consortium).

Study Plan

A rich theoretical, clinical, and research base supports the focus on investing in supportive early childhood experiences to enhance positive child development, particularly for low-income, minority, and other at-risk populations (Barnett & Bockock, 1998; Brooks-Gunn, 2003; Shonkoff & Phillips,



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2000). As such, under the current federal administration, more attention has been paid to legislation and funding opportunities for increasing home-based services to new families with infants and toddlers. The proposed research will include an independent and rigorous evaluation of the Baby TALK home-visitation program. Baby TALK, Inc. is a nationally recognized organization known for its intervention model for supporting young children and their families. Developed in 1986, this model currently has been replicated across 36 states and Canada. The primary goal of Baby TALK is to positively impact child development and nurture healthy parent-child relationships during the critical early years of life. The organization conducting Baby TALK activities are focused on: (1) building a system of care for young families in their community, (2) screening families to learn about potential risk factors, (3) identifying the needs of families, and (4) delivering appropriate services to the family through home-visitation services and other community supports.

AIR will execute the study, which was designed by consultants working with Baby TALK, Inc., to evaluate the efficacy of Baby TALK's home-visitation program and set the stage for a large-scale randomized effectiveness study in order to provide evidence of Baby TALK as a viable, effective home-visiting intervention. The pilot study will use an RTC to test the impacts of Baby TALK on child and parent, specifically maternal, outcomes. The central aim of the proposed research is to test the efficacy of Baby TALK on a small number of infant and maternal outcomes. To do so, AIR will conduct a RCT with 120 English or Spanish-speaking mothers in six selected Baby TALK centers in Chicago and Champaign, Illinois. The mothers will be recruited into the study, and after recruitment, 60 will be randomly assigned to receive Baby TALK home-visitation-services treatment condition, and 60 mothers will be randomly assigned to the business-as-usual (BAU) control condition. Mothers assigned to the treatment will receive the full Baby TALK home-visitation services, which includes at least two home visits each month (each visit is about one hour in duration, but can be more often in response to family need). Mothers will also experience a monthly group activity with other mothers and infants at the Baby TALK program site. Baby TALK will be referring them to other social services throughout their work with them as appropriate.

According to Baby TALK's founding executive director, (personal communications, November 11, 2013), Baby TALK's home-visitation services follow a strength-based approach that is relational-based and focused on parent-child interaction. Rather than approaching families with a set "cookie cutter" approach, home visitors listen to what is going on with the family, address parents' concerns, pull together resources in a case management approach, and respond as appropriate with a full complement of curriculum resources our practitioners have at their disposal. Baby TALK home visits observe and affirm the interactions between parent and child, supporting mastery and competence of both parent and child. This parent-child interaction is the primary goal for Baby TALK home visitation services. Mothers assigned to the control condition will receive delayed Baby TALK services after the end of the study.

The key research questions (RQs) of the study are as follows:

- RQ1: After nine months, do mothers receiving Baby TALK home-visiting services have lower levels of stress compared with mothers in the control group who do not receive these services?



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- RQ2: After nine months, do mothers receiving Baby TALK home-visiting services exhibit better parenting skills and child-engagement outcomes compared with mothers in the control group who do not receive these services?
- RQ3: After nine months, do the infants of the mothers receiving Baby TALK home-visiting services exhibit better language developmental outcomes compared with infants in the control group whose mothers do not receive these services?
- RQ4: To what extent are Baby TALK home-visiting services implemented with fidelity for nine months from their inception?

For RQ1, we hypothesize that mothers receiving Baby TALK home-visiting services will have lower levels of stress after nine months as measured by the Parenting Stress Index (PSI) compared with mothers in the control group who do not receive these services (control condition).

For RQ2, we hypothesize that mothers receiving Baby TALK home-visiting services will exhibit higher levels of parenting skills and child-engagement outcomes after nine months as measured by the *Preschool Language Scale–5th Edition (PLS-5): Home Communication Questionnaire* compared with mothers in the control group who do not receive these services (control condition).

For RQ3, we hypothesize that infants of the mothers receiving Baby TALK home-visiting services will exhibit higher scores on language developmental outcomes after nine months as measured by the *PLS-5* compared with mothers in the control group who do not receive these services (control condition).

