Act Early Forum Webinar Series

Creative Ways to Reach Hard to Reach Populations


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Jointly sponsored by the Association of University Centers on Disabilities, the National Center on Birth Defects and Developmental Disabilities/Centers for Disease Control and Prevention, and the Maternal and Child Health Bureau/Health Resources and Services Administration
Webinar Overview

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• Q & A
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• Survey
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Catherine Rice, PhD, Epidemiologist, Developmental Psychologist, National Center on Birth Defects and Developmental Disabilities/Centers for Disease Control and Prevention
Introductions

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Addressing disparities in
Learn the Signs. Act Early.
Reaching Underserved Families

Principal Investigator: Daniel Crimmins, PhD
Co-investigators: Emily Graybill, PhD, and Shannon Self-Brown, PhD
Research Associate: Erin Vinoski, MPH
Background

- Disparities persist for children from underserved backgrounds in follow-through on screening, age of diagnosis, and types and intensity of services received.
- CDC’s *Learn the signs. Act early.* (LTS/AE) campaign is committed to increasing screening and early identification of developmental delays for *all* children.
Project Goals

• Immediate goal: Assess the impact of LTS/AE Milestone Moments booklet delivered by home visitors (HVs) to underserved families

• Long-term goal: Demonstrate an effective approach to increasing developmental awareness of underserved families and follow-up of their children with developmental delays
Project Phases

- Pre-phase 1: Integrate LTS/AE materials into the SafeCare® home visitation program for use with families at risk for child maltreatment
- Phase 1: Assess potential adaptations of LTS/AE materials to support low-literacy families
- Phase 2: Conduct a randomized controlled trial (RCT) on the context in which *Milestone Moments* is provided to families
- Phase 3: Conduct interviews with families who received the *Milestone Moments* booklet
Milestone Moments

• Organization of the *Milestone Moments* booklet
  – Ages – 2 months to 5 years
  – Developmental Domains
    • Social/Emotional
    • Language/Communication
    • Cognitive
    • Movement/Physical Development
  – Act Early signs
  – “How you can help your child’s development”
SafeCare®

• SafeCare is an evidence-based, training curriculum for parents reported or at-risk for child maltreatment

• SafeCare home visitors provide in-home training sessions for parents of children ages 0-5 in weekly visits of 1-2 hours over 18-20 weeks

• SafeCare modules focus on health, home safety, parent-child interaction, and problem solving
LTS/AE and SafeCare

• LTS/AE content was integrated into the *Parent-Child Interaction* module several years ago
• It fits with many aspects of the program, such as the use of structured checklists, coaching on talking to medical professionals, and teaching problem-solving skills
• Concern about *Milestone Moments* literacy level raised by SafeCare trainers/home visitors
• Single-subject pilot project examined *Milestone Moments* text vs. line drawings on knowledge of 24-month milestones by two mothers (Guastaferro, et al., 2013)
Phase 1: Teaching Young Mothers

• Research question: “Can a combination of line-art drawings and discussion increase a mother’s recognition of developmental milestones?”

• Multiple-probe, single case design

• Two mothers (ages 20 with a 25-month old daughter, and 17 with a 29-month old daughter) living in a residential program to promote self-sufficiency with their children agreed to participate

• Weekly sessions that focused on mothers’ awareness of child development
  – Baseline – mothers had access to Milestone Moments booklet
  – Intervention – mothers had access to picture cards with the Milestone Moments booklet
Finds Things
Copies Others
Points to Ear
Knows Familiar People
Finds Things
Follows Instructions
Stands on Tip-Toes
Phase 2: Conducting the RCT

• Case study of state political environments and shifting policy priorities

• Series of false starts
  #1 – Georgia Division of Family and Children Services
  #2 – State of Oklahoma
  #3 – State of Washington
  #4 – Georgia Department of Public Health
  #5 – Children’s Healthcare of Atlanta Pediatric Clinic
Getting Started Locally – Finally!

