

# Attachment and Biobehavioral Catch-up

Presentation for ACF  
March 13, 2012

Mary Dozier  
Infant-Caregiver Lab  
University of Delaware

# Children who have experienced adversity at risk for problems related to:

---

- Attachment organization
- Neuroendocrine functioning
- Regulation of emotions
- Regulation of behavior

# Children who have experienced adversity at risk for problems related to:

---

- Attachment organization
  - High rates of disorganized attachment
- Neuroendocrine functioning
- Regulation of emotions
- Regulation of behavior

# Intervention Target 1:

## Parent nurturance/Child attachment

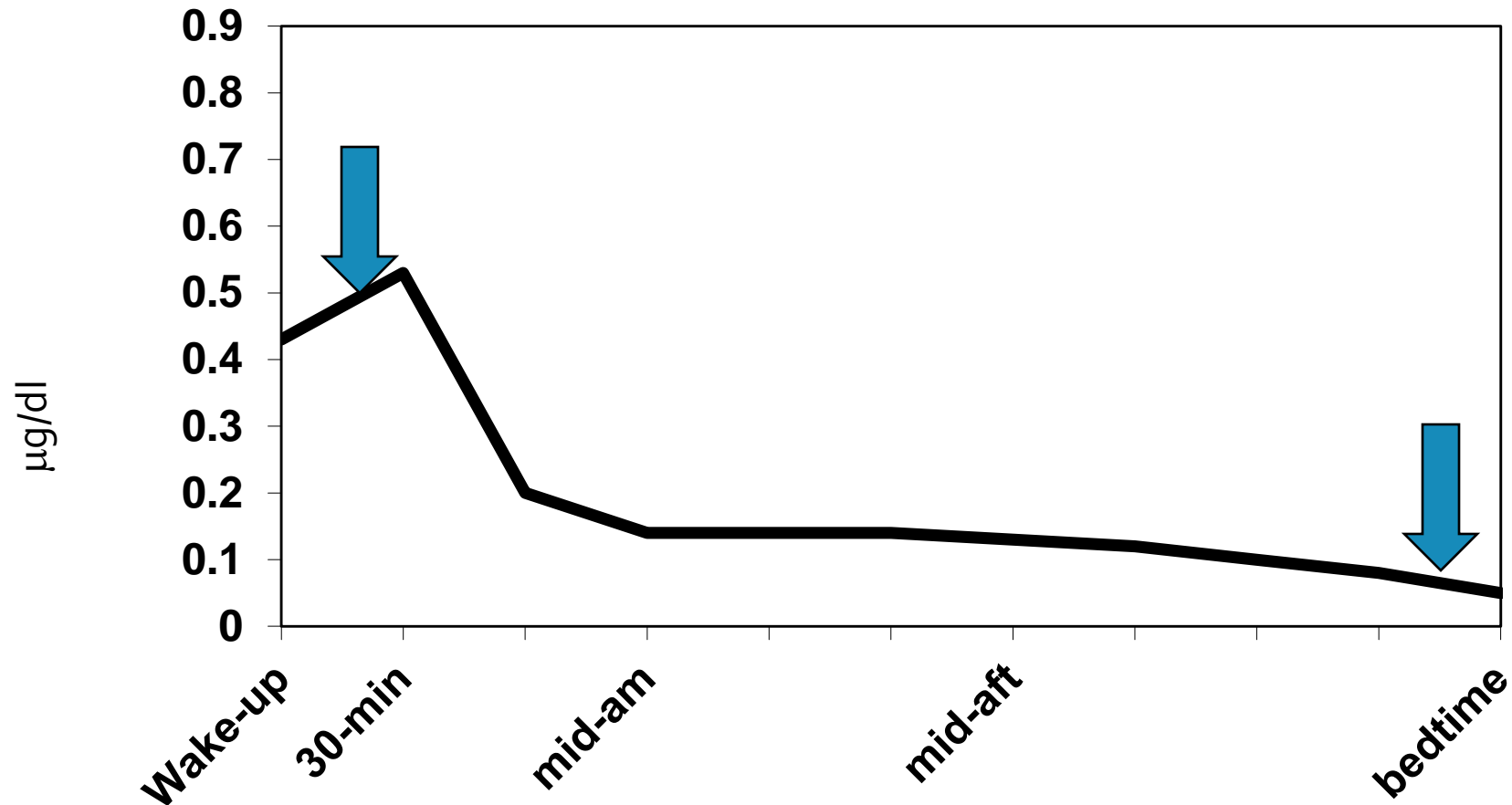
---

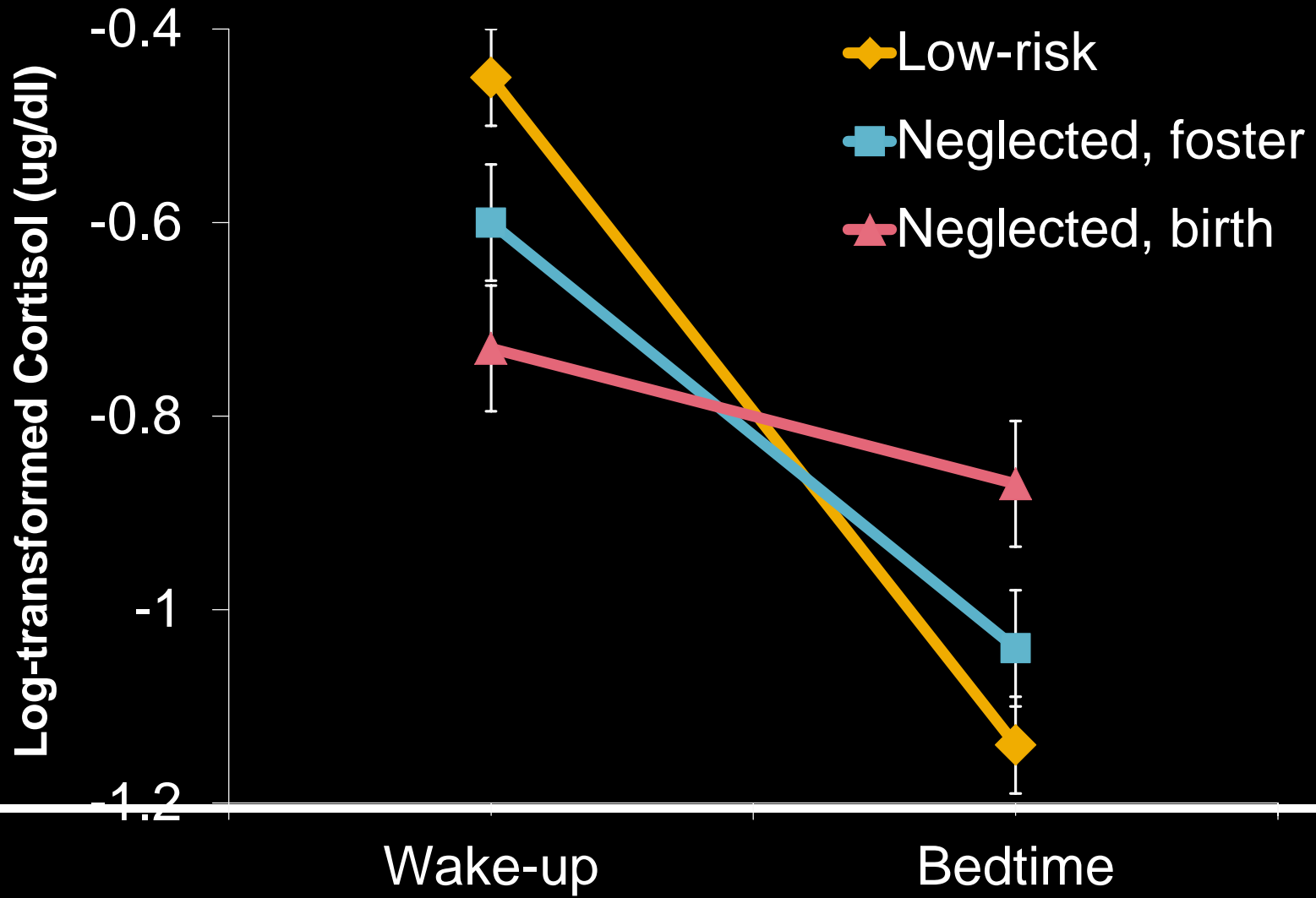
- Parents helped to provide nurturing care when children distressed
  - Even when child fails to elicit
  - Even when it doesn't come naturally to parent

