Economic Realities of Early Childhood Programs

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Note: Chart shows 20th and 80th percentiles of the distribution of family incomes for all children age 5-17. They based on data from the U.S. Bureau of the Census and are adjusted for inflation. Amounts are in 2012$. 

Children’s family income

<table>
<thead>
<tr>
<th>Year</th>
<th>20th percentile</th>
<th>80th percentile</th>
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<tbody>
<tr>
<td>1970</td>
<td>$37,600</td>
<td>$100,800</td>
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<tr>
<td>2010</td>
<td>$26,900</td>
<td>$125,400</td>
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Family enrichment expenditures (2012$)

Source: Duncan and Murnane (2011)
Trends in Federal Spending

• Kids’ Share 2014 (Urban Institute)
## Costs for high-quality center-based care

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<tr>
<th>Age</th>
<th>Class Size</th>
<th>Cost/slot</th>
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<tbody>
<tr>
<td>0</td>
<td>8</td>
<td>24,305</td>
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<td>1</td>
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<tr>
<td>2</td>
<td>12</td>
<td>18,193</td>
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<tr>
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<td>17</td>
<td>15,275</td>
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<td>20</td>
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<td><strong>Total investment per child</strong></td>
<td><strong>98,100</strong></td>
<td><strong>73,795</strong></td>
<td><strong>49,490</strong></td>
<td><strong>31,297</strong></td>
<td><strong>16,022</strong></td>
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Doing good with less, Part I:

• Given costs, concentrate on high-quality pre-K (age 4)

• Evidence shows:
  • QRIS ratings “stars” are not associated with improved school readiness
  • ECRS and CLASS are not strongly associated with improved school readiness
  • Most popular curriculum (Creative Curriculum) is not associated with improved school readiness
Doing good with less, Part I:

• But evidence shows that some academic curricula CAN promote school readiness

    So...

• Reserve highest star ratings for centers that implement proven curricula faithfully

• Figure out the most effective ways of implementing proven curricula in the New Mexico context
Doing good with less, Part II:

Durham Connects ($700/assigned family)

(slides from Ken Dodge, Duke University)
Three Steps to *Durham Connects*

1. Connect with family
   - Universal recruitment at birthing hospital
   - Home visit(s) by public health nurse
   - Screen, assess 12 risk factors, quantify risk

2. Connect family with community, as needed

3. So that parents can connect with infant
   - Improve cognitions, parent-infant relationship
Evaluation Design for Durham Connects

- Randomly assign by even-odd birthdate
  - 4,780 births between 7-1-09 and 12-31-10
  - Recruit even birthdates into intervention
  - No contact with controls

- Analyze by intent-to-treat
  - Administrative record review of all births
  - Random sample (n=686, 80.0% participation) from birth records for in-home interview at age 6 months
Impacts at Age 6 Months
(Dodge et al., 2014, American Journal of Public Health)

1. More mother-reported positive parenting behaviors (ES=.25, p<.01)
2. Higher observer-rated mother parenting quality (ES=.23, p<.05)
3. Higher child care center quality rating (ES=.85, p<.01)
4. Better mother-rated father-infant relationship (ES=.21, p<.07)
5. Better home safety (ES=.22, p<.05)
6. Lower mother clinical anxiety (OR=.65, p<.04)
Cumulative Emergency Care at Age 12 Months

(Dodge et al., 2013, Pediatrics)

- **Birth Risk Status**
  - Low Risk
  - High Risk

- **Mean # Emergency Episodes**
  - Control: ES=.19
  - Durham Connects: ES=.51

- **Graph Details**
  - Red: Control
  - Yellow: Durham Connects
**Benefit-Cost Analysis of Intervention Impact at Age 12 Months**

*Durham Connects* intervention costs: $700/assigned family

Emergency Care Outcome Costs:  
CONTROL:  
- $423 per emergency visit  
  \( \times 0.83 = $351 \)  
- $3,722 per hospital night  
  \( \times 0.74 = $2,754 \)

DC:  
- $423 per emergency visit  
  \( \times 0.68 = $288 \)  
- $3,722 per hospital night  
  \( \times 0.11 = $409 \)

Net savings:  
\( (OC_C - OC_I) = ($3,105 - $697) \)

Benefit-Cost Ratio (BCR) \( _{DC} \):

\[
\text{BCR}_{DC} = \frac{(OC_C - OC_I)}{(IC_I - IC_C)} = \frac{($3,105 - $697)}{$700} = 3.44
\]

For Durham, NC:

- 3,187 resident births/year
- Total emergency care costs without DC: $9,895,635
- Durham Connects would cost: $2,230,900
- Durham Connects would yield savings of: $7,674,296
Benefit-Cost Analysis of Intervention Impact at Age 12 Months

$BCR_{DC} = \$ 3.44$ per $ spent$

And that is just for health care cost savings
WHAT DO WE WANT?
EVIDENCE-BASED CHANGE
WHEN DO WE WANT IT?
AFTER PEER REVIEW