For RQ4, we hypothesize that there will be variation in the level of fidelity across program sites and/or home visitors. By fidelity, we mean the execution of the Baby TALK program is done as designed in a clear and comprehensible manner (Howard, Agnamba, Wessel, & Rankin, 2013). We plan to document fidelity (congruity and variation) in the treatment group as well as the degree to which mothers in the control group are involved in other home-visitation community programs to capture the BAU conditions. This approach will allow us to provide detailed information about dosage and duration, fidelity and adherence to the model, and program differentiation (whether a difference in practices exists between Baby TALK and the BAU condition).

The mothers will be recruited with the help of the Baby TALK programs. From a list of new mothers who sign-up for the program, will select 120 mothers for our study, randomly assigning 60 to receive Baby TALK home-visiting services and 60 to the control group, who will receive services after the end of data collection. We will collect data on mothers and their infants at three time points: (1) baseline data on recruited mothers, prior to randomization; (2) pretest data from infants and mothers, after randomization but before services have been provided in the experimental group; (3) posttest data from infants and mothers, nine months after services have been provided in the experimental condition. Table 1 summarizes the data measures and data collection methods of the proposed project.



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Table 1. Proposed Measures and Data Collection Methods of Proposed Project

Research Questions	Constructs	Measures/ Indicators	Data Collection Method	Data Sources	Data Collection Schedule*
RQ1	<ul style="list-style-type: none"> • Maternal stress 	<ul style="list-style-type: none"> • Parenting Stress Index (PSI) 	<ul style="list-style-type: none"> • Questionnaire 	<ul style="list-style-type: none"> • Mothers 	<ul style="list-style-type: none"> • Baseline (April 2014) • Pretest (April 2014) • Posttest (January 2015)
RQ2	<ul style="list-style-type: none"> • Parenting skills • Child engagement 	<ul style="list-style-type: none"> • Preschool Language Scale–5th Edition (PLS-5): Home Communication Questionnaire • Family Resource Scale 	<ul style="list-style-type: none"> • Questionnaire 	<ul style="list-style-type: none"> • Mothers 	<ul style="list-style-type: none"> • Pretest (April 2014) • Posttest (January 2015)
RQ3	<ul style="list-style-type: none"> • Language development 	<ul style="list-style-type: none"> • Preschool Language Scale–5th Edition (PLS-5) 	<ul style="list-style-type: none"> • Direct Assessment 	<ul style="list-style-type: none"> • Infants 	<ul style="list-style-type: none"> • Pretest (April 2014) • Posttest (January 2015)
RQ4	<ul style="list-style-type: none"> • Implementation fidelity 	<ul style="list-style-type: none"> • Number of visits • Type of services • Sequencing of services • Types of non-Baby TALK services 	<ul style="list-style-type: none"> • Program extant data • Questionnaire 	<ul style="list-style-type: none"> • Home visitors or program administrators • Mothers 	<ul style="list-style-type: none"> • Posttest (January 2015)

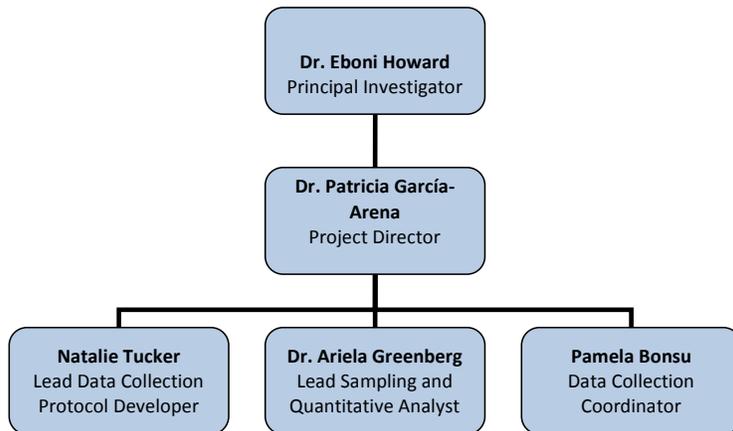
*Estimated schedule

Management Plan

Our management plan draws on AIR’s success in conducting numerous evaluation projects of various sizes. It ensures that the project will produce high-quality products and be completed in a cost-efficient and timely manner. The following plan details our organizational structure for project management, including staff responsibilities, project processes, and our time-proven quality assurance and risk management procedures.