• Sheltering Arms (SA) Early Education & Family Centers
  – 1) high quality, affordable child care and early education, 2) comprehensive family supports, 3) professional development, and 4) community building partnerships
  – 3,600 children and their families - 16 neighborhood centers
  – Government childcare subsidies and income-based scholarships provided to nearly 90% of SA families
  – Sheltering Arms Georgia Training Institute - trains more than 6,000 early childhood and family support professionals each year

• For this project, the study team recruited participants from seven SA centers across metro-Atlanta.
Design of the RCT

• This study was a single phase, concurrent mixed methods, randomized controlled trial design
• Quantitative data collection began in Summer 2012 and final follow-up is still in progress
• Qualitative data collection began spring 2013 and is in progress
Groups

Participants randomly assigned to one of four groups:

(1) Control group (who received reading materials on parenting)

(2) Day care setting group (who received the *Milestone Moments* booklet in the parent resource room of the day care)

(3) Brief home visit group (who received the *Milestone Moments* booklet during a one-time home visit)

(4) SafeCare® group (who received the *Milestone Moments* during a six-session SafeCare® parent-child interaction module)
Measures

• Participant-completed surveys assessing:
  – General knowledge of child development
    • Knowledge of Infant Development Inventory (KIDI)
    • Knowledge of Infant Development Inventory – Preschool (KIDI-P)
  – Knowledge of their own child’s development
    • Internally-developed survey
  – Identification of developmental concerns for their child
    • Internally-developed survey
  – Rate of follow-up regarding those concerns
    • Internally-developed survey
  – Risk for child maltreatment
    • Brief Child Abuse Potential Inventory
Method: Criteria for Participation

- Parents or guardians of children between the ages of 2 months to five years
- Family incomes below the federal poverty level
- The target child did not have an identified disability or delay
- The target child scored above the cutoff on the *Ages & Stages Screening Questionnaire*
Recruitment and Retention

• Difficult!!
• Recruitment
  – Study staff placed in the Sheltering Arms centers at drop-off/ pick-up
  – Working closely with Family Support Staff
  – $25 per one-hour assessment session, $10 for the 20-minute Milestone Moments overview session, $25 for each one-hour SafeCare home visiting session, including the overview session
• Retention
  – Appointment reminder cards
  – Call day before and 1-2 hours before appointment
  – For post and follow-up: start calling week before appointment due
  – Text messaging worked well
• ‘No-Shows’
  – Approximately 80% of participants failed to show up for one or more appointments; some more than once
  – Despite compensation, location choice, and numerous phone calls, etc. this population was difficult to retain
Quantitative Data Collection
Phase 2: Procedure (1)

• Data were collected at three time points
  – Baseline
  – 7 weeks (SafeCare program was 6 weeks long)
  – 19 weeks (12 weeks after post)

• At each time point, the participants completed the assessments on a laptop using ACASI, a voice administration software
Phase 2: Procedure (2)

- After completing the baseline assessment:
  - The control group received the materials with no explanation
  - The day care group received the *Milestone Moments* booklet paired with a standard script
  - The brief home visit group scheduled their visits within one week of baseline (ideally). During the home visit, participants received the *Milestone Moments* booklet with the standard script
  - The SafeCare® group scheduled their first home visits within one week of baseline. The participants received the *Milestone Moments* booklet at the end of the first visit with the standard script. The remaining five SafeCare® sessions occurred weekly following the first visit.
Phase 2: Data Analysis

• Logistic regression, generalized linear modeling, repeated measures ANOVA, chi-square tests, t-tests, and correlations were used to analyze the quantitative data.
Qualitative Data Collection
Criteria for Interview Participation

- A participant in the RCT component of the study who completed follow-up assessment in the RCT
Interview Procedures

• Semi-structured interviews were conducted with participants at the day care center in the parent resource room
• Interviews were audiotaped
• Participants were compensated for the interviews
• Interview protocol consisted of 14 questions inquiring about the parents’ perceptions of the Milestone Moments booklet and their experiences in the study
Example Interview Questions

• What content did you like in the *Milestone Moments* booklet?
• What did you learn from the booklet?
• How did you use the information in the booklet after you received it?
• How do you feel about receiving the booklet/child development information at this time in your life?
• What improvements would you make to the *Milestone Moments* booklet?
Phase 3: Data Analysis

• To analyze the qualitative data, the constant comparative method of data analysis is being used as part of grounded theory methodology (Strauss & Corbin, 1990)
• This involves open coding, axial coding, and selective coding (Strauss & Corbin)
• Data analysis is still underway, but the preliminary results are reported below
Results
Results: Participants (1)