# Children who have experienced adversity at risk for problems related to:

- Attachment organization
- Neuroendocrine functioning
  - Atypical daytime patterns of cortisol production
- Regulation of emotions
- Regulation of behavior

# Diurnal pattern of cortisol production





**Sample**

Bernard, Butzin-Dozier, Rittenhouse, & Dozier, 2010

# Children who have experienced adversity at risk for problems related to:

- Attachment organization
- Neuroendocrine functioning
- Regulation of emotions
  - Short-term: Anger, affect regulation
  - Long-term: Depression, anxiety
- Regulation of behavior



# Children who have experienced adversity at risk for problems related to:

- Attachment organization
- Neuroendocrine functioning
- Regulation of emotions
- Regulation of behavior
  - Increased rate of problem behaviors

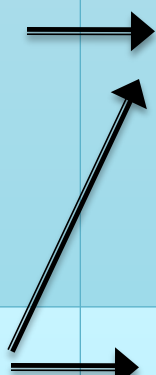
# Intervention Target 2:

## Parent synchrony/Child regulation

---

- Parents helped to behave in synchronous ways
  - Shonkoff refers to this as “serve and return”
  - More synchronous parent-child interactions associated with better child self-regulation (Raver, 1996)

Problem	Target	Outcome
Child at risk for disorganized attachment	Behave in nurturing ways when child distressed	Secure, organized attachment
Child at risk for difficulties regulating behavior, emotions, physiology	Behave in synchronous ways when child not distressed	Enhanced regulation of behavior, emotions, physiology



```
graph LR; T1[Behave in nurturing ways when child distressed] --> O1[Secure, organized attachment]; T2[Behave in synchronous ways when child not distressed] --> O1;
```

# Attachment and Biobehavioral Catch-up

- 10 sessions provided in home with parents and children present
- Manualized
- Video-feedback
- In The Moment comments regarding intervention targets