The management structure for the evaluation is illustrated in Exhibit 2. This project will be operated from AIR’s Chicago office and led by Dr. Eboni Howard. She will serve as the Principal Investigator to ensure methodological, intellectual, and quality control. Dr. Howard will serve as the main point of contact for Baby TALK along with the Project Director, Dr. Patricia García-Arena. Dr. García-Arena will have overall responsibility for managing all aspects of the work, including project team staffing, staff training, timing, budget, and the project’s day-to-day success. She will oversee day-to-day project communications, staffing, budgets, and reporting. In addition to her project management responsibilities, Dr. García-Arena will support the development and the execution of the study design and the data collection plans, and participate in data collection training, sampling, data analysis, and report writing. Other key project tasks and team members are represented in Exhibit 1. Information about the qualifications for the full team is further detailed in the “Qualifications of the Proposed Evaluation Team” section.

Exhibit 1. Management Structure





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Project Management Processes

Our management plan includes processes and procedures to ensure communication among all project partners, work quality, the timely completion of all project tasks, work performance, and risk management.

Quality Management. AIR will assume responsibility for the quality control processes in the project. We operate under the assumption that quality control measures are not a tacked-on step at the end of product development but rather implicit to all stages of work. Our quality control approach, therefore, starts by deploying competent and committed staff members who have the relevant knowledge and experience needed for the Baby TALK Home-Visiting Pilot Efficacy Study. Recognizing the importance of quality, AIR maintains a systematic process for quality control for all its work products. AIR's project managers are committed to delivering a superior product on time and within budget. To accomplish these goals, AIR supports its principal investigators and project directors by implementing the following three key strategies to ensure success:

1. Monthly meetings between project managers and appropriate members of senior management are held to review each project's performance; the status of upcoming deliverables; staffing needs; and any problems that may arise with respect to substantive performance, schedule, subcontractor or consultant relationships, staffing, or project costs. Senior managers work with the Project Director to identify potential solutions, including adding or replacing staff as necessary if any problems are identified. AIR contributes the time of its senior management team for these monthly reviews.
2. All AIR projects are assigned at least one reviewer who is independent of the project team. Quality assurance reviewers are assigned on the basis of their experience with the content and the technical demands of the project. They are expected to participate early and consistently with the project and provide senior review of all project deliverables prior to submission for adherence to quality standards.
3. AIR engages in proactive communication with its clients to enhance the successful completion of these cooperative efforts.

Staffing and Cost Management. AIR maintains in-house business systems to support timely project management and to conduct monthly expense reporting to track any variances from planned expenditures. Our Corporate Finance Office provides detailed reports with information on project expenditures by task and subtask, a comparison of spending to budgeted amounts, the remaining budget, and staff hours planned and used during reporting periods. Our accounting system tracks all project expenditures (including subcontractor and consultant invoices) to produce a variety of reports reviewed by task leaders, project directors, and senior AIR managers.

To ensure that AIR has the necessary resources and completes the evaluation within the approved budget, Drs. Howard and García-Arena will implement various staffing and cost management strategies using AIR's in-house business systems. They will monitor and control the schedule through regular meetings and communications from AIR's contract and financial offices that proactively address factors that could contribute to schedule delays and will promptly address any delays. Dr.



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García-Arena will (a) allocate funds and staffing following the approved budget, which will ensure that activities have the necessary resources, and (b) monitor costs as the team carries out its activities. Each month, she will compare actual to projected expenses, thus enabling management to monitor cost performance; detect, understand, and address variances from the cost baseline; and prevent incorrect charges.

Project Tasks and Timeline

An overview of key tasks and the project timeline is displayed in Table 2.