- We recruited and received consent from 108 participants, 90 of whom completed both baseline and post assessments.
- The participants were predominantly Black/African American (86%, n = 94); 2% (n = 2) were Asian/Asian American, 1% (n = 1) were Native American/Alaska Native, 3% (n = 3) were White/Caucasian, 4% (n = 4) were mixed race, and 4% (n = 4) identified as ‘other’.
Results: Participants (2)

• The sample was predominantly female, with 89.9% (n = 98) female and 9.2% (n = 10) male
• The ages of the participants ranged from 20 to 59, with the average age being 30.6 years of age
• When asked about their relationship to the target child, 87.9% (n = 95) indicated they were the mother of the child, 9.2% (n = 10) were fathers, 1 was a grandparent, and 1 was a legal guardian (but not mother, father, or grandparent)
Preliminary Results: Quantitative

- Results suggested that at post-assessment, parents reported:
  - increased knowledge of child development
  - fewer developmental concerns
  - an increased level of comfort approaching a professional about a developmental concern
  - positive perceptions of the *Milestone Moments* booklet

- Please note that these results are preliminary; they will continue to be updated and will then be submitted for peer review
Parent-Initiated Referral

• Rates of parent-initiated referral at post-assessment did not differ across participant group, time, age of child, or by parent status
Identification of Developmental Concerns

• Rates of parent identification of developmental concerns were *lower* at post-assessment ($M = .20$, $SD = .40$) than they were at baseline ($M = .40$, $SD = .49$), $t(81) = 3.11$, $p < .01$

• Rates of parent identification of developmental concerns at post-assessment did not differ across participant group, age of child, or across parent status
Other Sources Inform Parent Concerns about Development

• Parents identified fewer concerns at post-assessment \((M = .21, SD = .41)\) after receiving information from other sources than they did at baseline \((M = .44, SD = .50)\), \(t(62) = 2.95, p < .01\)

• Rates of parent identification of developmental concerns after receiving information from other sources trended towards significance, \(\chi^2(2) = 5.17, p = .08\), with more parents identifying concerns in the day care group (36%), followed by the brief home visit group (14%), and the SafeCare group (11%). No other differences were found across age of child or parent status.
Trends in Follow-Up after *Milestone Moments* Booklet

- After receiving the *Milestone Moments* booklet, 7 parents in the treatment groups followed up with professionals, utilizing these methods for follow-up: phone call (1 parent), email (1 parent), took for a visit (2 parents), had child screened (2 parents), or enrolled in intervention services (1 parent)

- Among the 7 parents across the treatment groups who initiated a referral after receiving the *Milestone Moments* booklet, 5 were in the Day Care group, 1 in the Brief Home Visit group, and 1 was in the Safe Care group
Trends in Follow-Up after Other Information

• After receiving information from another source, 12 parents in the treatment groups followed up with professionals by phone call (3 parents), took for a visit (6 parents), or had child screened (3 parents).

• Of these 12 parents, 8 were in the day care group, 2 were in the Brief Home Visit group, and 2 were in the SafeCare group.
Parent Knowledge of Infant Development

P-KIDI Scores

Identify the study condition.
- Control
- Daycare
- Brief Home Visit
- SafeCare

Time

P-KIDI Scores
Parent Knowledge of General Child Development
Parents reported having greater knowledge of their child’s development at post-assessment ($M = 9.99$, $SD = 1.93$) than at baseline ($M = 9.15$, $SD = 2.36$), $F (1, 77) = 12.28$, $p < .001$

- This knowledge did not differ by group, age of child, or parent status
Parent Level of Comfort with Professionals

• Parent comfort levels were higher at post-assessment ($M = 10.27$, $SD = 1.64$) than they were at baseline ($M = 9.34$, $SD = 2.27$, $F (1, 78) = 14.87$, $p < .001$)

• Parent comfort level over time varied significantly by group ($F (3, 78) = 3.47$, $p = .02$), although posthoc tests (Bonferonni, REGWQ, Tukey, Duncan) did not reveal significant pairwise differences between groups

• Ordered by reported levels of comfort at post-assessment (from highest to lowest): SafeCare ($M = 10.74$, $SD = .37$), day care ($M = 10.36$, $SD = .35$), brief home visit ($M = 10.36$, $SD = .35$), and control ($M = 9.58$, $SD = .37$)
Parent Levels of Comfort Over Time
Perceptions of *Milestone Moments*

- There was a trend in differences between groups in terms of parent perception of the *Milestone Moments* booklet, $F(2, 60) = 2.41, p = .10$.