# Results of efficacy trial

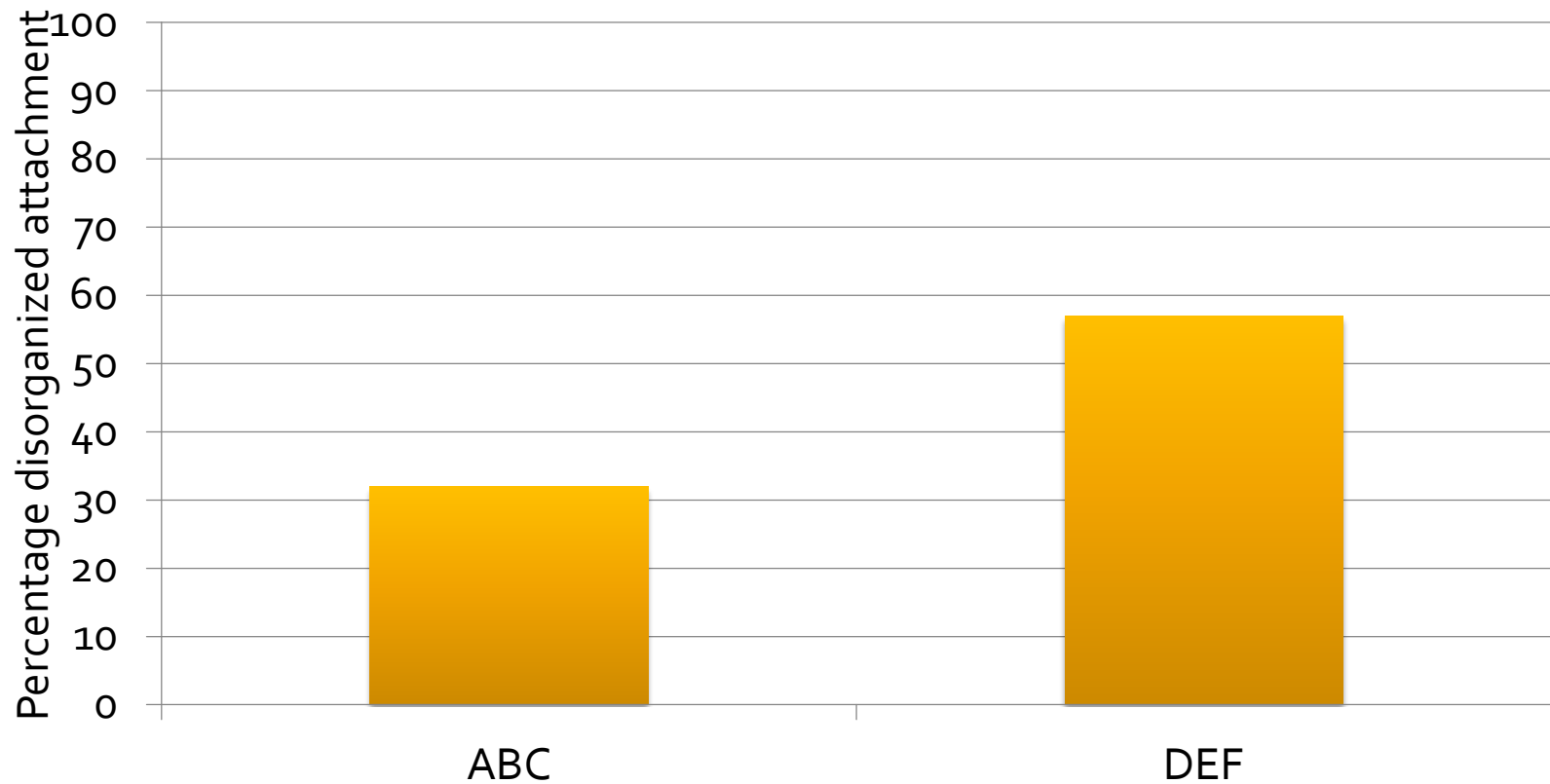
---

Randomly assigned children and parents to ABC or to an alternate intervention (DEF)

120 children, half in ABC, half in DEF (for whom we have outcomes coded)

Attachment assessed in Strange Situation  
(Ainsworth et al., 1978)