Table 2. Project Schedule and Deliverables

Tasks	December 1–31, 2013	January 1, 2014–December 31, 2014				January 1, 2015–May 30, 2015	
	December	Jan–Mar	Apr–June	Jul–Aug	Oct–Dec	Jan–Mar	Apr–May
1. Management and Communications							
1.1: Client meetings	✓	✓	✓	✓	✓	✓	✓
1.2: AIR team meetings	✓	✓	✓	✓	✓	✓	✓
1.3: Administration meetings (e.g., IRB, project quality reviews, contract review)	✓	✓	✓	✓	✓	✓	✓
2. Planning							
2.1: Data collection protocols	✓	✓					
2.2: Recruitment and sampling		✓					
2.3: Data collector training and materials		✓			✓		
3. Data Collection							
3.1: Maternal questionnaires			✓			✓	
3.2: Infant assessments			✓			✓	
3.3: Extant program data						✓	
4. Database Development and Data Entry							
4.1: Develop database		✓	✓				
4.2: Data management and entry			✓			✓	
5. Data Analysis							
5.1: Develop analysis plan		✓	✓	✓	✓	✓	
5.2: Conduct analysis			✓	✓	✓	✓	
6. Reporting							
6.1: Memo summarizing baseline and pretest data			✓				
6.2: Draft report						✓	
6.4: Final report							✓





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Qualifications of the Proposed Evaluation Team

AIR proposes a highly qualified staff with the required experience to conduct the Baby TALK Home-Visiting Pilot Efficacy Study. The team will be led by Dr. Howard and directed by Dr. García-Arena. Both have many years of experience in managing large- and small-scale evaluation projects. Key members of AIR team also include Dr. Ariela Greenberg, Natalie Tucker, and Pam Bonsu. In addition to these staff, the team will be supported by research associates, research assistants, and field-based data collectors. The team also will include a designated quality reviewer, with expertise in early childhood education and RTC data analysis, to ensure that the methods and products reach AIR's high-quality standards and client satisfaction. The AIR team has considerable early childhood education expertise, including work with birth-to-three programs, RTC studies, and home-visitation programs.

Eboni C. Howard, Ph.D., Principal Investigator. Dr. Howard is a principal researcher and the early childhood specialist at AIR. She is nationally recognized for her knowledge of school-readiness assessments and professional development supports in early childhood education. She is currently directing a task order for U.S. Department of Health and Human Services to design an experimental study to test the effectiveness of different components of early childhood coaching and is the senior advisor for the U.S. Department of Education's Investing in Innovation grant evaluating the impact of a family engagement intervention in an RCT in 60 schools in Philadelphia. Dr. Howard also is the early childhood alliance lead for the Regional Educational Laboratory Midwest, overseeing the development of early childhood technical assistance and research studies.

Before joining AIR, Dr. Howard was the Frances Stott Chair in early childhood policy and the founding director of the Herr Research Center for Children and Social Policy at the Erikson Institute. At the Erikson Institute, she was the initial principal investigator and the study designer of the Illinois Birth to Five Evaluation, an implementation and outcome evaluation of Illinois State Board of Education early care and education programs. In addition, she served as the principal investigator and the client liaison to Chicago's examination of its early childhood education system. The Chicago Program Evaluation Project study examined Chicago's Head Start services, state prekindergarten programs, and childcare collaborative programs, as well as the teachers and preschool-age children within the programs. Prior to her work at the Erikson Institute, Dr. Howard was a senior researcher at the Chapin Hall Center for Children at the University of Chicago, where she directed several large-scale evaluations in early childhood, education, human services, and child welfare. At the Chapin Hall Center, she directed two large quasi-experimental evaluations of county-level home visitation programs in Cuyahoga County, Ohio. Concurrently, she also was a research associate with the Joint Center for Poverty Research at Northwestern University and the Center for Culture and Health at UCLA, where she served as a lead analyst for an RCT study of the impact of a welfare reform program on children and their parents.

Dr. Howard has presented extensively nationally and internationally and has been highlighted in media and magazine outlets. She has served on several advisory boards, including the Illinois Early Learning Council and the First 5 LA Research Advisory Committee. She also served on the National Research Council's Committee on Developmental Outcomes and Assessments for Young Children



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that published *Early Childhood Assessment: Why, What and How*. Dr. Howard earned her doctorate in human development and social policy from Northwestern University, and she holds a bachelor's degree in psychology from the University of Chicago.

Patricia García-Arena, Ph.D., Project Director. Dr. García-Arena is a senior researcher at the Center for English language learners at AIR. Dr. García-Arena has more than a decade of experience in child development and education. Her research experiences and interests have always included young English language learners and their families, concentrating on such topics as childhood bilingualism, language development, cross-cultural child development studies, emergent literacy practices, language socialization, assessment development, and the educational attainment of minority students. Along with extensive research experience, Dr. García-Arena has also applied her research knowledge in child development and education to technical assistance initiatives to support minority children and their families.