- Although only a trend, parents in the day care group reported feeling more strongly that the *Milestone Moments* booklet gave them new information ($M = 3.59, SD = .50$), followed by SafeCare ($M = 3.37, SD = .60$) and the brief home visit group ($M = 3.18, SD = .73$).
Risk of Child Maltreatment

- Risk of child maltreatment for the overall sample was lower at post-assessment ($M = 4.51$, $SD = 4.10$) than at baseline ($M = 5.20$, $SD = 3.97$, $t(74) = 2.03$, $p < .05$)
- This change over time did not vary by group condition, $F(3, 71) = .13$, $p = .94$
Risk of Maltreatment Over Time

BCAP Score

Time

- Control
- Daycare
- Brief Home Visit
- SafeCare
Preliminary Results: Qualitative

• Very preliminary
• Data collection still in progress
• Close to achieving saturation
Preliminary Results: Knowledge Change

• Participants indicated that they learned about general developmental milestones (n = 6), variation in child development (n = 4), behaviors that are suggestive of a potential developmental delay (n = 3), and awareness of pediatricians as a referral source when developmental concerns arise (n = 1)
Preliminary Results:
Confirmed Typical Development

“...so I read the milestones, because I thought she was behind on a lot of stuff, but like reading it more so...she’s not...she’s actually on time...everyone moves at their own pace....but she wasn’t behind.”

“I always thought certain ages like for instance ... for her age, she’s at 3 and for me she’s pretty advanced and for my thinking only to find out that she’s pretty much average.”

“Like I said....I’ve always thought of my children as advanced anyway...{chuckle} but...it just ...it kind of helps me keep my ego and pride I guess in check.”
Preliminary Results: Empowerment

“It’s a great tool, it’s just a great way to educate and empower a parent...I know now that I can look back in the book and say ‘ok, he’s not counting on age, so I need to follow-up with somebody myself versus waiting for somebody else to follow-up.’”

“and I learned that if it’s something that I need, I’m not afraid to ask assistance....cause I need help if it’s a local center, daycare or his doctor, I’m not afraid if there are any questions to ask”

“When he was 3 years old and acting out I didn’t go to the doctor and tell them, you know they’ll ask you questions, ‘Oh, is he so-in-so?’ ‘Oh, I’d say everything’s fine.’ That’s what I said but all I’m saying now is if we go in for his six-year check up and he’s not doing this, I’m going to say ‘Well, I read in the little milestone booklet that he should be doing this.’”
Phase 3: Preliminary Recommendations

Consistent themes:

- Parents would like to have received *Milestone Moments* booklet earlier in their child’s development
- It would be most helpful to have the milestones extend past the age of 5
Limitations/Cautions

• Participants’ children had already been screened with Ages and Stages Questionnaire; children who had positive screens were excluded from the study.

• Sheltering Arms has an ongoing referral process for developmental, behavioral, and mental health concerns for the children they serve.

• Sheltering Arms may offer a powerful setting variable – one can be poor, but not necessarily be underserved.
Next Steps and Conclusions

• Next steps
  – Analyze follow-up data
  – Complete collection and analysis of interview responses

• Conclusions
  – *Milestone Moments* booklets are helpful and memorable
  – No apparent advantage to in-home delivery of the booklet
  – May be an advantage to information delivery in child care setting
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• Ask a question!

- Type your question in the “question box” on your webinar dashboard.

- The moderator will read the question.
Thank You!

• Learn more about Act Early!
  - www.cdc.gov/actearly
  - www.aucd.org/actearly

• Questions about the webinar?
  - Email Tory Christensen (tchristensen@aucd.org)

Please take a few minutes to complete the survey!
End Notes

• **Measures**

  *Knowledge of Infant Development Inventory (KIDI)*

  *Knowledge of Infant Development Inventory – Preschool (KIDI-P)*

    Use requires permission of the author: David MacPhee, Colorado State University
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  *Brief Child Abuse Potential Inventory (BCAP)*


• **Text Citation**