# Percentage disorganized attachment among children in ABC and DEF interventions



$\chi^2 (1, 120) = 7.60, p < .01$

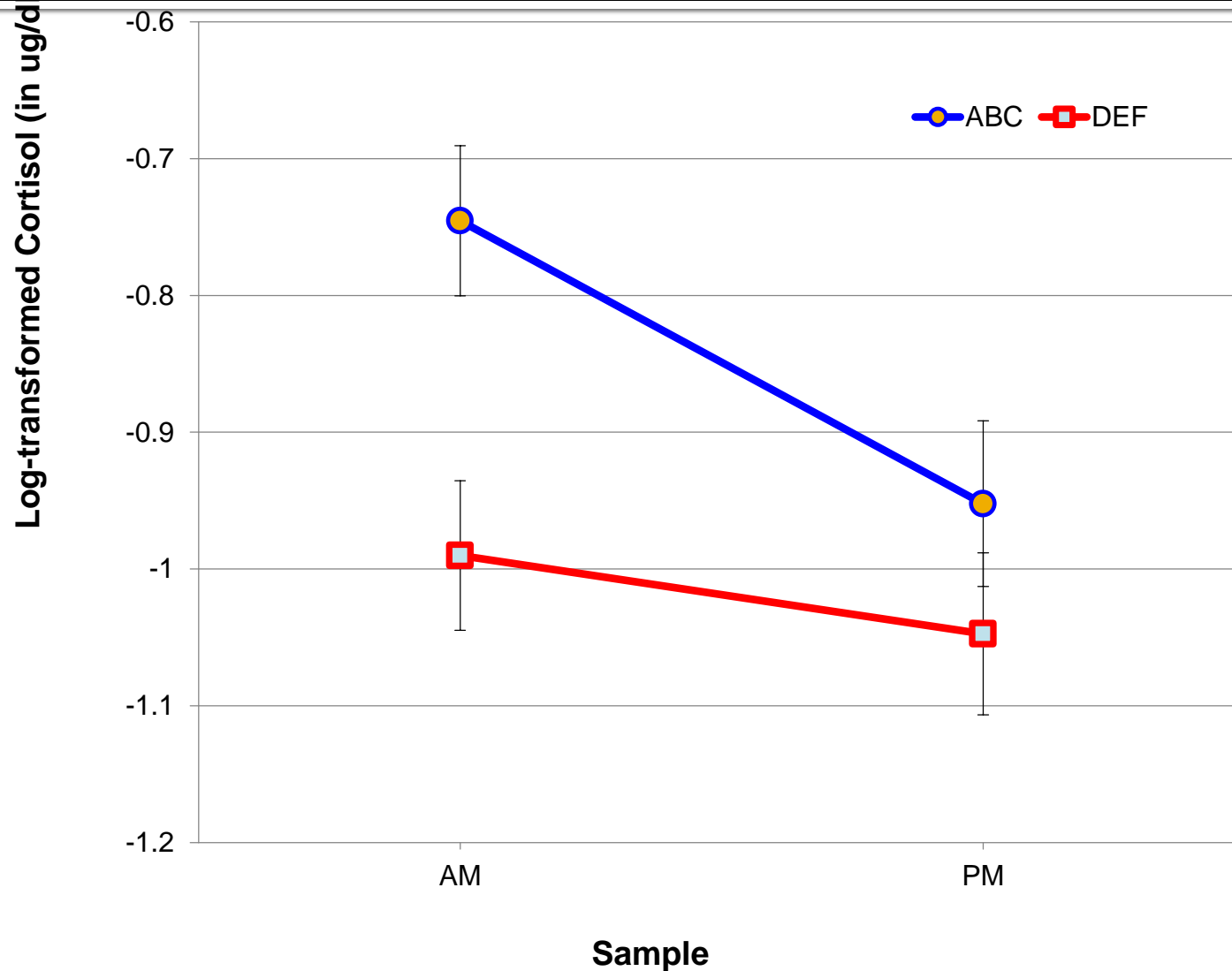
Bernard, Dozier, et al., *Child Development*, in press

# Daytime Production of Cortisol

---

- Assessed at wake-up and bedtime post-intervention

# Wake-up and Bedtime Cortisol for Children in ABC and DEF groups





# Regulation of Emotions

- Observed in Tool Task: frustrating task when children were 24 and 36 months old
- Children in ABC Intervention showed lower levels of anger than children in control intervention group
  - Seen in anger, anger towards mother, frustration
    - p values < .05 for composite and sub-scales

# Regulation of Behavior

- Parents reported on child behavior problems on each of 3 days using Parent Daily Report (Fisher et al.)
- Parents in ABC Intervention reported lower levels of problem behaviors than parents in control intervention group

# Overview of effectiveness

---

Enhanced attachment outcomes

More secure/fewer disorganized

Enhanced regulation of physiology,  
emotions, behaviors

# Dissemination of Intervention

- ACF sites (NYU, Maryland, Delaware)
- Hawaii
- Duke
- Baltimore
- Additional sites with fewer people (Germany, UK, Minnesota, etc.)

# Lessons Learned

---

- Importance of careful screening of parent coaches
- Importance of quantifying fidelity

# What are challenges in moving into ACF Early Childhood Programs?

- Do staff have requisite skills needed to learn how to implement intervention with fidelity?
- Can staff be supported to gain skills?
  - Time carved out, buy-in at all levels