Prior to her position at AIR, Dr. García-Arena was an English language learner assessment development associate at the University of Chicago, where she developed an English-Spanish, bilingual formative assessment to measure prekindergarteners' literacy skills. She also served as a research associate at the Erikson Institute in Chicago, where she managed the Dual Language Learner Project, which surveyed all of the services available to bilingual prekindergarteners in Chicago Public Schools. During her doctoral studies at Stanford, Dr. García-Arena worked on the Technology, Literacy, & Caring Project, where she examined the emergent literacy skills of Spanish-speaking infants and toddlers participating in a home-visiting intervention program in the Bay Area. She received her Ph.D. in psychological studies in education with an emphasis in child and adolescent development from Stanford University. She holds an Ed.M. from Harvard University in human development and psychology and a B.A. in child development and psychology from Tufts University.

Ariela Greenberg, Ph.D., Lead Sampling and Quantitative Analyst. Dr. Greenberg is a researcher at AIR with more than eight years of early childhood research experience. She currently examines a broad scope of early education topics including measure development and validation. Dr. Greenberg serves on a Regional Educational Laboratory Midwest study team that examines Great Start to Quality, Michigan's Quality Rating and Improvement System (QRIS) for the distribution of quality in early childhood education settings in Michigan and alternative calculation systems for Michigan's QRIS. As project director for the Teaching Strategies GOLD Concurrent Validity Study, she was responsible for managing the methodology and day-to-day tasks of the data collection. Prior to joining AIR, Dr. Greenberg conducted research at the Linda Ray Intervention Center in Miami, Florida, conducting assessments with children from birth to 3 years old and analyses of the relationship of maternal sensitivity and child outcomes. She also focused on early childhood science education through research supported by the Institute of Education Sciences (IES) and Head Start. Dr. Greenberg has expertise in advanced statistical methods, and she has experience conducting multivariate and multilevel analyses in SPSS, HLM, and SEM. She earned a doctorate in psychology from the University of Miami, where she was an IES Predoctoral Training Grant Fellow.

Natalie Tucker, M.A., Lead Data Collection Protocol Developer. As a researcher at AIR, Tucker's primary interests focus on early childhood education and development. She is a key staff member on



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several early childhood studies, including two Early Reading First program quasi-experimental evaluations and a statewide special education Early Language and Literacy Classroom Observation Tool (ELLCO) study. Her key roles in these projects include data collection planning, project team coordination, data collection, and analysis. Tucker is a key staff member on a number of early childhood studies, including the Massachusetts' Race to the Top—Early Learning Challenge Funds Validation of Educator Competency study. She previously was a staffer on the Illinois Early Learning Council's Family and Community Engagement Committee, coordinating and providing support for all committee activities. She is proficient in data analysis software, such as NVivo, SPSS, Winsteps, and Stata. Prior to graduate school, she was a teacher assistant for two years in an urban preschool program, including working in toddler classrooms. She is certified by the state of Massachusetts to teach infants and toddlers. Tucker received a master's degree in social work and a master's degree in public policy from the University of Michigan.

Pamela Bonsu, M.A., Data Collection Coordinator. Bonsu is a researcher at AIR and she is a key staff member on several projects in the Midwest region including working with the Illinois Early Learning Council and Regional Educational Laboratory Midwest. Her list of responsibilities include conducting literature reviews, policy scans, developing implementation measures, interviewing, qualitative data analysis, report writing, and providing technical assistance. Before joining AIR, she coauthored the triennial Head Start Community Assessment for Harris County, Texas, grantees (2009, 2012); worked with the University of Texas' School of Public Health to evaluate a wellness intervention developed for children and families in Head Start; developed implementation fidelity measures to assess the use of the Positive Parenting Program (Triple P); conducted interviews with children and families served by a SAMHSA Systems of Care grant; and trained individuals in the use of standardized and clinical assessments. Bonsu also served as an external evaluator for the Spring Branch Independent School District's Afterschool Centers on Education Program and the Texas Head Start Association Annual Conference. She received a bachelor's degree in sociology from Loyola University Chicago and a master's degree in public health from Columbia University.